Supplemental Conditions

consolidated nuclear security, llc
PANTEX PLANT | Y-12 NATIONAL SECURITY COMPLEX

Y-12 Construction (CON 10/22)

SUPPLEMENTAL CONDITIONS
Y-12 Construction (CON 10/22)

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SUPPLEMENTAL CONDITIONS
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1. GENERAL

1.1 These Supplemental Conditions apply to work located at the Y-12 National Security Complex (Y-12), a government-owned facility managed by the Management and Operating Contractor (Company) for the Department of Energy (DOE) in Oak Ridge, Tennessee. Work consists of providing trained and qualified personnel, supervision, materials, tools, equipment, and services (except that specified to be furnished or performed by others) sufficient to perform the work required by the Agreement. These Supplemental Conditions are requirements from Y-12 procedures and policies. These conditions apply to Seller and Seller's lower-tier subcontractors.

1.2 Unless specified otherwise in the Agreement, applicable revisions of referenced codes, standards, and regulations are those in effect at the time of Agreement award.

1.3 Seller's Corporate Quality Assurance (QA) and Environmental, Safety and Health (ES&H) Programs submitted with Seller's response to the Company's Request for Proposal and evaluated for acceptance by the Company prior to award of the Agreement need not be resubmitted after award.

1.4 Construction normal work hours at Y-12 are 6:30 a.m. to 5:00 p.m., Monday through Thursday. Company approval is required to work outside of these hours. Seller requests for training, badges, vehicle access, and permits, and the processing of submittals are to be made during normal Construction work hours, and the Company will process Seller requests during normal Construction work hours.

1.5 Seller shall obtain Company approval in writing at least two (2) calendar weeks in advance of scheduling work outside the normal Construction work hours. Seller shall use Subcontract Overtime Request form UCN-22373.

1.6 The Company observes the following holidays on an annual basis. Seller shall not schedule work on observed holidays without prior Company approval.

- New Year's Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Day

1.7 Seller shall comply with Company's warning systems and announcements. Several protective actions can be implemented individually or in combination to protect onsite workers. These protective actions include: evacuation, sheltering, curfew, announcements, etc. Seller shall assemble its personnel at the Company designated location and account for Seller personnel utilizing an accountability roster when a Company warning is announced for the Seller's work area(s), and inform the STR of the accountability status within fifteen (15) minutes of the protective action announcement.

A. An "evacuation" protective action requires Seller to relocate an at-risk population from an area of known danger or unacceptable risk to a safer location.

B. A “sheltering” protective action requires Seller to protect personnel at Y-12 from emergencies resulting from hazardous materials, severe weather, and security incidents. Buildings having sheltering locations have them posted accordingly. Avoid taking refuge in temporary structures (e.g., trailers, vehicles). Listen for further Operation Center (OC) announcements. The Company utilizes three (3) sheltering methods: hazardous material, severe weather, and security incident.

1. Sheltering for hazardous material requires using a barrier, most often a building, to shield from an airborne hazardous materials release. Once indoors turn-off all sources of outdoor air (e.g., fans, air conditioners) when possible, and attempt to minimize outside air infiltration (close and seal doors and windows) if possible.

2. Sheltering for severe weather requires using a barrier, usually a strong interior room or below-grade area of a building, to protect individuals from flying projectiles and debris such as from a tornado or severe weather.

3. Sheltering for a security incident requires using a barrier, most often a building, to protect national security assets and limit the exposure of personnel to adverse impacts or flying projectiles.

C. A “curfew” protective action requires Seller to restrict population as announced in designated areas. Personnel are to remain within their building, or stay in their general work locations until instructions are given to release the curfew. Personnel performing work in outside locations, such as construction or demolition projects, may continue work activities unless specifically instructed to go indoors. The purpose of this protective action is to facilitate emergency response actions by clearing streets and sidewalks.

1.8 Seller shall electronically transmit Submittals to the Subcontract Technical Representative (STR) and the Construction Document Management Center (CDMC) in PDF file format. Submittals shall be legible and attached to Construction form CFN 0095, Submittal Cover Sheet. A Submittal shall be identified on the Submittal Cover Sheet using the Reference Number, Specification Section, and Submittal description given in the Submittal Checklist. Seller Submittals not listed on the Submittal Checklist shall include the same information on the Submittal Cover Sheet and assigned the Reference Number in sequence beginning after the last Reference Number assigned on the Submittal Checklist. Each Submittal shall have a unique Submittal Cover Sheet (only one (1) Submittal per form) and shall be numbered on every page in a manner that indicates the page sequence and total number of pages in the document (e.g., for a 25-page document, begin with Page 1 of 25). If there are attachments to the Submittal, they shall be labeled as such, and be clearly identified on the Submittal Cover Sheet. Avoid using colored highlights or text on the Submittal which do not reproduce on a gray scale.

A. Submittals shall be prepared and signed by the Seller’s Subject Matter Expert (SME) and checked for completeness by the Seller’s Project Manager prior to transmitting for Company review.

B. Allow three (3) weeks for Company review of Submittals unless otherwise stated in the *Statement of Work* or the Agreement.

C. Submittals returned with a review status of "2 – Revise and resubmit. Work may proceed subject to incorporation of changes indicated." shall be revised and resubmitted within fourteen (14) calendar days or a notice provided that the Submittal is being withdrawn or replaced.

1.9 Seller shall submit certified payrolls for all work covered by the Construction Wage Rate Requirements. Submit certified payrolls to the Company Subcontract Administrator, for information, within seven (7) calendar days after each payroll period ends. Seller shall cooperate with any Company interviews with Seller's employees to ensure compliance with any labor-standards requirements.

1.10 Prior to commencement of work, Seller and its lower-tier subcontractor(s) performing work covered by the Construction Wage Rate Requirements shall become signatory to the Construction Labor Agreement with the Knoxville Building and Construction Trades Council (KBCTC) and conduct a pre-job conference with the signatory Unions. Prior to the Company issuing a "Notice-to-Proceed" to Seller, a pre-construction meeting will be held and pre-mobilization submittals statused "Work May Proceed." Seller and lower-tier subcontractor supervisory personnel shall attend the pre-construction meeting. The meeting will be at Y-12 at a mutually agreed-to date and time. Seller shall present its Organization; Work, Quality and Other Plans; and Environmental, Safety, and Health (ES&H) Plan to the Company to demonstrate Seller readiness to execute work in accordance with the Agreement. In addition or concurrently, an Operational Safety Board (OSB) meeting will be held to obtain "Work Start Authorization" from affected Facility Manager(s). Upon request, Seller shall present work execution readiness to the OSB. Seller shall obtain a daily work start authorization from the facility shift supervisor to perform work in a nuclear operations facility.

1.11 Seller shall designate an Authorized Representative with full responsibility to act for and commit Seller and its lower-tier subcontractors. The Authorized Representative shall be Seller's primary point of contact for the Company. Seller shall notify the Company a minimum of four (4) workdays in advance of any changes to the Authorized Representative or any Company-approved "Key Personnel" whenever they become unavailable for performance of work under this Agreement. Seller shall make every effort to replace such employees with employees of comparable abilities and qualifications who are satisfactory to the Company. If the "Key" person is being reassigned within Seller's organization rather than employment being terminated, the "Key" person must remain on the job until a replacement is accepted by the Company and is available to begin work at the site, unless otherwise approved by the Company. Any costs associated with replacement of personnel (e.g., training, travel) shall be borne by Seller.

1.12 Seller shall maintain a list of personnel employed, including those of lower-tier subcontractors, for performance of the subcontracted work. Seller shall notify the Company of changes relating to all Seller and lower-tier subcontractor personnel when personnel are terminated, reassigned offsite, have resigned, are on extended absence more than thirty (30) days, etc. Provide the name of the exiting individual and badge number on a *Subcontractor Personnel Exit Checklist*, UCN-4452S and submit completed form with the individual's badge to the STR. Refer to the Agreement's *General Terms and Condition* article *DOE Security Badges and Clearance Requirements*. Timely notification is required to facilitate resolution of

Agreement compliance and release of final payment for badge returns, dosimeter returns, bioassay submissions, and return of Company-furnished items.

1.13 Progress meetings and Coordination meetings will be held weekly with Seller. Seller's Authorized Representative shall attend and arrange to have appropriate lower-tier subcontractors at these meetings. Seller and lower-tier subcontractors' attendance at these meetings is included in the cost of the work and will not be reimbursed separately. The Authorized Representative shall have the authority to make cost, schedule, and other commitments and initiate actions responsive to items discussed at the meetings. Topics on the agenda for the Progress meeting include:

A. Safety

B. Security

C. Work schedules and progress

D. Resolution of problems and action items

E. *Requests for Information*, Subcontract *STR Change Notices*, and *Requests for Equitable Adjustment*

F. Administrative matters and procedures

G. Submittal and materials delivery status

H. Quality Assurance and nonconforming work items

1.14 A Safety and Information meeting will be held monthly. Seller's Authorized Representative shall attend and arrange to have appropriate lower-tier subcontractors at these meetings. Topics of discussion will include environmental, safety, health, quality, training, security, and general business. Seller and lower-tier subcontractors' attendance at these meetings is included in the cost of the work and will not be reimbursed separately.

1.15 Seller shall perform work in compliance with the subcontract specifications, drawings, drawing notes, and vendor requirements. Seller shall perform work in a skillful, safe, and workman-like manner. Company requires Seller to remove any Seller or lower-tier subcontractor employee Company deems incompetent, careless, or otherwise objectionable from Y-12 or from performing work under the Agreement. No costs associated with removal or replacement will be paid by the Company.

1.16 Seller personnel, including those of its lower-tier subcontractors, shall fully cooperate with employees of Company and other Company subcontractors. Seller personnel, including those of its lower-tier subcontractors, shall not commit or permit any act that will interfere with the performance of work by others.

1.17 The Company STR may issue an *STR Change Notice* (UCN-21329) to: (1) notify Seller of changes; (2) request a proposal for a change, or (3) provide limited authorization to proceed with a change within the general scope of the Agreement that does not affect cost or schedule. Seller shall respond in accordance with instructions on the *STR Change Notice*.

1.18 The Company may direct the use of a *Daily Summary of Force Account Work* (UCN-22531) for change work performed by Seller that allows for Seller's accumulation of costs as incurred with concurrent approval by the STR. Seller shall submit the completed form to the STR at the end of each day worked.

1.19 Seller shall utilize a *Request for Information* (RFI) (UCN-22350) for a Seller-initiated technical question such as, but not limited to:

- Clarification of Subcontract scope or technical documents
- Discovery of a conflict, ambiguity, error, or omission
- Request an alternate/substitute to a prescribed method
- Clarification of design intent
- Technical questions that affect the operation or safety of equipment, controls, or components
- Dimensional interference clarifications
- Construction of temporary facilities
- Vendor technical information
- Cost, schedule and charge code clarifications
- Quality code clarifications

A. Seller's RFI shall include appropriate supporting documentation.

B. Proposals to use alternate/substitute material for the benefit of cost or schedule shall be submitted using Company form UCN-13816B, *Request for Waiver or Deviation*.

NOTE 1: Neither the RFI nor RFI response is a Company authorization to modify the Agreement in any particulars nor supplement any other portion of the Agreement.

NOTE 2: An RFI response may identify a change and if so, Seller shall not proceed with the change until authorized by a Company-issued *modification to the Agreement*. No compensation will be awarded to Seller where work proceeded pursuant to a *modification to the Agreement*.

NOTE 3: Seller shall address a letter to the Company Subcontract Administrator in accordance with the *Changes* article of the Agreement's *General Terms and Conditions* providing notification of any request for compensable cost or schedule impact due to an RFI response.

C. Seller shall only enter one (1) subject per RFI; however, an RFI may be applicable to multiple components, systems, or commodities.

D. Seller shall maintain an RFI status log and make it available to the Company upon request.

1.20 Seller shall notify the Company when work is complete and ready for Company's inspection and acceptance by submitting a *Request for Inspection of Completed Work* (UCN-22346) to the STR. The request may be for work completed in part or as a whole to recognize contractual milestone completion dates.

A. Seller shall have a logical process for identifying any pending or outstanding work and for the turnover of the work, either incrementally or in total, to the Company.

B. Seller shall participate in walk downs to support system and area turnovers as required.

1.21 Seller shall notify the STR in advance of need of any Company- or Government-furnished services, equipment, or items specified in the Agreement.

1.22 The Company will furnish to Seller emergency ambulance service, firefighting response services and two (2) Y-12 mobile radios for emergency communications.

A. Obtain emergency ambulance and firefighting response by contacting the Y-12 Operation Center (OC) at 865-574-7172, dialing 911 from a plant phone, or calling the OC using a Company radio (PSS Channel). Dialing 911 from a cell phone does not contact the Y-12 OC and will therefore delay assistance.

B. Company furnished Y-12 mobile radios shall remain onsite at all times and shall not be reassigned by the Seller. Damaged or misplaced Company furnished radios shall be reported to the STR immediately upon discovery. The Seller is accountable for the replacement value of the radios. Seller's onsite use of their business class radios requires Company approval. Refer to Section 13.1.E for authorization of Seller's business class radios onsite.

1.23 Seller employees entering the Protected Area shall wear a Personal Nuclear Accident Dosimeter (PNAD) or Thermoluminescent Dosimeter (TLD). PNADs are available at portal checkpoints. Seller shall return PNADs at the completion of the work. PNAD dose measurements are not included in an annual radiation monitoring report.

1.24 Seller shall maintain copies of Company-approved subcontract submittals and a conformed copy of the Subcontract including all modifications, complete with drawings and specifications, at the work site and available to Seller and Company personnel.

1.25 Seller shall comply with the Y-12 Smoking Policy. The Company will designate and post smoking area for existing trailers, buildings, and structures. Seller shall designate and post smoking areas for Seller's construction laydown and storage areas and temporary trailers/facilities located at the Y-12. Designated smoking areas shall have a boundary barrier, butt receptacle and "Smoking Area" posting. Refer to UCN-26303, *Access to the Y-12 Plant* for the policy statement.

1.26 Seller shall comply with the Y-12 Motor Vehicle Policy. The Company will monitor Seller's compliance and forward non-compliance observations to Seller for action. Seller shall ensure compliance of Seller personnel including taking disciplinary action for those individuals violating the policy. Refer to UCN-26303, *Access to the Y-12 Plant* for the policy statement.

2. OPERATING FACILITIES

2.1 Buildings/Facilities may have ongoing processes or operations during Seller's work. The Company will coordinate operating Facilities' ongoing activities and interface with Seller's work. Seller shall request permission from the Company eight (8) workdays in advance of the need to work in a nuclear operations Facility and receive authorization from the Facility and STR before starting such work. Seller shall

protect Company equipment, tools, materials, and facilities during execution of work and is responsible for repair of damages.

2.2 Means of egress components and exit discharge areas shall remain operable and shall not be obstructed by construction activities or laydown areas. Blocking or wedging of exit or fire doors is not permitted. Exit doors must swing fully open with a single-handed push. Where Seller's Work Plan requires disabling an exit or fire door, Seller shall provide signage with exit instructions. Do not remove or paint over UL/FM or similar labels on fire doors.

2.3 Seller's Authorized Representative or designee shall attend daily "Plan of the Day" (POD) meetings conducted by the Company as required by the Facility hosting the work. Seller shall complete the host Facility "*Plan of the Day*" request form (UCN-21014) and provide a daily Work Plan that identifies work activities for the following day. "Work Start Authorization" shall be obtained from the Company's Facility Shift Supervisor prior to initiating each shift's work activities and prior to resuming work activities after a Company-directed work stoppage or suspension.

2.4 Seller shall provide and document a daily pre-job brief with employees and visitors prior to beginning each shift's work activities, when conditions change, and when others report after the start of shift-work activities. Perform and document a follow-up brief at the end of each shift and note feedback and any unusual events occurring that shift. Sign-in and briefing sheets for the pre-job briefs shall be delivered to the STR the next workday.

A. Pre-job briefs shall address:

- Scope of work to be accomplished for the day, including job assignments,
- Material and equipment receipt including staging area, escort and inspection,
- Hazards and controls associated with the work. Reference the applicable parts of the *Activity Hazard Analysis* (AHA),
- Redlines or revisions to the AHA,
- Qualification & Training requirements,
- Worker interfaces,
- Any particular security, radiological, or environmental concerns, conditions, or limitations,
- Tools, materials, and equipment needed,
- Hold or Witness points and Inspections for quality, safety, etc.,
- Identification of manufacturers' material installation and equipment operating instructions,
- Company contacts and other personnel,
- Work Permit requirements (Radiological, Excavation, Hot Work, etc.), and
- Feedback from the crew to ascertain that they understand the briefing or to add/share information.

B. At all times, an authorized and responsible Seller employee shall escort and supervise all visitors, vendors, and delivery personnel at Seller-controlled work areas.

2.5 Seller shall submit requests for system outages a minimum of twenty-four (24) workdays in advance of need. Authorization for system outages are dependent on Plant operations and not Seller's schedule. Seller shall expend every effort to complete outage related activities within Company allotted outage period. Outage requests shall include detailed activities and schedule durations and resources for the work to be performed during the outage. The schedule provided with the request shall be a fragment from Seller's approved Baseline Schedule. The Company will coordinate an outage schedule. Seller shall participate in Company conducted outage walk downs. Seller shall hold outages to a minimum in number and duration. Seller shall identify all outages on Seller's Baseline Schedule and updates submitted to the Company and minimize placing outages on the schedule's critical path.

A. Twenty-four (24) workdays notice is required if Power Distribution Work Permit and/or lockout/tagout is required to establish the system outage (reference Section 12.17. F).

2.6 The Company will provide *Excavation/Penetration Permits, Radiological Work Permits, Hot Work Permits, Confined Space Permits* when working to the Company Confined Space Program, and authorizations for Storm and Sanitary Water Discharge (per regulatory permits), Asbestos Removal and Building Demolition.

A. Seller shall request Company-provided *Excavation/Penetration Permits* and *Confined Space Entry Permits* sixteen (16) workdays prior to need and Asbestos Removal and Building Demolition Authorization twenty (20) workdays prior to need and twelve (12) working days prior to needing a permit to modify or discharge to Storm Drain or Sanitary Sewer System, and other permits/authorizations four (4) workdays prior to need.

1. *Excavation/Penetration Permits* expire sixty (60) calendar days after the issue date on the permit unless work has started.
2. Refer to Section 9.1.C and Section12.3.B for submitting an *Application for Modification to Y-12 Storm Drain and Sanitary Sewer System* (UCN-18615) to obtain a Company permit authorizing storm or sanitary water system modification and/or discharge into the network.
3. Refer to Section 11.5.D for issuing *Radiological Work Permit*.
4. Refer to Section 12.16 for enclosed space evaluation requirements to identify and classify confined spaces and issuing a *Confined Space Entry Permit.*
5. Refer to Section 12.23 for Hot Work requirements and issuing a permit.

NOTE: Where the excavation work activity does not require an *Excavation Permit*, Radiological Control and Environmental Compliance shall be called three (3) workdays in advance of excavation to identify any control measures to release the area for excavation. Seller shall scan and mark all potentially hidden energized utility lines prior to the start of excavation work activities. Markings shall be in compliance with Tennessee Code Ann. Title 65, Chapter 31 - TCA 65-31-106 "Notice" and TCA 65-31-108 "Marking

excavation and demolition site" - Public Utilities and Carriers - Underground Utility Damage Prevention Act.

B. Company-provided *Excavation/Penetration Permits* do not relieve Seller of responsibility to:

1. Identify the excavation or penetration work scope details with the request for *Excavation/Penetration Permit* (i.e., project title, description of work, location, permit boundary with dimensions and depths, sketch/drawing) and field mark, with white paint/marker, the excavation or penetration area as appropriate in relation to the sketch or drawing.
2. Request review and approval by the City of Oak Ridge Water Plant organization for all excavation work activities located along Bear Creek Road and those located east of East Portal Road.
3. Notify and comply with the Tennessee Code Ann. Title 65, Chapter 31 - Underground Utility Damage Prevention Act and use Tennessee 811 System prior to excavation or demolition by dialing 811 on the telephone network or through generating an online E-Ticket at http://www.tenn811.com/. Seller shall record the Tennessee 811 ticket number on the *Excavation Permit*. This notification must be made at least three (3) working days, but not more than ten (10) full working days, prior to the actual start of excavation or demolition. If duration of excavation activities exceeds fifteen (15) calendar days, then notify Tennessee 811 again to obtain an extension. Arrange for visitor badges for the Tennessee 811 personnel to mark utility locations as needed.
4. Sign the *Excavation or Penetration Permit* upon receipt and maintain it at the work site during excavation/penetration work activities, and comply with instructions given on the Permit and Section 12.15, *Excavations*.
5. Maintain red-line as-constructed markup of the permit drawings as work progresses.
6. Ensure utility and other markings are and remain visible and the *Excavation or Penetration Permit* is within the sixty (60)-day period of date issued prior to starting excavation or penetration work activities.
7. Return the *Excavation/Penetration Permit* upon completion of excavation or penetration work activities with signature and redlined with as-constructed information.

C. An *Excavation Permit* is required for excavation/trenching work activities, including installation of posts, ground rods, etc., except for the following:

1. Maintenance, removal, and/or replacement of pavement or a sidewalk to a depth not exceeding its thickness and utilizing the established footprint.
2. Maintenance replacement of the same location, depth, and size as the items being replaced (i.e., sign post, poles, roofing, etc.).
3. Earth/rock excavations, eighteen (18) inches or less in depth, utilizing non-power activated hand tools. Jackhammers shall not be used.

4. Flagging, probing for utility locations, nonconductive survey marking/staking, snow and ice removal, grounds maintenance, clearing access covers, resurfacing roads, moving storage/spoils piles, ground resistance testing, and Y-12 Fire Department incident response.

D. *Penetration Permits* are required for all penetrations under the following conditions:

1. All penetrations in Category II and III nuclear facilities and chemically hazardous facilities/complexes except those listed in E.2, E.4, and E.5 below,
2. The complete and full penetration of a wall greater than eight (8) inches in any direction, and
3. Full penetrations through sidewalks, pavement and similar surfaces.

NOTE 1: Except for penetrations described in items E.1 and E.3 below, penetrations not requiring a *Penetration Permit* must be reviewed by Company Fire Protection Design Engineering (FPDE) prior to performing the work.

NOTE 2: Penetrations not requiring a *Penetration Permit* and planned in Category II/III nuclear facilities, facilities with Safety Basis-credited walls, or chemical hazardous facilities must be reviewed by Company Structural Engineering prior to performing work. Penetrations described in item E.2 above are exempted from this requirement.

NOTE 3: Penetrations not requiring a *Penetration Permit* and planned in floors or slabs-on-grade of non-Category II/III or non-chemical hazardous facilities must be reviewed by Company Structural Engineering.

E. A *Penetration Permit* is NOT required for the following; however, scanning for hidden wiring and utilities hazards is still required:

1. Penetrations into slab-on-grade floors in non-Category II/III facilities and non-chemical hazardous facilities,
2. Work associated with the installation of fasteners ¾ inch or less in embedded depth to floors, walls, ceilings and roofs,
3. Penetration of pavement or a sidewalk not in excess of the thickness,
4. Penetrations in masonry not exceeding the face shell thickness, and
5. Penetrations in a single layer surface where both sides of the surface are clearly visible.

F. Seller shall comply with instructions/requirements contained in permits, confirm field surveys and markings, and add any additional known information as “redlines” to the document. Do not proceed with work until discovered discrepancies are resolved. Return expired *Hot Work Permits* and completed *Excavation and Penetration Permits* to the STR or Issuing Authority.

1. Obtain a *Lockout/Tagout(LOTO) Permit* when the field validation for a *Penetration Permit* shows utilities are potentially within six (6) inches of the planned penetration area.

2. Penetrations (holes) in reinforced concrete shall be relocated if reinforcing steel is encountered before the finished depth of penetration. Relocating penetrations or cutting of reinforcing steel requires Company approval. Repair any abandoned penetration.

G. Seller applies its signature on permit as Service Supervisor/Supervisor Directing Work/Responsible Field Supervisor.

1. Company-provided Hot Work Service Supervisor training is required for Seller employees who supervise personnel performing welding, burning, or hot work.

2. Company-provided LOTO Service Supervisor training is required for Seller employees who supervise personnel performing work under a LOTO.

2.7 Control dust emissions during work. Seller shall prevent dust from migrating to areas adjacent to the work area. Limit use of water to prevent erosion and other deleterious effects. Seller shall provide hoods, enclosures or other methods of containment during sandblasting or similar operations.

NOTE: Seller has an option to request a Facility Criticality Accident Alarm System (CAAS) audibility test while Seller demonstrates work activity producing noise 85 dBA or more to establish compensatory measures.

2.8 Seller shall follow strict Facility requirements when work activities are near or produce noise in excess of 85dBA. Seller shall provide noise monitoring and shall as a minimum:

A. Specify any work generating noise 85dBA or more on the Facility POD form and obtain host Facility compensatory measures.

B. Stop work activities that produce noise in excess of 85dBA until Facility-specific “high noise” compensatory measures are implemented.

C. Allow up to a ½ hour to implement Facility-specific compensatory measures requiring the use of Company-furnished Personal Radiation Detection Instrument (PRDI). Use of a PRDI requires completion of Company-provided PRDI training.

2.9 Seller personnel shall not enter any area of the Facility posted with a red STOP sign without coordination through the Facility Shift Supervisor. The Company’s Facility Shift Supervisor or designee will open locks on doors.

2.10 Seller shall obtain approval from Company’s Facility Operations Manager prior to delivering hazardous materials for use or storage at or near the Facility (e.g., combustible, flammable, corrosive). Company may elect to limit Seller’s quantities of hazardous materials brought to or near the Facility.

2.11 Seller requiring access to nuclear operations Facilities (Facilities operating under a Safety Basis) shall complete Company-provided General Employee Radiation training, (GERT), Annual Security Refresher training, Modified Classified Matter Protection/Control (CMPC) training, Production Safety Basis 200 Core training, Hazard Analysis Hands on Work training, and facility-specific training. Seller shall request Facility-specific training requirements during pre-mobilization activities.

A. Facility access to Material Access Areas (MAA) requires DOE Q-Clearance with a Human Reliability Program (HRP) clearance or a DOE Q-Clearance with a

Security Escort having Human Reliability Program (HRP) clearance (Refer to Section 13.3.F.1).

2.12 Seller shall coordinate with Facility Shift Supervisor and STR to obtain roof access authorization.

3. WORK PLANNING AND CONTROL

3.1 Quality Assurance

The Company's Quality Assurance Program Description complies with the requirements of 10 CFR Part 830 Subpart A and DOE Order 414.1D including the application of the national consensus standard ASME NQA-1-2008 and addenda 2009a and 2011b. Using a graded approach, the applicable elements of the regulations are flowed down to the Seller through the subcontract specifications. When required by the specifications, Seller shall submit a subcontract-specific QA Plan that defines the methodology for identifying activities requiring implementation and documentation and other quality criteria applicable to the Scope of the subcontract. The Seller's QA Plan shall address the applicable requirements of the specifications and define how the requirements will be implemented. It shall describe the methodology and processes for flowing down the applicable QA requirements to Seller's lower-tier subcontractors, ensuring that all work is performed by personnel whom have been trained and qualified to the applicable codes and standards which are required to be implemented in accordance with the requirements in the specifications.

The Company has assigned Quality Levels to the Structures, Systems, and Components (SSC) affected by the work under the subcontract and has identified the applicable Quality Level(s) in the specifications and/or drawings. In order of increasing rigor, the Quality Levels are Commercial Control (CC), Enhanced Commercial Control (ECC), Risk Significant (RS), and Quality (Q). The following paragraphs summarize the minimum requirements for controls, inspection and oversight for each of the Quality Levels. The Company reserves the right to perform oversight of Seller inspection activities for any Quality Level.

A. Commercial Control (CC)

Standard commercial controls (federal, state, and local laws, voluntary consensus industrial codes and standards, and technical and quality requirements) apply. Suppliers' published or stated attributes of the item, service, activity, or process are to be verified. General receipt inspection and/or acceptance processes are required to ensure item, quantity, and other basic characteristics are met (e.g., documentation, physical condition). The observation of activity performance or the verification of activity documentation to ensure correctness, completeness, and adequate performance of affected SSC relative to applicable item design characteristics shall be conducted by individuals who are task knowledgeable and who did not accomplish the task to be inspected but may have been involved in the performance of the work activity.

B. Enhanced Commercial Control (ECC)

Items and services that do NOT meet criteria in Quality Level -Q or RS but have identified functions or features that require quality controls and/or verifications to mitigate risk. Used when enhanced quality controls are required over and above those needed for standard commercial practices in order to mitigate identified risks. The observation of activity performance or the verification of activity documentation to ensure correctness, completeness, and adequate performance of affected SSC relative to applicable item design characteristics shall be conducted by individuals who are task knowledgeable and who did not accomplish the task to be inspected but may have been involved in the performance of the work activity.

C. Risk Significant (RS)

Commercial controls and selected additional controls (e.g., receipt inspection, inspection and testing of installation, maintenance, and/or documented post-maintenance testing of SSCs and software under configuration management) are required. Selected quality controls are applied to material quality and traceability, documentation, reviews, and/or inspections and testing. Verification and oversight activities are formal, and documented. The observation of activity performance or verification of activity documentation to ensure correctness, completeness and performance of the activity relative to affected item design characteristics and risk attributes is performed by individuals within Seller's organization who are technically competent, task knowledgeable, understand the quality requirements, and independent (i.e., outside the peer group of those that performed the activity). Individuals assigned to perform inspection or verifications are subject to Company approval.

D. Quality (Q)

Work affecting Quality (Q) SSC requires application of the highest level of quality program controls as defined by the specifications and/or drawings. Periodic configuration management walk downs and higher frequency Management Assessments and Independent Assessments are required. The observation and inspection of activity performance or verification of activity documentation to ensure correctness, completeness, and performance of the activity relative to affected item design characteristics, risk attributes, and critical characteristics shall be performed by designated qualified Seller personnel other than those who performed or directly supervised the work being inspected. The qualifications of Seller inspection personnel shall be submitted to the Company for approval. Company quality control engineers will verify Seller activities to assure effective implementation and compliance with the work controlling documents and the latest revision of the design documents.

3.2 Work Plan

Seller shall submit a Work Plan and obtain Company approval before the Company issues a Notice-to-Proceed (NTP) to Seller for mobilization and other Y-12 work activities. The Work Plan shall address the following topics, as applicable to the work being performed, in detail or by reference to standalone plans (e.g., Quality Assurance Plan):

A. Technical approach including:
   1. Work sequence schedule,
   2. Planned resource utilization (labor, equipment, lower-tier subcontractors),
   3. Work location(s),
   4. Facility “Work Start Authorization” (Building/Zone – Operations Safety Board),
   5. Required permit(s),
   6. Requests for permits/outages and/or Company services, and
   7. Incorporation of Lessons Learned;

B. Quality Assurance approach including:
   1. Assigned quality level for work,
   2. Defined procedures
   3. Defined Inspection Packages and Inspection Test Plans,
   4. Identified witness and hold points,
   5. Material procurement compliance,
   6. Training compliance, including trained Competent person(s) and qualified inspectors,
   7. Measuring and test equipment calibration and control, and
   8. Assessments;

C. Security requirements including:
   1. Security Plans,
   2. Escort packages,
   3. Use of computers and other wireless signal devices requiring *Technical Review Request (TRR)*, and
   4. Badge accountability.

D. Assignment of responsibilities, including accident/incident response;

E. Environmental Safety and Health oversight and compliance including:
   1. Reference to the Best Management Practices (BMP)/Storm Water Pollution Prevention Plan(SWP3),
   2. Discharges to the storm or sanitary systems, and
   3. Training and/or awareness measures to ensure that all employees are made aware of the potential environmental impacts of the work and the controls (e.g., procedures, BMPs, engineering controls) in place to minimize or eliminate negative impacts;

F. Vehicle and/or pedestrian traffic control;

G. Waste Management Plan;

H. Sampling and Analysis;

I. Special Process Control including:

1. Welding, including rod control, inspectors and lower-tier Subcontractors compliance,
2. Hoisting and rigging, including identifying lift plans, competent person rigger, crane owner and operator, and rigging equipment control,
3. Identification of personnel safety systems,
4. Electrical hazard evaluations,
5. Use of respirators,
6. Use of negative air machines, and
7. Radiological source control.

J. Material storage and control approach including:

1. Material assignment schedule,
2. Material delivery, receipt inspection and non-conforming material handling,
3. Manufacturer's storage requirements and special instructions,
4. Inventory control,
5. Hazardous materials and maximum allowable quantities, and
6. Maintenance of warranty;

K. Preparation of submittals;

L. Test and Start-up approach including test scope;

M. Turn-Over approach including:

1. Request for final inspection for areas, rooms and/or systems,
2. Configuration control of turned over items (as-constructed drawings/specifications), and
3. Warranty(s).

3.3 Inspection Packages/Inspection and Test Plan

NOTE 1: Submittal of IP(s) does not relieve Seller of requirements of the subcontract technical specifications to separately submit individual inspection records or test reports.

NOTE 2: Unless required by the subcontract technical documents and/or Statement of Work, IP(s) are not required for items procured from Seller's venders and suppliers.

A. Seller shall prepare *Inspection Package*(s) (IP) when the subcontract technical documents and/or Statement of Work (SOW) require verification, inspection and/or testing. IP(s) shall be used by Seller's personnel performing verification, inspection and/or testing to ensure and document compliance. Seller shall prepare IP(s) and provide a copy to the Company for review prior to initiating

work defined by the IP. Seller shall designate the individual (e.g., QA/QC Manager) responsible for administering and maintaining the IP(s). Upon finalizing the execution of the IP, Seller shall submit finalized IP to the Company for review and acceptance. IP Control log shall be made available to the Company upon request.

1. *Inspection Package*(*s*) shall include as a minimum:
    a) Table of contents with revision number and date,
    b) Current design document(s) applicable to the verification, inspection and/or test,
    c) Applicable Design change/clarification documents (redlines, RFI's, changes, etc.),
    d) Applicable Inspection Procedure(s)/checklist(s) and/or Test Plans used to document acceptance inspections and testing to the current standards, design documents and changes. Seller and lower-tier subcontractors shall use existing Company inspection checklists (Construction Work Process (CWP) Procedures) or provide inspection procedures acceptable to the Company.
    e) Final IP(s) shall include, as applicable:
        i. As-constructed design documents,
        ii. Inspection Record(s),
        iii. Test Records with Measuring and Testing Equipment (M&TE) identification and calibration due date for traceability, and
        iv. Operation manuals, data sheets and other pertinent material information (e.g. Heat Numbers, Lot Numbers, material receiving reports and Non-Conformance Reports).

NOTE: Multiple IPs may be generated to simplify inspections and complexity in completing Tasks within the scope of work. Traceability shall be maintained for a single task having multiple IPs (i.e., IP for steel frame erection, IP for steel frame ground megger test and IP for steel frame base plate grouting shall be traceable to each other.).

2. *Inspection Package*(s) Requirements:
    a) Unique number shall be assigned to each IP,
    b) Control Log shall be maintained containing:
        i. the IP number,
        ii. issued date and subsequent revision dates,
        iii. dates IP relinquished for inspection and name of inspector(s), and
        iv. date IP finalized;
    c) Pre-work, revision, and final IP(s) shall be signed and dated by Seller's QA/QC Manager or other designated representative for accuracy and completeness,

d) IP shall be controlled and accounted for at all times (this can be by a sign-out log or other controls),

e) The final IP may contain copies of documents when original inspection/test records are submitted separately in accordance with the technical specifications, and

f) Inspections, verifications and tests shall be performed by Seller unless otherwise specified.

B. When the IP is not being utilized, Seller shall utilize the *Inspection Test Plan* (ITP) to identify the inspections and tests including witness and hold points to be accomplished during the execution of activities to demonstrate compliance to specified requirements. Seller shall develop the ITP(s), providing the complete set of activities and subsequent verification means to ensure that those items or services being completed meet the specified requirements, including developing the inspection record(s) used to document inspections or tests. Seller shall provide ITP(s) to the Company for review prior to initiating work.

1. Seller shall designate the individual (e.g., QA/QC Manager, Engineer, Superintendent) responsible for administering and maintaining the ITP(s). Inspection Test Plan Control Log shall be maintained and made available to the Company upon request.
2. ITP(s) shall be used by Seller's personnel performing oversight, verification, inspection and/or testing to ensure and document compliance.
3. Completed inspection/test record/report(s) which accompany the *Inspection Test Plan* shall include the following, as a minimum:

a) Item(s) inspected/tested.

b) Section of the ITP applicable to the inspection/test

i. Date and time of inspection/test start and completion.

ii. Inspector(s) and inspection process.

iii. Results including item acceptability and signature.

iv. Environmental conditions, as applicable.

4. Seller shall submit ITP record(s) of completed work to the Company for review and acceptance.

C. Measuring and test equipment (M&TE) used as a basis for acceptance of work shall be identified on the IP/ITP report. Equipment used for process monitoring, data collection, inspections, tests and acceptance shall be calibrated, maintained and certified to the stated accuracy. M&TE found to be defective or overdue for recertification is not to be used until it has been recertified. Also, when M&TE is found to be out of tolerance, action is taken to review its use over the previous interval and to determine corrective measures necessitated by erroneous measurement results. Calibration of M&TE shall be based on National Institute of Standards and Technology (NIST), and provide suitable controls for ensuring accuracy. The M&TE process shall provide for maintenance, accountability, and calibration of devices and standards.

D. Seller shall perform receipt inspection, control, and storage of procured materials and components, in accordance with manufacturers' and/or specified requirements. Seller shall segregate deficient materials when practical and take precautions to preclude inadvertent installation or use of a deficient item. Additional requirements for Quality Level Q SSC are given in Section 5.6, *Material Delivery, Storage and Handling*.

E. When a SSC is found to be indeterminate or does not meet specified requirements, the Seller shall implement a nonconforming item process. This process shall promptly identify, investigate, control, correct and disposition the SSC. The Company will review and approve this process prior to final disposition of the SSC.

F. Inspection shall be performed by qualified persons other than those who performed the work/activity. Refer to Section 3.1, *Quality Assurance* for inspector/verifier qualifications.

3.4 Welding Planning

A. Seller's and its lower-tier subcontractor's procedures and qualifications associated with welding, identified in Technical Specification for welding, shall be approved by the Company prior to performing welding or examination activity. Seller shall submit for information a list of subcontractor(s) and vendor(s) (at all levels) performing welding or examination activities.

B. Welding attributes that require documentation on a Weld Examination Record are identified in the technical specification for welding. Welding Examination Records with applicable weld maps for traceability (when required) shall be scoped (for the entire scope of work) and prepared by Seller and submitted for Company approval prior to the start of welding activities. Seller shall submit in advance of welding/examination a Weekly Planned Welding and Examination Activity Report.

C. General scoping requirements for Piping and Pressure Vessels:

1. Each Weld Examination Record (WER) should normally be scoped to a single drawing.
2. The WER may represent multiple sketches provided the multiple sketches represent a logical/manageable fabrication sequence.
3. The WER may not represent more than one (1) piping system (code, fluid service, etc.).
4. These sketches or drawings shall be attached to the WER for weld number traceability.
5. When weld sampling inspection is required, all welds represented by the sample shall be entered on the record. Only the welds inspected shall have documented evidence of inspection/verification; however, the quantity of welds inspected shall equal the minimum specified sample size with each welder's work being represented.

D. General scoping requirements for Structural Steel/HVAC/Supports/Hangers, etc.:

1. Each Weld Examination Record (when required by the technical specification for welding) shall have an attached weld map for weld traceability.
2. Each weld does not require a unique identifier unless additional NDE such as PT, MT or RT is being performed for final acceptability. These welds may be identified as a section number, piece number, support or hanger number as long as a logical/manageable fabrication sequence is maintained and identified as such on the drawing.

3.5 Daily Report

Seller shall deliver a Daily Report to the Company STR no later than the next workday. The Daily Report shall include, as applicable:

A. Subcontract Number and Subcontractor name,

B. Project Name,

C. Number of employees of Seller and its subcontractors and hours worked per individual identified by craft including non-manual supervision,

D. Equipment Make and Model onsite and the condition of the equipment and hours worked or on standby,

E. Names of visitors,

F. Description of work performed including tests, or inspections and witness/hold points met,

G. Environmental, Safety and Health observations and incidents,

H. Special comments (e.g., competent person input, delays, disruptions, critiques, duration of any delays or disruptions and the individuals impacted),

I. Seller Authorized Representative or designee signature,

J. Weather conditions and temperature,

K. Date,

L. Event(s)/Condition(s) Reported, and

M. Attachments.

4. TRAINING

4.1 The Company will provide, at no cost to Seller, *General Employee Training* (GET) and other Company compliance-related training. Seller shall bear all other costs associated with having its employees attend the required training (e.g., employee pay, travel, meals, lodging, etc.).

A. Seller may request the training record for Seller's employees completing Company-furnished training.

B. Seller's badged employees shall keep GET and other Company compliance-related training current or surrender their badges.

C. Seller shall notify the STR of employee furloughs or terminations to allow the Company to inactivate those training records.

4.2 Supplemental Conditions, Attachment 1, *Training Requirements,* identifies Y-12 general and task-specific training required for Seller personnel and lower-tier subcontractors. Complete and submit the *Subcontractor Request for Y-12 National Security Complex Training* (UCN-21364) to STR to request Company-provided training.

A. The established Company training schedule will prevail. The schedule is available to Seller upon request.

B. Revision to Seller generated, task-specific documents (e.g., AHAs, plans) requires re-training of affected Seller employees.

C. Seller is responsible for providing its personnel any/all non-Y-12 specific training required to keep its personnel current as required by Federal and State laws, codes and standards, or Seller performance requirements.

D. Seller is responsible for providing personnel who are trained and qualified in the skills of their crafts, disciplines, or specialties.

E. Seller shall document all training and provide access to or copies of training records to the Company upon request. Copies of completion record of Company-provided training to Seller's personnel will be made available to Seller upon request.

4.3 Seller shall ensure employees are trained in the use of tools and equipment appropriate to the task and the installation of materials and equipment in accordance with manufacturers' instructions. Seller shall have manufacturer or vendor manuals available onsite and ensure users are trained on safe operation. Seller shall maintain a copy of manufacturers' installation instructions and train workers prior to the installation of the material or equipment. Seller shall document employee training and provide records to the Company upon request.

4.4 Seller shall identify training and/or awareness measures to ensure that all employees are made aware of the potential environmental impacts of the work and the controls (e.g., procedures, Best Management Practices (BMPs), engineering controls) in place to minimize or eliminate negative impacts.

4.5 Seller shall develop, maintain, and submit upon request to the Company a training matrix that lists the individuals in each position and their associated training requirements.

A. Seller shall define and document any education, position skills training (i.e., Competent Excavation Person), environmental health and safety training, facility-specific training, and any other training required for individuals to be qualified for those positions.

B. Seller shall maintain an active system that tracks the effective and expiration dates of training.

C. Seller's system shall provide a means for denying personnel access to applicable sites and/or performing tasks when the required training for entering that site or performing that task has not been completed or is no longer current.

5. MATERIAL DELIVERY, STORAGE & HANDLING

5.1 Promptly place orders for equipment, materials, and services to complete the work. Include delivery schedules for critical items in Seller's schedule submittals. For items requiring Company approval of a submittal, do not order the items until Company provides acceptance.

5.2 Seller shall promptly notify the Company of changes in delivery schedules or circumstances that could affect timely delivery of equipment, materials, and services. Seller requests for an extension of time because of late delivery of equipment, material, or service shall be submitted to the Company Subcontract Administrator (SA) in writing in accordance with the *Changes* article of the Agreement's *General Terms and Conditions* and accompanied by documentation showing Seller's efforts to obtain timely delivery. Time extensions to the schedule require Company approval.

5.3 Seller is responsible for all costs related to the acquisition and care of Seller-purchased equipment and materials. Deliver materials in a new condition and unload, handle, protect and maintain according to manufacturer's instructions during storage and installation to maintain the condition until turnover to the Company. Report any damage to the Company and obtain Company approval for the corrective measure. Damaged materials shall be replaced or repaired at Seller's expense, including expediting expenses.

5.4 All bills of lading for deliveries shall be addressed to Seller and state the specific delivery location and point of contact. The STR is available to assist with delivery coordination. Deliveries to Seller shall comply with Sections 12.30 and 13.2.A and D requirements for transportation and site access, respectively.

NOTE: The Company will not accept deliveries for Seller.

5.5 Seller shall comply with manufacturer instructions and requirements for handling and storing of material and equipment and maintain a record of compliance (i.e., shaft rotations, conditioned space, etc.). Seller shall protect materials and equipment from moisture, dust, and damage and shall provide conditioned storage when required. Seller shall store materials and equipment to prevent damage to the environment and comply with Federal and State regulations. Seller shall provide compliance records to the Company upon request.

5.6 Structures, Systems and Components (SSC) identified in the specifications as Grade 1 or 2, Quality Level Q shall have a receipt inspection upon delivery and be secured and tracked until installed. The Company will furnish a Commercial Grade Dedication Plan (CGD) with the technical specification for each Quality Level Q SSC. Seller shall ensure that all requirements of the CGD for receipt inspection and acceptance are completed and documented. Seller shall establish and maintain a Material Control Plan for Quality Level Q SSC in accordance with the Technical Specification or Statement of Work requirements. The Material Control Plan shall be submitted for Company approval and shall address, at a minimum, the following requirements:

A. Material Receipt and Installation Log,

B. Materials placed in secure (locked) storage with a Key Control Log until installation,

C. Material Expiration Log for materials having a finite shelf life, and

D. Removal of non-conforming materials/items.

5.7 Identify materials delivered to Y-12 with a weather-resistant tag or label with Seller's name and contact, subcontract number, and contents.

5.8 Only materials and equipment used in the performance of this Subcontract may be stored at Y-12. Seller is responsible for all loss, destruction, or damage to material (including work in progress). Limit laydown and storage to areas designated by the Company. Seller is responsible for maintaining good housekeeping in storage and laydown areas and shall immediately correct deficiencies noted by the Company.

5.9 Excess material and equipment which is government property shall be returned to the Company for disposition. All other excess material and equipment shall be removed from Y-12 after obtaining Company Radiological Control (RADCON) release.

5.10 Seller is responsible for protection and maintenance of Government-Furnished Equipment/Material (GFE) that has been placed in Seller's care. Damaged GFE shall be repaired or replaced at Seller's expense.

6. SCHEDULE

6.1 Seller shall submit their Schedule with Resource Profile and Cost Loading for Company approval within eight (8) workdays of Notice of Award. Company approval of the Schedule is required before the Company will issue a Notice-to-Proceed (NTP) to the Seller for mobilization and other onsite work activities. The approved initial Schedule is the Baseline Schedule. Conditions and requirements for Schedule (e.g., software, logic, loading, updates, format and content) are further addressed in herein.

A. The Schedule shall include Seller's work activity sequence in sufficient detail to provide:

1. Assurance that it encompasses the entire scope of the Subcontract, including lower-tier subcontractor and supplier activities.

2. A basis for the Company's internal planning activities

3. Allowance for uncertainties of weather: The basis of rain, temperature, rain days, etc., will be the data from the National Climatic Data Center for Oak Ridge, Tennessee (www.NCDC.NOAA.gov). Weather conditions that lie within 30 year historical norms as measured by the National Climatic Data Center for Oak Ridge, Tennessee, shall not be considered an excusable delay.

B. The Company's review and approval of Seller's Baseline Schedule is for conformance to the Subcontract requirements only. Seller is responsible for the schedule logic, reasonableness and feasibility; activity selections and durations; and cost and resource loading. "Cost" is as defined in the Pay Items identified in the Subcontract Pricing Schedule or a Company approved schedule of values, the sum of which shall equal the total Subcontract Amount at time of award.

1. Changes to the Activity description, sequence or numbering in the approved Baseline Schedule shall be discussed with the Company in advance and may require a revised Baseline Schedule to be submitted by Seller for approval by the Company.
2. Seller may submit revisions to the Baseline Schedule in the form of fragmentary networks (fragnets) to the Company for acceptance. The changes shall be clearly defined in the scope of the revision, and any cost/schedule impacts to the accepted cost and schedule baselines shall be explained.

C. The Schedule shall be developed utilizing any of the Primavera Project Planner suite of scheduling software products. The submittals and weekly updates shall include an electronic copy saved in P6 format.

D. The Schedule shall be a Critical Path Method (CPM) Schedule presented in format described in Section 6.2 and updated weekly. Weekly schedule updates shall show both the Baseline Schedule (termed by Primavera as the "Target Schedule") and current status on activities, costs, and resources. Seller shall provide copies of the Schedule updates and a three (3) week look-ahead schedule for the Progress Meetings.

E. Seller shall have obtained Company approval of the Baseline Schedule before submitting the first *Application for Payment*. Company approval of subsequent revision(s) to the Baseline Schedule (re-baselining) is also required prior to approval of *Applications for Payment*.

F. If Seller activity falls behind the approved Baseline Schedule, risking timely completion of the subcontract period of performance, Seller shall, without additional cost to the Company, take such steps as necessary to regain schedule.

1. The Company may require Seller to submit a recovery plan and schedule in the same format as the Baseline Schedule.
2. Upon the Company's determination that Seller is not executing the work with such diligence to ensure completion within the subcontract period of performance, the Company may provide written direction and, in addition to any other remedy, perform or have the work performed by others on behalf of Seller and deduct the cost incurred from the subcontract value. These actions will be governed by the provisions and notice requirements in the General Terms and Conditions.

6.2 Schedule Format and Content

A. The CPM Schedule shall be in a Precedence Diagramming Method (PDM) format.

B. The Schedule shall be time-scaled and show bars for activity current status and target dates from the Baseline Schedule.

C. The Schedule, as a minimum, shall include the following critical milestone dates:

1. "Notice-of-Award Issue" (Day one (1) on the Schedule)
2. "Notice-to-Proceed Issue"

3. Other milestone dates specified in the Subcontract
4. Key material and equipment delivery dates
5. “Construction Complete”; logically tied to demobilization
6. “Subcontract Completion Date”; constrained to a fixed date

D. The Schedule shall show:

1. Activity Number
2. Activity Description
3. Activity Original Duration
4. Activity Remaining Duration
5. Current Early Start or Actual Start of the activity
6. Current Early Finish or Actual Finish of the activity
7. Activity Total Float
8. Activity Percent complete
9. Activity Target Early Start
10. Activity Target Early Finish
11. Variance Target Early Finish/Start

E. Seller’s Schedule activities, resources, and costs shall be coded as directed by the Company. The Company will provide an electronic file of a P6 Shell and Work Breakdown Structure (WBS). The P6 Shell is a template that contains Subcontract-specific and Company’s standard WBS, activity code dictionaries, and resource codes. Seller shall use the Company-provided P6 Shell and WBS. Seller shall modify (add to) the Company-provided P6 Shell to facilitate Seller work activities, cost, labor, and material/equipment quantities.

F. The Schedule level of detail shall be sufficient to provide the Company with an adequate level of information concerning training, field mobilization, submittals, procurement and delivery of materials and equipment, equipment installations, permits (e.g., LOTO, excavation, confined space), outages, work activities (onsite and offsite), inspection, test and checkout activities, final cleanup and demobilization, and documentation for turnover/closeout. Activity selection shall define discreet elements of work, whose duration shall not exceed twenty-one (21) calendar days unless approved otherwise by the Company.

G. The critical path shall be clearly defined on the Schedule.

H. The Schedule shall not contain negative relationship lags and/or negative activity durations.

I. Total float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, for each activity in the Schedule. The total float is owned neither by the Company nor by Seller.

6.3 Extensions of time to the Subcontract period of performance shall be granted only via Subcontract Modification. In the event the Company changes the Subcontract

period of performance, Seller shall submit a revised Baseline Schedule to the Company for acceptance within eight (8) workdays of receipt of the Subcontract Modification changing the period of performance.

6.4 Seller shall submit for Company approval a Resource Profile and Cost Loading integrated with the Baseline Schedule within eight (8) workdays of Notice of Award and obtain approval prior to *Application for Payments*.

A. Seller shall compile the Resource Profile and Cost Loading utilizing the Company provided P6 Shell. Each schedule activity shall be resource and cost loaded.

B. Seller shall provide total period and cumulative resource and cost information monthly for the entire duration of the subcontract upon Company request.

C. When the Baseline Schedule is revised and/or the Subcontract Modification significantly alters the scope of work, a revised Resource Profile and/or Cost Loading shall be submitted to the Company for approval. The revision from the Subcontract Modification shall be a unique entry following the original format (Labor, Material, etc.).

D. Seller shall provide a Schedule of Values from the Baseline Schedule cost loading and correlate schedule activities with the respective Subcontract Pay Items. The cumulative cost load from schedule activities shall not exceed the value of the respective Subcontract Pay Item. The total of the Schedule of Values shall equal the Subcontract value.

7. EARNED VALUE

7.1 Seller shall prepare a Schedule of Value*s* to allocate the Subcontract pricing to work activities on Seller's Schedule when the Subcontract Measurement for Payment allows for interim progress payments. The Schedule of Values will be used by the Company as the basis for approving *Applications for Payment*. Submission shall be as follows:

A. Prepare a Schedule of Values correlated to work breakdown identified in Seller's Baseline Schedule as addressed in Section 6.4.D.

B. Submit the Schedule of Values to the STR for approval within two (2) weeks after approval of Seller's Baseline Schedule.

C. Update and incorporate each Subcontract Modification, identifying the Subcontract Pay Item(s) and correlating Schedule of Values, to the STR for acceptance.

D. Submit approved Schedule of Values with *Application for Payment* to show payment request for work completed.

E. Forms and Content

1. Provide Schedule of Values breakdown in enough detail for evaluation of progress reporting and *Applications for Payment*.

2. Provide a separate item in the Schedule of Values where *Applications for Payment* includes materials or equipment purchased or fabricated and stored, but not yet installed.

a) Furnish evidence that Seller has acquired title to such material and that the material will be used to perform the work.

b) Include evidence of insurance or bonded warehousing for offsite storage.

3. Temporary facilities and other distributable cost items that are not a direct cost of actual work-in-place may be either shown as separate items in the Schedule of Values or distributed as general overhead expense.

4. Unless required otherwise by the Agreement, include preparatory work, overhead, and profit in the items to which they apply. Do not state as separate items. State the cost of bonds in a separate line item.

7.2 Payments for work progress will be made in accordance with the Agreement's *General Terms and Conditions* article on *Payment* unless modified by the Agreement's Measurement for Payment provision in the Agreement Pricing Schedule Section. Submit *Application for Payment* as follows:

A. Computation for Payment

Compute progress payments on a basis of complete work for each Pay Item in the approved Schedule of Values or Subcontract Measurement for Payment section. Payment will not be made for any item of completed work until requisite documentation verifying completion is submitted to and accepted by the Company.

B. Submittal of *Application for Payment*

1. A person authorized to sign legal documents on behalf of Seller shall execute the *Application for Payment*.

2. Entries shall match data in the Schedule of Values or Subcontract Pricing Section.

3. Submit an *Application for Payment* with documentation and records required to verify acceptable completion of items of work.

4. Seller shall submit each *Application for Payment* to the Company STR, Subcontract Administrator, and Accounts Payable.

5. The date for submittal of each *Application for Payment* is the third Wednesday of each month.

C. Submittal of Final *Application for Payment*

a. Upon completion of the work, submit an *Application for Payment* marked as "Final" in accordance with the Agreement's *General Terms and Conditions Payment* article.

b. Prior to submission of Final *Application for Payment*, Seller shall complete all outstanding contract compliance items including, but not limited to, removal of excess material and equipment; completion of outstanding submittals and certified payrolls; return of badges, vehicle passes, and dosimeters; submittal of bioassay samples; and return of Company-furnished items. Failure to resolve could delay approval of Final *Application for Payment.* Seller should contact the STR for information concerning the outstanding contract compliance items.

D. Approval of *Application for Payment*

The Company will review the *Application for Payment* and make payment after verifying accuracy and completeness. Company will notify Seller of disapproved *Applications for Payment* for correction and resubmittal.

8. FORMS

8.1 The following Company forms are available through the Company Public Web Site at http://www.y12.doe.gov/library/forms/procurement-related-forms:

A. *Daily Summary of Backcharge Work* (UCN-22347)

B. *Individual Accident/Incident Report, DOE F 5484.3*

C. *Release and Certificate of Final Payment* (UCN-22371)

D. *Request for Information* (UCN-22350)

E. *Request for Inspection of Completed Work* (UCN-22346)

F. *Subcontract Overtime Request* (UCN-22373)

G. *Subcontract Safety Performance Report* (UCN-21439)

H. *Subcontract Technical Representative (STR) Change Notice* (UCN-21329)

I. *Subcontractor Hazardous Materials Inventory Report* (UCN-21445)

J. *Subcontractor Request for Y-12 National Security Complex Training* (UCN-21364)

K. *Submittal Cover Sheet* (CFN-0095)

L. *UCNI/OUO Information Protection Requirements for CNS Suppliers* (UCN-26608)

M. *Y-12 Badge and Access Request Form* (UCN-21519)

8.2 The following forms are available in hard copy and electronic format from the STR:

A. *Active Beryllium Worker -Beryllium Work Plan* (UCN-21324)

B. Application for Modification to Y12 Storm Drain and Sanitary Sewer System (UCN-18615)

C. *Asbestos Waste Shipment Record* (CN-1054)

D. *Boundary Marker Identification Tag* (UCN-20760)

E. *Daily Summary of Force Account Work* (UCN-22531)

F. *Excavation Plan for Working within Tolerance Zone* (UCN-26849)

G. *Hoisting and Rigging Hazard Evaluations* (CFN-0215)

H. *Inspection Test Plan*

I. *Label: Hazardous Waste Identification* (UCN-02114A)

J. *Limited Area Escort Package* (UCN-17629A)

K. *Mobile Crane Overhead Electrical Lines Checklist* (UCN-22330)

L. *Non-radioactive Inbound/Outbound Shipping Plan* (UCN-26064)

M. *Overhead Power Line Hazards and Controls Evaluation* (UCN-26880)

N. *Permit Required - Confined Space Entry Log*, (UCN-17306)

O. *Plan of the Day (POD) Request* (UCN-21014)

P. *Pre-Lift Safety Checklist* (CFN 0086)

Q. *Previous Occupational Radiological Exposure* (UCN-22728)

R. *Protected Area Escort Package* (UCN-17629)

S. *Radioactive Inbound/Outbound Shipping Plan* (UCN-21822)

T. *Request for Landfill V and VII Disposal* (UCN-21941)

U. *Request for Landfill IV Disposal* (UCN-21941B)

V. *STI SP001 Annual Inspection Checklist* (UCN-26855)

W. *STI SP001 Monthly Inspection Checklist* (UCN-26856)

X. *STI SP001 Portable Container Monthly Inspection Checklist* (UCN-26857)

Y. *Subcontractor Personnel Exit Checklist* (UCN-4452S)

Z. *Subcontractor Request for Y-12 National Security Complex Vehicle Pass* (UCN-21355)

AA. *Tag: Waste Identification* (UCN-02114B)

BB. *Training Exception Form* (UCN-19546)

CC. *Waste Container Log* (UCN-21482)

DD. *Waste Container Preparation and Filling Instruction/Checklist UN Open Head Steel Drum* (UCN-21667)

EE. *Waste Container Preparation and Filling Instruction/Checklist Cargo/Sealand Container* (UCN-21670)

FF. *Waste Container Preparation and Filling Instruction /Checklist ST-90 or 7A Box Container* (UCN-21668)

GG. *Y-12 Site Access/On-Site Move Approval for Radioactive Sources* (UCN-20408)

9. TEMPORARY FACILITIES AND WORK AREA CONTROLS

9.1 Temporary Utilities/Company-Furnished Facilities

Seller shall provide temporary lines and distribution equipment for connecting to existing Y-12 electric and water utilities. Seller is responsible for installing, maintaining, and repairing temporary lines and distribution equipment. Tie-ins and disconnecting to Y-12 utilities will be performed by the Company. Seller shall provide material and equipment in place and ready for tie-in and shall remove temporary utilities upon completion of the work and after final disconnect.

A. Electricity:

If Company electric power is not available, Seller shall provide portable power, as required. Seller shall provide Ground Fault Circuit Interrupters for temporary electrical lines. Perform temporary electrical work in accordance with National Fire Protection Association (NFPA) 70 (National Electric Code) requirements.

1. Seller's electrical installation for temporary facilities shall pass an inspection by the Y-12 Authority Having Jurisdiction (AHJ) before tie-in to the Y-12 power distribution system or connection to a portable generator greater than 5kW. Request inspection via the STR two (2) workdays in advance of need.
2. Grounds for Seller's portable power units may be obtained by connecting to existing grounding or installation of a ground rod. Ground rod installation requires an excavation/penetration permit.

B. Water:

The Company will identify an existing water source for Seller's use. Company-installed backflow preventers are required on all hydrants. Seller is responsible for providing a distribution system (e.g., hoses, booster pumps) from the backflow preventer/water source to the work area. Seller may at its option furnish portable water tanks or mobile water tanker(s) to transport water from the water source to Seller's work area.

C. Storm and Sanitary Sewer:

Seller shall complete *Application for Modification to Y-12 Storm Drain and Sanitary Sewer System* (UCN-18615) and submit requesting Company authorization before modification or discharging into Y-12 storm drain or sanitary sewer network. Discharges shall be in accordance with regulatory permit(s) issued. Coordinate with STR to obtain Company requirements and authorization prior to water or other effluent discharges. Refer to Section 12.3 for additional compliance measures.

D. Telephone:

Hard-wired telephone service is available through the Service Provider to the Y-12. Seller is responsible for obtaining and paying for telephone service. Cordless telephones are prohibited. Commercially available cellular phones are authorized for use in the Property Protected Area (PPA) of Y-12 unless otherwise posted at the entrance to a Facility or room.

E. Toilet Facilities:

Seller shall provide chemical toilet facilities and maintain them in a safe and sanitary condition.

F. Seller consumption of Company-provided electricity and water is at no cost to Seller.

G. The Company cannot be held liable by Seller for delays in completing temporary utility tie-ins nor for interruptions to Company provided temporary utilities. Interruptions in Company provided temporary utilities are not grounds for an extension to the Subcontract Completion Schedule.

9.2 Protection and Maintenance of the Work Area

A. Seller shall provide flagging, signs, and barricades for storage areas and construction work and hazard areas and shall comply with 29 CFR 1926, Subpart G. Ensure all sides of the area are completely encompassed by boundary markers, barricades and/or barriers to the extent possible. Refer to Section 12.39 for additional barrier and posting requirements. Barrier fence shall be 48" high, orange plastic, Vallen Safety, catalog number PIO-777 or equal acceptable to the Company. Barrier fence shall include a top cable to support the fabric along its entire length. Barrier fence comprised of conductive material (e.g., metal cable, metal fabric) that crosses under or parallels within twenty-five (25) feet to an energized power line shall be electrically grounded. Gates in the barrier fence shall be stable and kept in working order. Remove temporary fencing, barriers, barricades, and signs upon work completion. No post shall be installed at a depth greater than 12" without an excavation/penetration permit.

B. Seller shall post a sign providing Seller's name, key personnel name(s) and telephone number(s), Company STR name and telephone number(s), and Subcontract title and number in prominent locations at each work area, temporary facility, and storage area. Include contact information for off-shift and weekend hours. *Boundary Marker Identification Tag*, (UCN-20760) is available to the Seller from the STR.

C. Traffic and Pedestrian Control

1. Seller shall notify STR four (4) workdays in advance of implementing a Company approved road or sidewalk closing needed to perform work,
2. Develop a Traffic Control Plan to identify Seller traffic routes, road closures, lane closures, or potential impediments to Company emergency, operational, and employee vehicle and pedestrian traffic.
3. Submit Seller's Traffic Control Plan to the Company for approval sixteen (16) workdays prior to implementation,
4. Provide traffic control that conforms to ANSI D 6.1 and Manual on Uniform Traffic Control Devices (MUTCD), Part 6,
5. Provide and maintain pedestrian walkways and building access to the greatest extent possible,
6. Flag areas with orange plastic barrier fencing and applicable signs,
7. Provide structurally sound walkways over open excavations,
8. Provide adequate concrete barricades at open trenches adjacent to vehicle traffic, and

   NOTE: Substitutes for concrete barriers require Company approval.
9. Provide ramping and protection for hoses and cords that cross pedestrian walkways or roads acceptable to the Company. Seller shall inspect and repair ramping and protection daily.

D. Seller shall cut vegetation in assigned work and laydown areas to maintain safe working and walking surfaces. Seller shall cut vegetation at regular intervals to maintain vegetation height to within two (2) inches of the height at the time Seller

took possession of the area. Seller shall remove snow and ice from assigned work and laydown areas to maintain safe working and walking surfaces.

9.3 Temporary Facilities

A. Temporary structures and uses shall conform to the International Building Code. Temporary facilities include office trailers, change facilities, structures and other facilities that will be removed upon completion of the work. Company approval is required prior to Seller setting-up any temporary facilities, laydown areas or barriers.

B. Maximum height for temporary facilities is thirty (30) feet.

C. Seller shall locate temporary facilities a minimum of thirty-five (35) feet from existing buildings.

D. Seller shall provide a platform, stairs, and handrails at each exterior door. Steps shall have a non-skid surface.

E. Seller shall anchor and support trailers in accordance with ANSI A225.1 and NFPA 501A. An Excavation Permit is required prior to driving anchors or ground rods at a depth greater than twelve (12) inches.

F. Seller shall provide and maintain portable fire extinguishers that are clearly identified, properly selected, and correctly spaced.

9.4 Fire Protection

Seller's temporary facilities, structures and material storage areas shall comply with requirements identified in Section 12, Environmental Safety and Health – Fire Protection.

10. WASTE MANAGEMENT

10.1. Planning

Seller shall submit for Company approval a Waste Management Plan (WMP) addressing each waste stream and providing the details for the waste minimization and recycling, characterization, packaging and labeling, accumulation and storage, disposition, security requirements, and identification of existing approved waste profiles for each waste stream. Where the Company has also issued a WMP for the Project, Seller shall comply with the Company-issued WMP.

10.2. Storage and Handling

A. Ensure sufficient quantities of dumpsters or containers are available.

B. Inspect dumpsters and containers to ensure they contain only authorized materials. Notify the STR if unauthorized waste is found.

1. Ensure positive control of waste containers by applying seals, locks, or other tamper resistant devices to the container while accumulating waste.

C. Store waste at designated staging area(s) until Company approval is obtained for removal from the work area. Seller staging area(s) shall have:

1. perimeter boundary control with tape, fencing, chain and stands or other means,
2. sufficient aisle space allowing for container inspection, and
3. signage identifying the waste staging area and contact information.

D. Refer to Supplemental Conditions Attachment 2, *Material Disposition Table,* for responsibility matrix for providing waste material containers, transportation and disposition of items.

1. Seller-provided containers for waste disposition shall be procured from a Company-approved vendor list. Vendor list will be provided upon request.
   a. Seller shall verify that Company specifications are used in the manufacture of Seller-provided containers. Company container specifications will be provided upon request.
   b. Seller shall perform receipt inspection on Seller-provided containers to verify compliance with container specifications.
   c. Submit verification documentation to the Company for information.
2. Any Company–provided containers for waste disposition will be identified in the Statement of Work.

E. Seller shall secure unattended containers which contain waste to prevent unauthorized dumping of material into the waste container. Seller is responsible to verify contents of waste container. Verification of waste containers content packaged inside the Protected Area or Limited Area shall be completed by Q-cleared individuals. Company may request Seller to develop a Waste Container Security Plan.

F. Company RADCON will perform radiological survey of waste material and will issue a green tag before Seller begins transferring waste for packaging, transportation, storage, and/or disposal.

10.3. Waste Identification and Labeling for Sanitary and Industrial Waste

A. The Company's *Request for Landfill V and VII Disposal*, UCN-21941, or Request for Landfill IV Disposal, UCN-21941B is required to be completed before waste may be removed from the work area for disposal at the Oak Ridge Reservation (ORR) Landfill. Seller is responsible to obtain analytical results to verify that the waste meets the ORR Landfill waste acceptance criteria. Seller shall prepare the form, as the “Generator”, and submit to the Company. The Company will sign the form as the “Verification Officer” and where applicable sign as “Derivative Classifier.” The ORR Landfill requires waste generators to submit the completed form UCN-21941/UCN-21941B eight (8) workdays prior to need and obtain their approval letters before the ORR Landfill will accept the waste for disposal.

B. Seller shall complete and submit to the Company the *Asbestos Waste Shipment Record* (CN-1054) before asbestos waste is removed from the work area. The Company will provide an Asbestos Work Authorization Number upon Seller’s request.

C. Seller shall label waste package containers in accordance with guidance from Company waste management officials.

D. Labels for wrapped or drummed asbestos waste shall be red, black, and white and conform to 29 CFR 1910.145. Label bags, containers, or wrapped material in accordance with 49 CFR 171 and 172 including the name of the waste generator and the location where the waste was generated. Non-friable asbestos waste shall be labeled as such.

E. After receipt of the ORR Landfill approval letter, Seller shall provide a minimum of one (1) workday advance notice to the STR before removal of waste from the work area.

10.4. Waste Segregation

A. Segregate wastes by type (e.g., recyclable, hazardous, special, spoils, sanitary waste, and construction debris). Obtain Company authorization before mixing waste streams in the same container.

1 Liquids and solids cannot be packaged together.

2 To facilitate access to the ORR Landfill, segregate masonry and concrete from other debris being transported.

3 Seller shall make all efforts to recycle material and minimize generation of waste. Refer to Section 10.9 for recycling instructions.

B. The Company will assist in identifying waste type, packaging, labeling, marking, and storage requirements.

C. Seller shall initiate the request for special waste disposal at the ORR Landfill through the STR. Special Waste Permits that are required will be processed by the Company and can take up to ninety (90) days to obtain.

10.5. Sanitary and Industrial Landfill Requirements

A. Deliver the wastes to the appropriate ORR Landfill as identified in the *Material Disposition Table* (Attachment 2). Waste Profiles for the ORR Landfill are available at the Company website or will be provided upon request. Applicable Waste Profiles are:

- S-010r3 *Construction/Demolition Waste*,
- S-020r3 *Sanitary Waste*,
- S-040r1 *Special Waste*, and S-050r3 *Spoil Material*.

NOTE: Waste Profile revision numbers will change over time, Seller shall check and use the applicable revisions in effect at the time of subcontract award.

1. Operating hours and days for ORR Industrial Landfill V and the Spoils Area, and ORR Construction Landfill VII vary dependent on the number of waste loads received. ORR Landfill IV is open intermittently dependent on need. Contact the Construction STR for ORR Landfill Operating Schedule. If not addressed in the Statement of Work or Addendum to the Supplemental Conditions, operating hours and days are verified weekly with the ORR Landfill Management Contractor. Additionally, weather will impact the ORR Landfill operating hours and/or days.

2. ORR Landfill is closed on Fridays, Saturdays, Sundays, and Holidays (Refer to Holiday schedule in the Construction Labor Agreement.).
3. Seller shall provide a schedule for ORR Landfill waste shipments to the Company eight (8) workdays in advance of waste disposal. The Company will arrange a schedule with the Y-12 Landfill Coordinator. Seller shall provide the following information:
    a. Project name or truck type (i.e., Bldg. X Demo, roll-off container, dump truck)
    b. Truck number and license (tag) number
    c. Disposal Request Number
    d. Anticipated number of loads
    e. ORR Landfill destination
    f. Delivery dates
    g. Special handling requirements
4. ORR Landfill VII operating hours are impacted by number of deliveries to ORR Landfill V and/or IV.
5. Seller shall assume an average of forty-five (45) minutes from arrival to dumping at ORR Landfill for non-asbestos debris. Seller shall assume an average of sixty (60) minutes from arrival to dumping at ORR Landfill V.
6. All special handling shipments (e.g., Asbestos, Forklift off loads) are to be confirmed between Seller and the Y-12 Landfill Coordinator by 9:00 A.M. one (1) working day prior to the shipment. Asbestos, Beryllium or any other special waste for ORR Landfill V and/or IV requiring separate special cell disposal and immediate cover need to be dumped by 3:15 P.M.
7. Drivers shall stop at the Waste Acceptance Technicians (WAT) office, check-in, and weigh. The WAT or designee will review the waste documents, inspect the incoming load and give the driver the approval to proceed as appropriate. Drivers shall follow this direction exactly. Once the incoming driver reaches the designated ORR Landfill, look to the equipment operator for guidance on placement of the load for disposal. Drivers are required to obtain a truck tare weight on the first delivery of the day with each truck.
8. Smoking and other tobacco use is prohibited within the ORR Landfill offices.
9. The use of cell phones while driving vehicles is prohibited at the ORR Landfill.
10. Dump trailers are prohibited from delivering waste to the ORR Landfill.
11. Seller shall contact the Y-12 Landfill Coordinator at least one (1) working day in advance of delivery if spread axle flatbed trailers are to be used.

NOTE: Oversized waste may require a Special Waste Permit. Seller shall consult with the Company for determination.

B. For waste disposal at the ORR Landfill, reduce waste to a maximum length of eight (8) feet. Pipes shall not exceed twelve (12) inches in diameter. Oversize

waste previously approved for disposal requires a two (2) workday notification to the ORR Landfill.

C. At the ORR Landfill, all workers are required to wear hardhats, high visibility vests, safety glasses, and safety shoes while at the landfill and outside the enclosed cab of a transport vehicle. Respiratory protection is required for workers who get outside the enclosed cab of a transportation vehicle hauling wastes containing respiratory hazards or who are within 100 feet of disposal activities identified by the ORR Landfill as respiratory hazards (e.g., asbestos, beryllium, man-made fibers).

D. Asbestos waste shall be bagged at the removal area, moved to the designated cleaning area, and bagged again (double-bagged). Large pieces shall be wrapped with two (2) layers of minimum six (6) -mil polyethylene sheeting. Vacuum and wet wipe before removing bagged or wrapped waste from the regulated area. Use of a Central Collection Point requires Seller to cover the collection area with minimum six (6) -mil poly, cover the stored bags of waste with minimum 6-mil poly, flag off the area, and install warning signs. Non-friable Category 1 or 2 asbestos waste may be hauled and dumped from trucks. Provide identification as required by regulations for vehicles transporting asbestos-containing waste.

   1. Non-friable asbestos-containing material will be accepted on the same schedule as construction debris.

   2. Friable asbestos-containing material (ACM) shall be properly packaged and labeled for delivery to ORR Landfill V. Loose friable insulation will not be accepted for disposal.

E. Radioactive hazardous waste as defined in 40 CFR 261, PCB waste as defined in 40 CFR 761 (with the exception of certain PCB bulk product wastes), and free liquid wastes will not be accepted for disposal at ORR Landfill IV, V, VII or the spoils area.

10.6. Hazardous Waste

A. Store hazardous waste as defined by RCRA and corresponding State of Tennessee regulations and/or PCB waste regulated by the EPA in a Company-approved RCRA, TSCA, or CERCLA Waste Storage Area, as applicable. Seller shall obtain Company approval prior to beginning waste storage or staging. Seller shall coordinate with the STR to register Seller's Waste Storage Area(s) with the Company or obtain authorization to use Company waste accumulation area. Company-provided RCRA Hazardous Waste Accumulation Area training is required prior to storing/staging waste in Seller's registered waste storage area.

B. Transport RCRA and PCB waste to the location designated by the Company for storage and management.

C. Containers with solid waste shall include a Company approved absorbent to trap liquid residue. Absorbent shall be appropriate to the type of liquid residue (i.e., water or aqueous liquid use Quik-Solid, Waste Lock 770 or equal acceptable to the Company; oil or organic liquids use Oil-Dri, kitty litter, or equal acceptable to the Company). Where oil has been drained from equipment being disposed, fill the oil reservoir with Oil-Dri, kitty litter, or equal Company approved absorbent.

10.7. Radioactive Waste

A. Store and package radioactive waste in Company-provided, unless specified otherwise, DOT-approved (e.g., fifty-five (55)-gallon drums, B-25 boxes) containers in accordance with DOE O 435.1. Seller shall notify STR two (2) workdays in advance of packaging radioactive waste to allow for inspection by Company Waste Certifying Official (WCO). The WCO presence is a quality "hold point" whenever Seller is packaging radioactive waste for Company disposition. Seller shall coordinate with the STR to register Radioactive Materials Storage Area(s) and Low Level Radioactive Waste (LLW) storage area(s) with the Company prior to storing or staging waste. Company-provided Low Level Radioactive Waste Awareness Training is required prior to storing/staging waste in Seller's registered LLW accumulation or storage area.

B. Transport radioactive waste to the location designated by the Company for storage and management.

C. When shipping radioactive material out of the Protected Area (PA), prepare *Radioactive Inbound/Outbound Shipment Plan* (UCN-21822) for Company approval prior to transport.

D. Containers with solid waste shall include a Company approved absorbent to trap liquid residue. Absorbent shall be appropriate to the type of liquid residue (i.e., water or aqueous liquid use Quik-Solid, Waste Lock 770 or equal acceptable to the Company; oil or organic liquids use Oil-Dri, kitty litter, or equal acceptable to the Company). Where oil has been drained from equipment being disposed, fill the oil reservoir with Oil-Dri, kitty litter, or equal Company approved absorbent.

10.8. Waste Oil, Solvents, and Sludge

A. Package waste in DOT-specification containers rated for liquid and liquid/solid contents (e.g., fifty-five (55)- or thirty (30)-gallon drums, B-25 boxes). Package sludge in DOT-approved open top drums with polyethylene lining. Leave at least five (5) inches of headspace in each drum to allow for expansion of contents. Ensure drums are in good condition and free of dents, rust, corrosion, residue, and ensure drums are free of any labels identifying previous contents.

B. Once the drums are filled, secure the lid or tighten the large bung with a bung wrench. For drums of waste oil and solvents, replace the smaller bung with a vent plug.

C. After filling, wipe the exterior (sides and top) of waste container clean of residue. Apply label to the side of each waste container. Labels shall be a Company-furnished *Hazardous Waste Identification* (UCN-02114A), for RCRA hazardous wastes, or a tag, *Waste Identification* (UCN-02114B), for nonhazardous waste. Insert the label/tag in a self-adhesive clear vinyl envelope and attach to the side of the waste container, near the top, and angle downward to keep out water. Mark the label/tag with permanent ink, and print all information, including Seller's name and subcontract number. Contact Company to dispose of wipes in accordance with applicable waste regulations.

D. Segregate oil, solvent, and sludge waste by type, origin, and contaminants.

E. Transport waste containers to the location designated by the Company.

10.9. Recycling

A. Seller shall make every effort to remove packing material prior to delivery of the material to the work area and recycle the material appropriately. Seller shall request contact information for the Y-12 Recycle coordinator from the STR prior to generating recycle material.

B. Y-12 recycling: Package and transport recyclable waste to designated locations.

1. Aluminum: Store cans in clear plastic bags for Company pick-up.
2. Cardboard: Keep neatly stacked and dry. Transport to a Y-12 location designated by the Company.
3. Scrap metal:
   a) For small quantities, palletize and band material in lengths not to exceed six (6) ft. With STR approval, scrap metal may be added to a Company scrap metal accumulation bin.
   b) For larger quantities, the Company will provide and transport containers. Seller shall cut materials to lengths that will easily fit in the containers provided.
4. Light bulbs: Unless directed otherwise by the Waste Management Plan:
   a) Store light bulbs in a manner to prevent breakage.
   b) Segregate broken bulbs from unbroken bulbs.
   c) Package in structurally sound containers and keep containers neatly stacked, dry and out of the weather.
   d) Label “Used Lamps.”
   e) Date the containers when the first lamp is placed inside.
   f) Keep containers closed when not being filled.
   g) Deliver to the Company in approved containers during building operating hours.
5. Used oil: Unless directed otherwise by the Waste Management Plan:
   a) Store and maintain used oils for recycle in accordance with 40 CFR 279 and EPA requirements.
   b) The STR will designate a Y-12 location for oil collection and storage.
6. Batteries
   a) Segregate by type (i.e., Lithium, Ni Cd, Lead Acid, Hg, Alkaline, etc.);
   b) Large lead acid batteries shall be drained and placed on a pallet, terminals taped and labeled as “Lead Acid Batteries for recycle.”
   c) Tape terminals or place individually into a plastic bag;
   d) Obtain a Green Tag;
   e) Place in structurally sound container;

f) Label “Used ‘insert type’ Batteries;” and

g) Date the container with the date the first battery is placed inside. NOTE: Lead Acid and Alkaline Battery labels are not required to be dated.

7. Plastic Drink Bottles:
   a) Segregate from other wastes;
   b) Collect them in clear plastic bags; and
   c) Call Y-12 Recycle coordinator for pick up.
8. Circuit Boards:
   a) Obtain a Green Tag;
   b) Place in structurally sound container;
   c) Label as “Circuit Boards for Recycle;” and
   d) Call Y-12 Recycle coordinator for pick up.
9. Mercury Filled Equipment:
   a) Obtain a Green Tag;
   b) Segregate by type of equipment (i.e., thermometers, mercury switches, etc.)
   c) Package in a manner to prevent breakage in plastic or metal container;
   d) Label as “Used Mercury Containing Equipment;”
   e) Date the container; and
   f) Call Y-12 Recycle coordinator for pick up.
10. Non-leaking ballast/capacitors (Ballasts having wiring with asbestos containing insulation are not recyclable.):
    a) Obtain a Green Tag;
    b) Place in steel drum;
    c) Segregate PCB from Non-PCB ballasts;
    d) Discharge capacitors and tape the terminals;
    e) Cut wires flush with face of ballast/capacitor (dispose of wire as asbestos waste);
    f) Label as “PCB Ballasts for Recycle” or “Non-PCB Ballasts for Recycle” or “Capacitors for Recycle” as applicable;
    g) Date the container; and
    h) Call Y-12 Recycle coordinator for pick up.
11. Refrigerant recycling, refer to Section 12.21

10.10. Transportation

A. Before transporting waste or hazardous material, Seller shall submit for Company approval a Waste Transportation Plan ensuring safe and compliant movement of materials. Among other items it shall address carrier, transport vehicle, placarding, waste classification, driver qualifications, emergency response, and time of operation.

1. Provide a Certification that there is no administrative action or license or permit revocation proceeding pending against Seller or any proposed transporter.

2. Provide copy(s) of motor carrier safety rating for any motor carrier transporting materials.

3. Provide documentation demonstrating compliance with Section 12.30.B.

B. Provide containment for spoils, waste, and salvageable materials during transport. Provide covers on open top containers and trucks. Seller shall not fill dump trucks or waste containers with debris above the top line of the truck box/container or have materials protruding over the sides of the container.

C. Transport asbestos waste in accordance with 49 CFR 173.216. Line the truck cargo bed with two (2) layers of minimum six (6) mil polyethylene, if waste is not individually wrapped. Vehicles shall have valid DOT registration, and drivers shall have a valid Commercial Driver's License.

D. Transport waste to designated Oak Ridge Reservation disposal facility utilizing Company designated transportation route. Do not use public roads, such as Scarboro Road, unless otherwise approved in advance by the Company.

E. Seller shall provide the Company with verification that waste transport drivers have the appropriate DOT training and testing and have a valid Commercial Driver’s License with no more than one (1) motor carrier safety violation in the past year.

10.11. Waste Control

A. Do not remove waste from Y-12 without prior approval by the Company.

B. The Company is responsible for radiologically characterizing and certifying that waste is not volumetrically contaminated and does not exceed surface contamination values for release as non-radiological waste. Seller shall remove Company applied “Green Tag” on released non-radiological waste being disposed offsite after exiting Y-12.

C. Manage waste charged to the Seller in accordance with the Waste Management Plan and Waste Transportation Plan (i.e., Y-12 Requirements) and mitigate unplanned events during handling, transportation or staging of waste under the Seller’s control. Immediately report events or unplanned conditions as addressed in Section 12.11.B *Event/Condition Reporting.*

11. RADIOLOGICAL CONTROL

11.1 Definitions

A. Company RADCON: The Company's Radiological Control Organization.

B. Controlled Area: Any area to which access is managed by or for DOE to protect individuals from exposure to radiation and/or radioactive materials.

C. RADCON Hold Point: A planned pause in an activity during which the Company RADCON will perform surveys to verify conditions.

D. Radiological Area: Area where radioactive contamination, airborne radioactive material, or radiation exists at levels where work controls are necessary. Radiological Area are: Radiation Area, High Radiation Area, Contamination Area, High Contamination Area and Airborne Radioactivity Area.

E. Radiological Buffer Area (RBA): An area established to provide a secondary boundary to minimize the spread of contamination and /or to limit external exposure.

F. Radioactive Material Area (RMA): An area accessible to individuals, in which items or containers of radioactive material exist.

G. Radiological Work Permit (RWP): A Company-issued permit (administrative control), used to maintain the radiological exposure of personnel as low as reasonably achievable.

H. Surface Contamination: Unwanted radioactive material, which is deposited on the surfaces of structures, objects, or personnel.

11.2 Submittals

A. Submit to Company STR for approval a list of personnel who have received Radiological (RAD) Worker training from a Company-approved training program. Provide employee's full name, job title, title of course(s), training date, and training organization. Include a copy of the training certificate(s).

1. Successful completion of a written Company test, dress out, and practical exercise is required for workers trained by other than the Company, as is viewing the Company Radiological Worker II video. Submit completed *Training Exception Form* (UCN-19546) and training questionnaire.

2. Submit *Previous Occupational Radiological Exposure* (UCN-22728) information for personnel who have worked at other facilities.

B. Submit for information the Radioactive Material License(s) for sources (e.g., soil density gauges, radiography).

C. Submit for information Radioactive Material License(s) for laboratories used to conduct geotechnical soils testing and analyses.

D. Submit for information training documentation for radioactive source users (e.g., soil density gauges, radiography sources.

E. If Seller intends to have a radioactive source at the Y-12 then submit *Y-12 Site Access/On-Site Move Approval for Radioactive Sources* (UCN-20408)to include

manufacturer's data, inspection, and maintenance documentation for radiological sources.

11.3 Delivery, Storage, Handling and Removal/Transfer of Materials and Equipment

A. Only those items necessary to accomplish the work are to be taken into radiological areas or RBA.

B. Minimize radioactive waste by:

1. Removing packaging to the maximum extent possible prior to transporting material into radiological areas or RBA established for contamination control.
2. Segregating radiological waste from non-contaminated waste.
3. Segregating reusable items at the radiological area step-off pad (e.g., tools, boots, welding jacket, fall protection harness and lanyards).
4. Limiting quantities of hazardous materials (e.g., paints, cleaners, chemicals, fuel) entering the radiological area or RBA, and implementing measures to prevent inadvertent contamination of these materials.
5. Selecting consumable materials that are compatible with waste processing systems, volume reduction and waste form acceptance criteria.
6. Selecting items that can be recycled or incinerated in place of landfill disposable items.

C. Obtain RADCON Surveys of Tools, Material and Equipment

1. The Company will survey Seller's tools, material, and equipment upon arrival at Y-12 to ensure they meet the standards for radioactivity. Seller shall request survey and have cleaned tools and equipment prior to arrival. Equipment shall not have a heavy layer of grease, dirt, or debris that may hinder the radiological surveys. Tools, materials and equipment determined to have pre-existing contamination shall be immediately removed from Y-12 by Seller unless Seller obtains Company approval to do otherwise.
2. Upon completion of the work and prior to removing from radiological areas, RBA established for contamination control, or from Y-12, the Company will survey Seller's tools, materials, and equipment to ensure they have not become contaminated. The Company will apply a tag (green) to the item(s) for release or tag (yellow) the item as contaminated. If contamination is encountered, Seller, at its cost, shall perform decontamination under Company direction. The Company will reimburse Seller for items or parts thereof that cannot be decontaminated provided that Seller took reasonable measures to prevent the items from becoming contaminated. Additionally, no Company reimbursement will be made for individual contaminated tools or equipment items having a market value less than $200 each.
    a) Items, which are releasable, will be green tagged; items not releasable will be yellow tagged by the Company.
    b) If Seller elects to take possession of contaminated items, Seller shall provide a copy of a NRC or Agreement State Radioactive Materials License(s) (that authorizes Seller to possess said material) to the

Company Radiological Engineer for approval in order to release the contaminated items from Y-12 to Seller.

3. Weather conditions affect the ability for Company RADCON instruments and technicians to perform timely surveys. The Company will not be responsible for survey delays caused by weather (e.g., rain, snow, excessive cold). Seller shall plan work accordingly (e.g., keep equipment dry, enclosed).
4. Company RADCON Release surveys (i.e., green tagged) are valid for 180 days provided the surveyed item has not been returned to a radiological area, an RBA, or used in work activities.
5. Seller shall follow verbal and written instructions from Company RADCON technicians when handling radioactive or "green or yellow tagged" equipment and materials.
6. Seller shall immediately notify Company RADCON through the STR when radioactive equipment and/or materials are misplaced or lost.

D. Transferring equipment and materials from a Contaminated Area (CA) to a Radiological Buffer Area (RBA) or the Y-12 Controlled Area.

1. Material that is to be transferred out of a CA requires Company RADCON approval. Seller shall request approval through the STR.
2. Transfer "green tagged" equipment and materials as follows:
   a) Control tagged equipment and materials while awaiting transfer, preventing change in status or volume to the tagged material and/or equipment.
   b) If one (1) "green tag" is issued for multiple items (e.g., related items on a pallet) and the items are remaining in the Y-12 Controlled Area beyond the end of the current work shift, then control the equipment and/or materials so that additional items will not be added.
   c) Verify "green tag" has not expired. Request Company RADCON technician to provide a new survey if the tag has expired.
   d) Leave the "green tag" on equipment and materials transferred to the ORR Landfill. Seller shall follow special handling requirements noted on the "green tag" and provided by Company Waste Management personnel.
   e) Equipment and/or material transferred to the public shall have an unrestricted release to Seller (green tag shall be marked "Approved for release to OFFSITE". Seller shall confirm the unrestricted release with the Company, and then remove the "green tag" immediately prior to the transfer of the equipment and/or material to the public.
3. Transfer "yellow tag" equipment and materials as follows:
   a) Verify integrity of the container or packaging. Follow instructions from the Company representative.
   b) If "yellow tag" is older than ninety (90) days, request Company RADCON technician to provide a new survey and new or revised tag.

4. Materials or items used for hands-on work in an RBA or CA shall be surveyed and released by a Company RADCON technician before removal.
5. Hand-carried items (e.g., notebook, pencil, radio, flashlight) used in a RBA or CA but not for hands-on work may be removed after monitoring as part of the personnel exit monitoring. If the hand-carried item is found to be contaminated, it shall not be removed until obtaining a release from the Company RADCON technician.

E. Storing Radioactive Material.

1. Storage area(s) for radioactive material require Company approval, and area designation and posting. Radioactive material may be temporarily stored in a RBA for up to ninety (90) days with Company approval.
2. Company will designate a Radioactive Materials Area (RMA) for storage of Seller generated radioactive material. Seller shall follow the RMA operational guidelines when utilizing a RMA. Guidelines include:
   a) Non-radioactive material shall not be stored in a RMA.
   b) Radioactive materials in the RMA shall be labeled or tagged. Seller shall label each container used as a receptacle for contaminated material (e.g., B-25, Sealand container, drum) with “CAUTION” and “Radioactive Material Inside Container.”
   c) Containers stored in outdoor RMA shall have the integrity to withstand degradation due to weather (e.g., no cardboard containers, no plastic bags).
   d) Store radioactive material in a manner that reduces combustible loading.
   e) Maintain housekeeping, postings and barriers in the RMA.

11.4 Radioactive Sources

A. Seller shall submit *Y-12 Site Access/On-Site Move Approval for Radioactive Sources* (UCN-20408) to the Company, for approval, a minimum of four (4) workdays before any exempt, non-exempt or licensed radioactive source is brought to Y-12, including sources used in radiography equipment and moisture density gauges. The request shall contain:

1. Description of source, including radionuclide(s), activity, and contact dose rate,
2. Manufacturer and unique identification number,
3. Current leak test report,
4. A copy of license(s) permits, operating procedures, and emergency procedures,
5. List of authorized users, training records, and contact phone number,
6. Storage location,
7. Date the source will be arriving and the date it is to leave Y-12,
8. Seller's Source Custodian and telephone number,

9. Subcontract number, and
10. A description of the work and how the source will be used.

B. The Company will provide a Source Custodian to act as a liaison with Seller and STR to ensure Company radioactive source control procedures are followed. Specific applicable Y-12 procedures will be provided to Seller as a part of the Company approval process.

1. Radiological sources exiting the protected area or material access areas (PA/MAA) require the Seller authorized person and the Company Source Custodian or designee to be present. Refer to Section 13.2.E.9 and 12 for additional PA access requirement.

C. While the source is at Y-12, it shall have inspection and maintenance performed as described in any license, procedure, or manufacturer's document, and the records shall be made available to the Company upon request.

D. Notify the Company STR, both verbally and in writing, when the source is brought to and removed from Y-12 or if it is lost while onsite.

11.5 Work in Controlled Areas

A. Work performed within the Y-12 Controlled Area shall be performed in accordance with 10 CFR 835, Occupational Radiation Protection and the Company DOE approved 10 CFR 835 Radiological Protection Program (RPP).

1. Soil contamination, underground radioactive material and fixed contamination on surfaces exist within the Y-12 Controlled Area. All excavation or penetrations to existing structures, regardless of depth, requires Company RADCON pre-job evaluation to establish need for an RWP. Seller shall contact STR to initiate the pre-job evaluation.

2. Seller shall take measures to prevent the spread of contamination including minimizing the items brought into contaminated areas. Seller shall take precautions to ensure equipment does not become contaminated (e.g., sleeve hoses, place plastic over surfaces, sequence work activities). Contaminated items cannot leave the radiological areas.

3. The following are required for contaminated work areas:

a) When drilling, cutting, or otherwise disturbing contaminated materials, utilize work methods to contain debris and dust (e.g., HEPA-filtered vacuum cleaners, tape, encapsulants) implement dust-suppression techniques.Dry sweeping, using compressed air for cleaning or other dust-creating activities are prohibited.

c) Discard HEPA filters and respirator cartridges as contaminated waste.

4. Seller is responsible for performing work under the initial and consequential radiological conditions resulting from Seller’s work activities.

5. Seller shall furnish any items required for performance of the work including, but not limited to:

a) Yellow plastic bags (~fifty-five (55) gallon) for radiological waste (PPE and small trash),

b) Tools, materials, and equipment necessary to complete the work,

c) HEPA filters for equipment having an efficiency of not less than 99.97% when challenged with 0.30-micrometer particle size aerosol,

d) Industrial safety personal protective equipment (e.g., hardhats, safety glasses, welder aprons), and

e) Disposable anti-contamination (anti-C) respirators and clothing articles. Specifications for anti-C personal protective clothing are provided in Attachment 3. Seller shall procure anti-C clothing as specified or Company approved equal.

6. Seller shall inform the assigned Company RADCON technician (if more than one (1) technician, then the lead technician) of Seller's planned work activities prior to performing the work regardless if the work is performed inside or outside a radiological area. Seller shall comply with direction from the Company RADCON technicians for radiological controls.

7. Seller shall maintain records to ensure that personnel entering a radiological area and/or performing radiological work meet all entry control requirements and are not on restriction from entering a radiological area.

B. Seller's personnel entering a radiological area, RBA, or RMA shall complete a twenty (20) hour Radiological Worker II Training Program under a Company approved program and pass a Company examination (written test and dress-out practical exercise). Retraining is required every two (2) years.

1. Seller may request escorted access into a radiological area, RBA, or RMA for non-Radiological Worker II trained personnel. Escorted access is limited to one-time event with non-hands on activity. Company approval is contingent on evaluation of the contamination exposure.

2. Requirements contained herein are not intended to replace the specific requirements provided to radiological workers in Radiological Worker II training.

C. Radiological monitoring for workers entering radiological areas.

1. A baseline bioassay sample is required for all Seller personnel prior to working in radiological areas governed by a RWP. Periodic and exit bioassay sample is required for those who participated in the bioassay program during and upon completion of the RWP work. Depending upon the RWP, bioassay sampling could include urinalysis as well as fecal sampling. Seller shall request Company-provided bioassay labels one (1) week in advance of termination or completing RWP work. Seller is responsible for employees' submittal of bioassay sample(s). Seller personnel not submitting their bioassay samples on-time are restricted from entering radiological areas. Seller shall track and take appropriate measures to ensure timely sample submittal.

2. The Company will notify Seller if chest counting is required. Seller shall schedule chest counting four (4) workdays in advance. Counting will require two (2) hours per employee.

3. Seller employees who enter radiological areas, RBAs, or RMAs will be issued dosimetry badges by the Company before the start of work. Seller shall request dosimeters through the STR. TLDs will be issued for entry into radiological areas, RBAs or Radioactive Material Areas (RMAs) where personnel may encounter radiological contamination or radiation. A PNAD is to be worn when inside the Protected Area by Seller's personnel without a Company-issued TLD.
    a) Employees must wear dosimetry badges in plain view above the waist at all times.
    b) Seller shall collect and return all issued TLDs to the STR at the end of the last workday of each calendar quarter (at which time new TLDs will be issued) and at the end of the RWP work.
    c) If any employee fails to return his TLD and/or provide a required bioassay sample, Seller's *Application for Payment*(s) could be delayed and/or the employee's access may be restricted until the issue is resolved.
4. The Company will maintain personnel exposure records for Seller employees for work performed at Y-12.
5. The Company will provide an annual radiation monitoring report to each Seller employee who received radiation exposure monitoring.
6. Seller shall notify the STR immediately if an employee has taken a medical isotope.

D. *Radiological Work Permits* (RWP) are issued by the Company for certain defined work activities within radiological areas.Seller shall request an RWP one (1) week before beginning any scheduled work activity in a radiological area, Fixed Contamination Area, RMA, RBA, Soil Contamination Area or Underground Radioactive Material Area. Seller's Work Plan and AHA shall accompany the request for an RWP. The RWP shall be posted at Boundary Control Stations/Access Points before access is permitted to the radiological area.The RWP will identify specific work requirements including work instructions, PPE, dosimetry, and training.
    a) Protective clothing/equipment (anti-Cs) for radiological protection is identified on the RWP. Seller shall provide disposable anti-C protective clothing/equipment unless directed otherwise by the Company in the Subcontract Statement of Work.
    b) Only work identified on the RWP may be performed.
4. Ensure entry requirements have been met, and equipment and materials are on-hand.
5. Personnel entering the radiological area shall sign, enter date and time on the RWP after having read and understood completely the RWP. Signing the RWP signifies that the person has read the RWP, understands its requirements, and agrees to follow the requirements. Enter the radiological area only after donning the anti-Cs identified on the RWP.

a) Prior to personnel donning anti-Cs, they shall inspect for tears, holes, or split seams, which would diminish protective capability. Segregate defective anti-Cs and notify supervisor for disposition.

b) Stop work if anti-Cs are torn or radiological worker is wounded/injured while in the radiological work area. Return immediately to the entrance to the radiological buffer area and contact the Company RADCON technician immediately.

c) Personnel access to a radiological area is restricted to need to enter the area.

6. A Pre-Job Brief for each RWP and subsequent revisions shall be given to personnel prior to start of work for those signing onto the RWP. The Pre-Job Brief shall be documented with a checklist and attendance record. Seller shall invite the Company RADCON technician to participate in the Pre-Job Briefings.

7. Seller employees shall stop work if conditions differ from those defined in the Pre-Job Briefing or RWP, implementation of radiological controls are different from the RWP, or an unplanned spill/release of contaminated material occurs. Contact the Company RADCON technician immediately.

8. Personnel exiting the radiological work area shall doff anti-Cs at the designated station and perform self-monitoring with Company-furnished instruments/Personal Contamination Monitors before leaving the area. Personnel shall record the exit time on the RWP log. Contact the Company RADCON technician if personnel-monitoring equipment alarms or assistance is needed.

   a) Anti-C clothing shall be worn one-time only.

   b) Dispose of anti-Cs in radiological waste container (yellow trash bag) located adjacent to the radiological buffer area. Handle and manage used anti-Cs to minimize the spread of contamination.

   c) Each Seller worker exiting the radiological areas established for contamination control into a less restrictive area shall self-monitor. Monitoring requirements are provided during the Radiological Worker II Training. Follow posted instructions and utilize the Company-provided equipment. Contamination is not expected to be found during monitoring. If contamination is found during monitoring, remain at the monitoring station and notify the Company RADCON technician for further instructions. Decontamination must be completed before exiting the monitoring station. After being allowed to exit the radiological area, notify the STR about the incident/occurrence, in accordance with Section 12.11, *Reporting*.

      i. A whole body frisk requires a minimum of fifteen (15) minutes.

      ii. A hand and foot frisk requires a minimum of five (5) minutes.

9. Seller shall have the necessary equipment and materials on-hand to complete tasks, thereby minimizing time and exposure to radiological workers.

11.6 Company-furnished RADCON Items and Services:

A. DOE approved 10 CFR 835 Occupational Radiation Protection Program (RPP)

B. *Radiological Work Permits* (RWP),

C. Radiological Control Technician(s),

D. Radiological surveys and evaluations,

E. Bioassay sample analysis,

F. Air monitoring,

G. Personnel exposure records,

H. Survey and tagging of tools/equipment brought to and removed from Y-12,

I. Source custodian liaison for any radioactive source brought to Y-12,

J. Storage containers/area for radiologically contaminated waste (unless stated otherwise in the Statement of Work),

K. Radiation dosimeters,

L. Personnel radiation monitoring equipment to perform required monitoring, and

M. Characterization of the work area and radiological waste (unless stated otherwise in the Statement of Work).

11.7 Characterization During Demolition

During demolition, previously inaccessible areas may be uncovered. Consistent with the radiological hold points or AHA process, Seller shall stop demolition and notify the STR to allow additional radiological characterization by the Company in areas previously inaccessible where radiological contamination may be present.

11.8 Respiratory Protection

Seller will provide respiratory protection for work under an RWP. The RWP and Company monitoring will determine when respiratory protection is required. Seller personnel wearing Seller-respirators shall be Seller-trained and fit tested. Unless otherwise approved by the Company, all respiratory protection worn in radiological areas or used for radiological protection will be one-time use. One-time use is defined as one (1) instance of putting the respirator on and removing it. Respirator Protection requirements are further addressed in Section 12.35, *Respiratory Protection*.

12. ENVIRONMENTAL, SAFETY AND HEALTH (ES&H)

12.1 Overview

A. Seller shall perform work in a manner that provides safe working conditions and protects workers' health, minimizes potential risk, protects the public and the environment, prevents pollution, complies with applicable regulations, and continuously seeks opportunities to improve performance.

B. Seller shall comply with 10 CFR 851, Worker Safety and Health Program. Seller and its lower tier subcontractors are subject to civil penalties for failure to comply with applicable 10 CFR 851, Worker Safety and Health Program requirements.

C. Seller shall establish and submit a written description of a medical program and provide the Company with Seller's principal medical provider. Seller shall provide a program under the direction of a licensed physician meeting the credentials required by 10 CFR 851 Appendix A.8(b) and personnel providing health services meeting the credentials required by 10 CFR 851 Appendix A.8(c). Seller's occupational medicine program contents will be based on Seller's scope of work and associated hazards.

D. The Company will perform periodic ES&H assessments. Seller shall provide timely, complete and open access to its safety process, files, records, etc., and participate in these assessments as requested. Corrective actions by Seller shall be taken in a timely manner if issues or deviations from requirements are identified.

12.2 Integrated Safety Management (ISM)

A. Seller shall use ISM per Department of Energy Acquisition Regulation DEAR 970.5223-1, Integration of Environment, Safety, and Health into Work Planning and Execution, to establish a systematic approach to incorporate ES&H requirements into all work. For the purpose of ISM, the term "safety" encompasses environmental protection, safety and health, and includes fire protection, pollution prevention, waste minimization, and resource conservation. ES&H management activities shall include the five (5) core functions.

1. Define the Scope of Work.
2. Analyze the Hazards and Risks.
3. Develop and implement hazard controls.
4. Perform work within the controls.
5. Provide feedback and continuous improvement.

B. Seller shall incorporate the five (5) core ISM functions into Seller's ES&H Program and the Activity Hazards Analysis (AHA). The order of precedence of hazard controls is (1) substituting less hazardous processes, materials, or equipment; (2) engineering controls; (3) administrative controls; and (4) personal protective equipment (PPE).

12.3 Clean Water Compliance

A. A Best Management Practices (BMP) plan is required from Seller for all construction and demolition work and shall comply with environmental requirements that protect water, with 40 CFR 122.44, and with the Y-12 National Pollutants Discharge Elimination System (NPDES) permit. Seller shall prepare and submit the BMP for Company approval prior to mobilization. The Seller's BMP shall include the following as applicable:

1. Work area(s) shall be maintained in a neat and orderly condition.

2. Plug all drain openings inside the building being demolished before contaminants are removed and demolition begins. Safeguard building floor drains adjacent to work areas from debris.
3. Reference any permit(s), *Application for Modification to Y-12 Storm Drain and Sanitary Sewer Systems* (UCN-18615), approving the modification/connection/discharge to sanitary sewer or storm drain network, and any conditions of approval.
4. Implement Erosion Prevention and Sediment Controls (EPSC) as required in the TDEC EPSC Handbook and/or as specified on the approved construction Storm Water Pollution Prevention Plan (SWPPP).
    a) Adhere to BMPs addressed in the construction SWPPP for projects with one (1) acre or more of disturbance or the TDEC EPSC Handbook for projects with lesser area of disturbance.
    b) Cover storm drains adjacent to the work area with filter fabric or other appropriate materials to protect storm drains from debris and sediment generated by work activities.
    c) Implement and maintain erosion controls (e.g., silt fence, wattles) and stabilize bare soil areas within the work area.
    d) Cover contaminated waste stockpiles to protect against migration from wind and storm water.
    e) Protect raw materials and new supplies from precipitation, storm water and high winds.
    f) Identify potential sources of storm water pollution and inspect them periodically (e.g., transformers, generators, equipment, etc.) and correct any deficiencies. Maintain records of inspections.
    g) After removal of the demolition debris and/or completion of construction activities, remove sediment, paint chips, and other wastes that have been collected near drains and erosion control devices.
5. Report leaks or spills immediately to the Y-12 Operations Center (OC) and to the STR (refer Section 12.11, Reporting). Seller shall maintain a container marked “Spill Kit” with absorbent materials and other controls consistent with the hazardous materials present at the work area to assist in spill control.
    a) Include dechlorination tablets as part of the spill kit when doing work that could result in a release of potable water to the storm drain network.
6. Train workers in the proper implementation of the BMP controls. Reference Attachment 1, Training Requirements.
7. Comply with requirements in the Y-12 Spill Prevention Control and Countermeasure (SPCC) Plan for all containers, equipment, mobile equipment, drums, totes, generators, or other items with fuel or oil storage capacity of fifty-five (55) gallons or greater as addressed below.
    a) Provide secondary containment (e.g., double walled or dikes) for all containers (e.g., generators, drums, dispenser tanks, truck-bed mounted tanks).

b) Conduct inspections of tanks (shop built), drums, and other portable containers and of oil-filler operating equipment. Seller shall assign a knowledgeable person to perform and document inspections. Company Inspection Checklists which comply with Steel Tank Institute (STI) STI SP001 standard are available to the Seller upon request. Seller developed checklists are acceptable as long as they are substantially equivalent (as applicable) to the STI SP001. Monthly and annual inspections are required for stationary aboveground storage tanks (AST), whereas only monthly inspections are required on drums and other portable containers. Oil-filled operating equipment shall have an initial inspection (per the manufactures operation and maintenance manual) upon delivery to Y-12 and a minimum of quarterly inspections while it remains onsite. Provide inspection records as a submittal for information and distribution to Environmental Compliance. The following checklist are available from the STR upon request:

   i. STI SP001 Annual Inspection Checklist (UCN-26855)

   ii. STI SP001 Monthly Inspection Checklist (UCN-26856)

   iii. STI SP001 Portable Container Monthly Inspection Checklist (UCN-26857)

c) Provide at least one (1) of the following control measures for overfill prevention while filling container.

   i. Installed high level alarms.

   ii. High level pump cutoff devices such as guillotine valves and automated sensor cutoff switches.

   iii. Fast response systems such as liquid level gauges.

   iv. Teamed fueling operations including a tank gauger with direct communication to the fuel pumper.

   v. Small quantities of oil added where the liquid level in the tank can be visually seen and monitored; such as filling practices associated with used oil tanks.

d) Seller shall develop a Spill Response Plan and train their personnel to the plan. Seller shall submit their Spill Response Plan to the Company for approval. The Seller may elect to have the Spill Response Plan be a standalone plan or be incorporated in the BMP.

   i. Seller is responsible for cleanup of minor releases/spills created during execution of the subcontract. A minor release is one that does NOT spread rapidly, present an immediate danger to health and safety, except by direct contact, present an immediate fire hazard, AND does NOT endanger the environment (e.g., is contained to the inside of a building). The Seller shall notify the OC (574-7172) and the STR immediately (within fifteen (15) minutes) in the event of a release/spill.

   ii. Cleanup of a major release/spill will be performed by the Company emergency response personnel. The Seller shall immediately notify

the OC (574-7172) and the STR in the event of a major release/spill. Seller shall provide assistance to Company's emergency responder(s) as needed. A major release/spill are those that require assistance from specialist outside the Seller's employment and the material released represents an immediate fire, safety, environmental, or health hazard regardless of the quantity.

8. Provide a current inventory of all oil-filled and fuel-filled containers, fifty-five (55) gallons or greater, and equipment staged onsite during the course of the subcontract to facilitate the Company's emergency response.
9. Provide secondary containment for stored hazardous or regulated liquids and for solid items that may contain these liquids (e.g., batteries, motors). Notify the STR to petition the Company Environmental Compliance Coordinator prior to establishing any secondary containment structure.
   a) Setup secondary containment on level ground and be able to hold
      i. 100% of the volume of the largest container or 10% of the total volume of all the containers containing hazardous material, whichever is larger.
      ii. 100% of the largest container containing oils with approximately five (5) inches of freeboard to allow room for precipitation. Recommend temporary cover to minimize accumulated water management (e.g., pop-up canopy).
   b) Construct secondary containment accordingly:
      i. Leak tight and compatible with the contents of the containers.
      ii. A minimum of twenty (20) mil plastic; when secondary containment is made up of half pipe berm and plastic liner. Berm shall have six (6) inch height or higher.
      iii. A minimum six (6) oz. geotextile mat under the plastic liner.
   c) Register all secondary containments with Company Environmental Compliance Coordinator and label with responsible person contact information. Contact the STR to arrange registration of the secondary containments with the Company.
   d) Label secondary containment structure with weather resistant label containing the following contact information: subcontract number, Seller's company name and responsible individuals including contact information, STR name and phone number, and date containment structure was erected.
10. Wrap/cover with plastic or equivalent equipment stored outdoors which has free oils or oil residue that could become mobile if exposed to rain water
11. Remove pollutants from or wrap/cover with plastic or equivalent equipment and/or material stored outdoors which has metal dust, loose rust, metal cuttings and/or other pollutants to prevent dissemination of the pollutants into the environment.

B. Work requiring addition to, removal of, or modification to the sanitary sewer or storm drain network, or water discharge into the sanitary sewer or storm drain network, the Seller shall prepare and submit UCN-18615 for Company approval prior to commencing with work on the network or discharging water to the sanitary sewer or storm drain network, unless specifically permitted.

C. Work area involving disturbance of one (1) acre or more, Seller shall prepare a Storm Water Pollution Prevention Plan for TDEC and Company approval and employ a Competent Person to ensure compliance with provision of TDEC General Storm Water Permit. The Competent Person shall have completed eight (8) hour Tennessee Erosion Prevention and Sediment Control Training and Certification Program for construction sites and hold a current certification as a Level 1 inspector from TDEC.

D. Work causing disturbance within a blue-line stream, stream buffer, or a conveyance that is determined to be a stream by the stream determination process, Seller shall request Company authorization to proceed from Environmental Compliance and confirmation as to whether Seller needs to obtain an Aquatic Resources Alteration Permit from TDEC.

12.4 Orientation

A. Before starting work, provide an orientation of the Workplace Substance Abuse Program, ES&H Program, the work-specific ES&H Plan, BMP Plan, and other plans, Hazard Communication, Hazardous Materials Information System (HMIS), and AHA to onsite employees. Seller shall document orientation and provide records to the Company upon request.

B. Inform workers of their rights and responsibilities, including posting the DOE Worker Protection Poster (DOE Form 5483.1, Occupational Safety and Health Protection) at visible and prominent locations to inform onsite employees of the reporting process.

C. Inform workers that all persons onsite, including Seller’s personnel, have the right and responsibility to stop work or decline to perform an assigned task whenever they discover a condition that could result in serious harm to workers, the public, the environment, or Y-12 facilities.

12.5 Qualifications

A. Qualified Competent Person(s) shall be identified by Seller in the ES&H Plan or permits. Seller employed Competent Person(s) are required for, but not limited to, scaffolding, rigging, signal person, excavation, and lead, chromium and asbestos work. Seller shall identify a Competent Person who is TDEC-certified for erosion prevention and sediment control for ground disturbance of one (1) acre or more in size. Competent Persons shall remain onsite when work requiring their review is in progress.

B. Seller shall designate an electrical inspector, qualified in accordance with NFPA 70 and 70E, to ensure compliance for all electrical work.

C. Certify by name those workers and Competent Persons who are qualified and maintain training records and certifications. Seller shall provide copies of records and certifications to the Company upon request. Supervisor personnel shall receive the same training as the workers being supervised.

12.6 Regulatory Requirements

A. Some of the requirements listed or contained elsewhere in the Supplemental Conditions are more restrictive for construction activities (e.g., American Conference of Government Industrial Hygienists (ACGIH), Threshold Limit Values (TLV) for Chemical Substances and Physical Agents and Biological Exposure Indices (BEI) and ANSI Z88.2, Respiratory Protection). Seller is responsible to execute the more restrictive requirements.

B. Seller shall have copies or access to current applicable codes and standards.

12.7 Submittals

A. Prior to the start of work, submit the following for Company approval. Submittals which are not pertinent based on encountering the hazard and Seller's methods of accomplishment may be omitted, if the Company agrees. Seller requirement for safety plans described herein may be satisfied with an appropriate section in its ES&H Plan. Seller shall flow all ES&H requirements to lower-tier subcontractors, suppliers, and visitors and acknowledge its responsibility for the performance of its visitors, suppliers, and subcontractors of every tier.

1. ES&H Plan,
2. AHA,
3. Cardiopulmonary Resuscitation(CPR) and First Aid(FA) attendant's certification and training records,
4. Blood Borne Pathogens personnel training record,
5. Personnel Safety Systems Hazard Evaluations,
6. Lift and Haul Plan and Hazard Evaluation for Personnel Safety Systems supporting calculations,
7. Pre-lift Safety Checklist,
8. Crane Operator qualifications & training,
9. Competent Person Rigger Qualifications and Training,

10. ES&H Representative's qualifications,
11. Electrical Safety Program (Installation and Maintenance Operations),
12. Asbestos Work Plan,
13. Lead Compliance Plan,
14. Chromium Compliance Plan
15. Request(s) not to use respirators,
16. Request(s) not to use engineering controls,
17. Confined Space Program,
18. Lockout/Tagout Program,
19. Hearing Conservation Program,
20. Thermal Stress Program,
21. Fall Protection Plan(s),
22. Clean Water Compliance BMP Plan,
23. Mercury and PCB Compliance Plan,
24. Abrasive Blasting Plan,
25. HEPA filter manufacturer’s certification,
26. HEPA filter DOP test results for HEPA vacuums and negative air machines,
27. Beryllium Implementation Plan,
28. Exposure Control Plan (Blood borne pathogens),
29. Spill Response Plan, and
30. Respirable Silica Exposure Control Program

B. Submit the following to the Company, as applicable, for information:
    1. Medical program and principal medical provider,
    2. Corporate ES&H Program,
    3. List of Personnel Safety Systems,
    4. Rigging Hardware Certificate of Compliance and Proof Test Record,
    5. Subcontractor Hazardous Materials Inventory Report before delivery of hazardous materials to Y-12, monthly while such materials are at Y-12, and when work is complete and materials have been removed from Y-12,
    6. Safety Data Sheets (SDS),
    7. Copy of Seller’s license for Asbestos Abatement,
    8. Notification of Asbestos Demolition or Renovation (NoDR) information for abatement and demolition,
    9. Erosion Prevention and Sediment Controls inspection records,
    10. Inspections of oil-filled containers and equipment, and

11. Inventory of oil and fuel filled containers.

C. Submit the following to the Company, as requested:

1. List of persons performing specialized work,
2. OSHA 300 Log,
3. Seller Employee Training Records and Certifications,
4. Records related to asbestos work activities,
5. Records related to Personnel Safety Systems,
6. Testing laboratory proof of compliance with OSHA requirements regarding NIOSH training and testing methods,
7. Air monitoring test results and analysis,
8. Noise monitoring data and exposure assessment,
9. List of all equipment that exceeds 85dBA noise exposure (either continuous or impulse/impact noise),
10. Exposure assessment for dust-producing concrete work when respiratory protection is not required,
11. Documentation from licensed medical provider of suitability to perform confined space work,
12. Fire Prevention Inspection Records,
13. Records related to Beryllium work activities, and
14. Confined space equipment certifications and/or calibration data.

D. By the 2nd workday (workday is defined as Monday thru Friday with no exception for holidays falling on a workday) of each month, submit the *Subcontractor Safety Performance Report* (UCN-21439) to the Company for the prior month (regardless of any accidents or incidents). Corrections to a Subcontractor Safety Performance Report shall be submitted within a week.

12.8 ES&H Program

A. Corporate ES&H Program shall include:

1. Seller's Corporate ES&H requirements, and
2. Activity Hazard Identification and Analysis process.

B. ES&H Plan: The ES&H Plan shall be specific to the Subcontract and shall describe how Seller’s Corporate ES&H Program will be implemented for the execution of the subcontracted work.

1. Describe how Seller's ES&H Program will be implemented to include:

a) ES&H requirements incorporated into management and work practices that demonstrate that cost, schedule, and quality concerns do not prevail over safety; that supervisors are familiar with and enforce safety rules and have sufficient authority and control to effectively implement safety requirements; and that Seller management personnel are active

participants in all aspects of the project safety program. These aspects include those described herein and participation in the Company Safety Teams, new employee orientation, safety assessments, employee safety recognition, Toolbox Safety meetings and development of Seller's Activity Hazard Analysis;

b) Seller roles and responsibilities for compliance with ES&H requirements, including means for ensuring supervisors, the ES&H Representative, and workers analyze the work to define hazards, and how responsibility will be assigned to lower-tier subcontractors;

c) Methods to ensure personnel have the requisite knowledge, training, certification, and skills to discharge ES&H responsibilities;

d) Methods to maintain employee ES&H awareness and involvement including employee's rights and obligation to report unsafe work conditions or express ES&H-related concerns without reprisal;

e) Methods to ensure employees understand hazards, how to eliminate or reduce associated risks, and how to use worker feedback and involvement;

f) Methods to ensure workers have the requisite knowledge, training, certification and skill to perform work activities and operate equipment/tools;

g) Seller programs, requirements, and procedures for confined space work, fall protection, respiratory protection, PPE, hazard communication, noise exposure, thermal stress, machine guarding, lockout/tagout, hoisting and rigging, excavation/penetration work, hot work, emergencies, first aid and other work activities;

h) Processes to inspect, certify, maintain, and repair equipment and tools, including emergency equipment. Method to control the usability status of equipment/tools;

i) Employee disciplinary program for violations of ES&H requirements;

j) Seller ES&H self-assessment and safety inspection processes, including sampling and monitoring;

k) Investigation procedures for accidents, injuries, non-compliances, deficiencies, releases, spills, and near misses;

l) ES&H document and record management;

m) ES&H reporting requirements;

n) Use of National Association of Demolition Subcontractors Demolition Safety Manual as guidance for good practices on demolition projects;

o) Incorporation of text that addresses policy, goals and objectives, ISMS, and employee involvement to attain general awareness by the subcontractor of basic environmental responsibility;

p) Implementing changes to the ES&H Plan; and

q) Securing and preserving the scene when accidents, injuries, spills, fires, near misses, or other abnormal events occur; obtaining personnel statements; and determining a chronology of events.

2. Company approval of the ES&H Plan is required prior to the start of work. Changes to the ES&H Plan require Company approval prior to starting work covered by the changes.

C. Activity Hazards Analysis (AHA)

1. Define the work activities, identify the associated hazards that could adversely affect health, safety, or the environment, and define specific actions to eliminate or minimize the risks involved. The AHA shall include controls for job hazards and characterization data and address permit requirements, training, engineering and administrative controls, and PPE. Revise the AHA, and re-submit to the Company for approval when the work activities or conditions change to the extent that different or additional hazards may be present.

2. Company characterization data are provided as an attachment to the subcontract. Seller shall use these data as well as additional characterization data obtained by Seller to assist in developing the AHA.

3. Identify hold points in the AHA for evaluating permit requirements against requirements listed in the AHA. Discrepancies shall be resolved prior to initiating permitted activities.

4. Seller shall ensure hazards and controls for lower-tier subcontractor activities are addressed.

5. The AHA and any revisions shall be signed by Seller prior to performing the work activity certifying that the AHA has been reviewed and AHA requirements will be met. The AHA and subsequent revisions shall have an issue date on the cover page.

D. Personnel Safety Systems

1. Provide a list of new or first time activities or atypical processes, operations or systems requiring personnel safety systems to the Company for information. New or first time activities or atypical processes, operations or systems that involve personnel safety systems are defined as processes, operations, systems, or equipment that is not specifically addressed under OSHA Construction Standards 29 CFR 1926, OSHA General Industry Standards 29 CFR 1910, or a National Consensus Standards. If no activities, processes, operations, or systems apply, then indicate “NONE” on the submitted list.

2. Subject Matter Experts (SME) shall be engaged in preparing the Hazard Evaluation and Risk Assessment and identifying controls, hold or witness points to mitigate the hazard for new or first time activities or atypical processes, operations or systems. Submit Hazard Evaluations including mitigating controls for Company acceptance. Examples include but are not limited to: Engineered work platforms or other system designs, construction

aids, shop built equipment, proprietary specialty operations or processes, hot tap operations, specialty LOTO processes, etc.

3. Seller shall provide, upon Company request, supporting calculations, tests, SME evaluations, proprietary information, etc. for use by the Company on new or first time activities or atypical processes, operations or systems.

12.9 ES&H Representative

A. Designate an ES&H Representative for oversight and implementation of the ES&H requirements. The ES&H Representative is subject to Company approval and shall be on Y-12 at all times when work is being performed. Unless Company approves otherwise, Seller's ES&H Representative shall have no other job responsibilities. The Company may request to interview the prospective ES&H Representative in advance of Company approval.

B. The ES&H Representative shall possess a combination of education, training, and experience sufficient to implement Seller's ES&H Plan. The minimum qualifications are:

1. Four (4)-year technical degree in an ES&H Discipline plus a minimum of three (3) years safety and health experience in related construction work environments. Subject to the Company's approval, Seller may substitute work experience for the technical degree. The three (3) years' experience shall be in a full time position as the ES&H representative where their sole responsibility was to provide ES&H oversight, implementation and assessments. The three (3) years do not need to be contiguous.

2. Thirty (30) hour Occupational Safety and Health Standards in the Construction Industry training course (OTI 510) or equivalent.

3. Understanding of Tennessee Department of Environment and Conservation (TDEC) General Storm Water Permit or equivalent requirements.

4. Three (3) professional references that have firsthand knowledge of the candidate's safety and health experience.

C. The ES&H Representative shall have the following responsibilities:

1. Meet with Company prior to start of onsite work to establish evacuation instructions, site access control, fire protection, spill response and control, emergency management, medical and drug testing, and reporting.

2. Perform daily ES&H inspections of all task work being performed.

a) Ensure stop or suspend work deficiencies are corrected and work start authorization is received before resumption of work.

b) Ensure barriers and postings are adequate and in place.

3. Conduct and document daily ES&H briefings (at beginning and end of each work shift) with workers to discuss the day's tasks, hazards, relevant ES&H topics, and follow-up to obtain feedback.

4. Maintain documentation of inspections, briefings, and meetings.

5. Conduct a weekly safety meeting with workers.

6. Ensure workers review and sign off as having read and understood Seller's AHA and Company's RWP for the work being performed before entering the work area.
7. Ensure workers have reviewed permits for the work being performed before beginning permitted work.
8. Serve as Seller's point of contact for ES&H concerns.
9. Administer the ES&H Plan including any changes.
10. Review and analyze injury and illness reports and investigate accidents.
11. Participate in ES&H-related investigations, develop and/or approve corrective actions, and maintain records.
12. Practice good housekeeping and maintain work and laydown areas clean and free of tripping hazards. Ensure that pathways remain open, that fire prevention measures are implemented, and that storm water pollution prevention controls are maintained.
13. Post all ES&H-related permits in a designated area at the work area.
14. Initiate timely coaching and corrective actions to deficiencies identified through self-assessments, inspections, investigations, or Company oversight.
15. Review training records and ensure employee training and certifications are current to meet job requirements.
16. Ensure environmental compliance requirements are met and environmental inspections are completed and documented in a timely manner.
17. Ensure monitoring is performed and maintain current exposure assessments for noise, thermal stress, and hazardous chemical and physical agents, as applicable.
18. Maintain *Hazardous Material Inventory Report* (HMIR) and *Safety Data Sheets* (SDS) for products being stored or in use.
19. Ensure sub-tier subcontract personnel work safely by coordinating briefings, training, and oversight activities.

12.10 First Aid

A. Maintain a minimum of one (1) person certified to administer first aid (FA) and cardiopulmonary resuscitation (CPR) and trained on blood borne pathogens precautions. This person(s) shall be onsite at all times when work is being performed. Certification in FA and CPR shall include the successful demonstration of skills proficiency to a certified instructor. Maintain a FA log for purpose of injury trending and replenishing first aid supplies. Submit a copy of the certification(s) and training records for Seller's individuals' FA, CPR, and blood borne pathogens to the Company for approval and upon request provide a copy of the FA log.

B. Provide first aid supplies and fire extinguishing equipment in accordance with 29 CFR 1926.23 and 29 CFR 1926, Subpart F.

C. Notify Company immediately of any injury requiring first aid.

D. The status of any employee injured on the project and returned for modified duty shall be documented by Seller's treating medical practitioner and reported in writing to the Company.

12.11 Reporting

A. Notify the STR of employees that are "Declared Pregnant Workers" per 10 CFR 835.

B. Event/Condition Reporting

1. Seller shall report any actual or potentially adverse event/condition to the STR immediately (within fifteen (15) minutes) upon identification (e.g., pipe break, valve failure, loss of power, environmental spill, fire, overheating equipment, any as-found state which may have adverse safety, health, quality, security, operational or environmental implications.).

2. Included in the immediate notification to the STR are those events/conditions impacting the Company in the following categories:

a) Operational Emergencies (Impact to Y-12);

b) Personnel Safety and Health (First aid, occupational illness/injury, fire/explosion, hazardous energy control);

c) Nuclear Safety Basis (Impact to Technical Safety Requirements, Documented Safety Analysis, or violation of nuclear criticality safety controls);

d) Facility Status (Degradation of a Structure, System, or Component; Impact to Operational status, Identification of suspect counterfeit or defective items/materials);

e) Environmental (Release or impact to ecological and cultural resources);

f) Contamination/Radiation Control (Loss of control of radioactive material or spread of radioactive contamination, Radiation exposure, or personnel contamination);

g) Nuclear Explosive Safety;

h) Packaging and Transportation (Release or incident involving hazardous material, including radioactive material, during transportation or packaging);

i) Noncompliance Notifications (Any enforcement action or written notification from an outside regulatory agency); and/or

j) Management Concerns/Issues.

3. Seller shall initiate, as appropriate, actions necessary to mitigate or control the event/condition. Secure the scene to protect relevant evidence and information for any subsequent investigation. Provide preliminary information on the event/condition to the STR.

4. Seller shall provide follow-up notifications to the STR if the event/condition worsens, becomes an emergency or as requested.

5. Seller shall conduct an investigation and provide to the STR records pertinent to the event/condition, such as personal statements, chronology, fact sheets, root cause analysis results, and other pertinent documents.

    a) Personal statements and draft chronology are due before the end of shift of the event/condition identification unless requested otherwise.

    b) Documents submitted shall contain sufficient detail to enable the Company to assess the significance, consequences, or implications of the event/condition, and to allow evaluation of the controls/mitigation being proposed or employed.

6. The Company may elect to conduct an investigation and/or a critique of the event/condition. Seller's management and affected personnel shall participate in the investigation providing documents from Seller's investigation results and completing the assigned corrective actions within Seller's control, and be available to participate in a critique if called upon by the Company. Seller is responsible for costs incurred due to event/conditions caused by Seller. Seller may also be responsible for Company incurred costs.

C. Submit completed DOE F 5484.3 *Individual Accident/Incident Report* within two (2) workdays of a vehicle/property damage or recordable or lost time accident or injury. The block entitled "Organization Name" shall list Seller's name; the block entitled "Department, Division, or ID Code" shall list the Subcontract number. Provide supporting documentation to the STR as soon as available.

D. Promptly report suspected employee exposure to contaminants exceeding ES&H requirements, and sampling and monitoring results exceeding ES&H thresholds to the STR or Company Safety Representative.

12.12 Personal Protective Equipment (PPE)

Provide PPE in accordance with 29 CFR 1926, Subpart E and the following:

A. All persons accessing a construction area shall wear hard hats in accordance with ANSI Z89.1 and safety glasses with rigid side shields in accordance with ANSI Z87.1.

B. Employees performing grinding and buffing operations shall wear face shields and safety glasses or mono goggles. During welding, welders shall wear safety glasses and hardhat/welding hood combinations. Welding screens shall be used to protect other employees from the hazards associated with direct welding arc rays.

C. Additional PPE shall be used as required by the AHA.

D. Seller employees who handle chemicals or harmful substances shall be trained and shall wear appropriate personal protective equipment per the chemical manufacturer's recommendations.

12.13 Occupational Health Protection Threshold Exposure Limits

A. Limit exposure to chemical substances, physical agents, and biological hazards to the permissible exposure limits of 29 CFR 1926, Safety and Health Regulations for Construction.

B. The ACGIH *Threshold Limit Values (TLV) for Chemical Substances and Physical Agents and Biological Exposure Indices, (BEI)* exposure limits are to be administered per the "Policy Statement on the Uses of TLVs and BEIs" when threshold limit values are lower (more protective) than OSHA *Permissible Exposure Limits (PELs).*

C. When ACGIH TLVs are used as exposure limits, Seller shall nonetheless comply with the other provisions of any applicable OSHA-expanded health standard.

12.14 Hazard Communication (HazCom)

A. Pursuant to 29 CFR 1910.1200, Seller shall make *Safety Data Sheets* (SDS) for hazardous substances present at the work or laydown areas available. Seller shall maintain labels on all containers including secondary containers.

B. Submit a copy of SDS sheets to the Company prior to delivery of hazardous material to Y-12, maintain a copy of the SDS sheets at the work area accessible to all workers, and submit the *Subcontractor Hazardous Materials Inventory Report* (HMIR) (UCN-21445) to the Company at the beginning of work, then monthly, and when work at Y-12 is complete.

C. The Company may restrict the amount of chemical product(s) at Y-12. Chemical or other hazardous substances banned by a Federal or Tennessee State regulatory agency shall not be brought onto Y-12. Asbestos, polychlorinated biphenyls (PCBs), and banned chlorofluorocarbons are prohibited. Aerosol cans shall be incorporated in the HMIR and managed in accordance with Waste Management requirements.

D. The Company will provide Seller with SDS for existing Y-12 hazardous substances upon request. Seller can access an on-line database of hazardous substances at Y-12 to obtain SDS.

E. Hazardous material transferred or shipped to a Y-12 Facility or area under control of a *Facility Safety Basis* shall receive Company Facility Operation Manager or designee approval prior to initiating transfer/shipment. The Company may restrict the hazardous material quantities to maintain quantity levels within the *Facility Safety Basis* Maximum Anticipated Quantities (MAQ).

F. Seller’s employees shall attend Company General Employee Training (GET) Hazard Communication to obtain baseline knowledge of the Company’s policies/procedures and safe work practices to hazardous chemicals and substances. Supervisor shall complete Company-provided Hazard Communication for Supervisors Training. Seller shall conduct work-area-specific training with worker(s) (including the hazards of non-routine tasks) before work begins with the hazardous chemical(s) or substance(s).

12.15 Excavations/Penetration

A. Seller’s Competent Person shall be onsite during excavation work inside trenches greater than four (4) feet deep.

1. The Competent Person shall perform regular inspections and be kept informed by Seller of worker operations; excavated material stockpile locations; water accumulations: changes to equipment, materials and site

conditions; and vibration hazards to mitigate hazardous conditions and protect personnel.

2. Competent Person shall maintain a daily inspection log. The daily inspection log content/format shall be acceptable to the Company or the Company can provide Seller with a form.
3. Competent Person shall determine reduction in slope below the maximum allowable level when equipment, material, or personnel loads are imposed.
4. Competent Person shall evaluate the condition of the grade upon reaching the excavation bottom in order to confirm safety protection is adequate.

NOTE: Classify all Y-12 soil as Type C (1.5H to1V).

B. Perform excavations activities per 29 CFR 1926, Subpart P.
   1. Submit the following for Company information, as applicable:
      a) Shoring calculations.
      b) Structural ramp design.
      c) Engineer's evaluation for stability of adjacent structures.
      d) Design of slope and benching system when excavation side slopes are steeper than 1.5 horizontal to 1 vertical.
      e) Develop and implement a fall protection plan. Excavations having a leading edge six (6) feet or more above lower levels shall have personnel protections and barriers (i.e., guardrail systems, safety net systems, personal fall arrest systems) as protection from falling.
   2. Conduct hazardous atmosphere evaluation.
      a) Hazardous atmosphere and/or oxygen deficiency in excavations /trenches shall be tested before personnel enter excavations/trenches greater than four (4) feet in depth.
      b) Fans/ventilation units used to ventilate excavation/trenches shall have NRTL approval for the class hazard of the space for which they are used.
      c) Excavations/trenches greater than four (4) feet deep do not require a *Confined Space Entry Permit* for entry.

C. Control dust emissions in accordance with TN 1200-3. Limit use of water to prevent erosion and run-off into storm drains or the excavation.

D. Oak Ridge Reservation is a CERCLA site listed on the National Priority List (NPL). Seller shall not perform excavations or disturb any area on Y-12 without approval of the Company.

E. Seller shall prepare and submit for Company approval a Dewatering Plan, prior to any dewatering, that defines the pumps, well point system, electric power source, water discharge locations, and water discharge requirements when the excavation is expected to encounter water intrusion through ground water, infiltration, leaking pipes, storm water, or other sources.

F. Excess soil generation from excavation and surface disturbance shall be minimized and managed to prevent migration and erosion from the work area.

G. Seller shall notify STR two (2) workdays prior to any excavation activities for Company RADCON support and to inform affected Utility Operations and Facility/Operations Manager and Emergency Services (rescue and first aid).

1. Seller shall ensure Emergency Services response time is not hindered by the excavation location or access.

H. Read and comply with instructions on the *Excavation Permit*. Brief workers on the *Excavation Permit* before excavation work activities. No excavations shall be performed with powered equipment without an *Excavation Permit*. Excavations eighteen (18) inches or less in depth utilizing hand tools excluding jack hammers do not require an *Excavation Permit*.

1. Excavations are defined as any man-made cut, cavity, trench, borehole or depression in an earth surface, formed by earth removal.

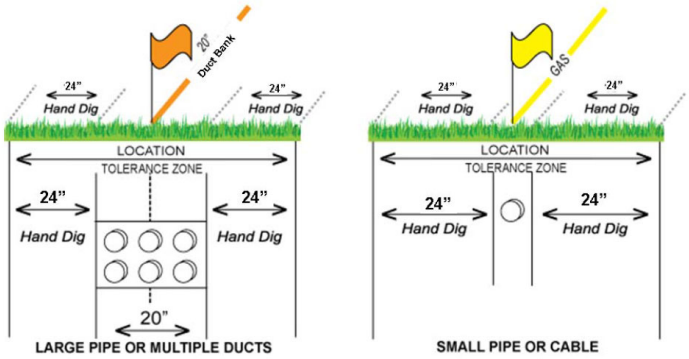
I. Inspect excavation site to verify that any subsurface utility identified on the *Excavation Permit* is physically marked on the ground surface. Seller shall mark hand digging area(s) on the ground surface within the tolerance zone (see "Tolerance Zone" figure below) of a subsurface utility. Seller shall scan for all potentially hidden energized utility lines prior to the start of excavation work activities and maintain utility ground markings during the course of excavation activities. Marking shall be in compliance with Tennessee Code Ann. Title 65, Chapter 31 - TCA 65-31-106 "Notice" and TCA 65-31-108 "Marking excavation and demolition site" - Public Utilities and Carriers - Underground Utility Damage Prevention Act.

1. Hand digging/excavation of a direct buried electrical cable that is not de-energized shall be performed using nonconductive hand shovel, vacuum excavation, or an air lance to loosen or remove soil within the tolerance zone (see "Tolerance Zone" figure below). Workers shall wear protective insulated gloves, rated for the voltage potential and meeting the specifications of American Society for Testing and Materials D120-95, *Standard Specification for Rubber Insulating Glove*.

2. Excavate/Pothole within the tolerance zone using only non-intrusive/non-mechanized means (e.g., hand digging or vacuum- or hydro- excavation) to locate the utility unless an *Excavation Plan for Working within Tolerance Zone* (UCN-26849), has been completed and approved to use an alternate method. Seller shall submit the completed UCN-26849 to the STR at least two (2) weeks prior to need. Company may or may not approve the request.

NOTE: An *Excavation Permit* identifies where utilities are known to exist; it does not ensure that NO other utilities are present.

TOLERANCE ZONE



J. Seller shall complete civil survey for site layout before disturbing the ground.

K. Excavated material stockpiles, equipment and other materials shall be kept a minimum of two (2) feet or more from edge of excavations.

L. Signs/Barricading/Boundary marker:

1. Seller shall post signs stating “Danger: Excavation Site” or similar wording so they are visible on all sides of the boundary marker or protective barrier.
2. Excavations less than six (6) feet in depth or sloped or stepped excavations require soft barricades (at a minimum) to be installed no less than two (2) feet from edge.
3. Excavations having a leading edge six (6) feet vertical or more above lower levels require guardrail system to be installed no less than two (2) feet from edge.
4. Concrete barriers shall be utilized to protect workers from vehicle traffic hazard.

M. Seller shall provide temporary walkway or bridge with handrails when personnel or equipment must cross over an excavation.

N. Seller shall pause work and notify the STR immediately of differing conditions from the *Excavation/Penetration Permit* and/or property damage during excavation or penetration work activities. Seller shall annotate the *Excavation/Penetration Permit* identifying the differing site conditions and participate in the investigation.

O. Excavation greater than four (4) feet in depth shall have a safe means of egress that does not cause employees to travel more than twenty-five (25) feet (lateral travel) to exit an excavation. Ladders used to gain access to a different elevation, must be secured.

P. Penetrations:

1. Seller shall utilize a drill stop/interrupter device on electric powered tools when penetrating a surface potentially having electrical conduit or other utilities embedded beneath the surface unless approved otherwise by the Company.

Q. Instructions for obtaining Company provided *Excavation/Penetration Permits* are provided in Section 2.6.

R. Conduct a walk down with Y-12 Safety and Industrial Hygiene (S&IH) prior to start of excavation or penetration to review the permit and to analyze the site for hazards. Permit revisions require a follow-up hazard analysis.

S. Seller shall brief excavation/penetration workers on the permit requirements and special conditions in the excavation/penetration area and provide additional briefings to include any applicable permit revisions.

12.16 Confined Space

NOTE: When Seller elects to adopt the Company Confined Space Program, then evaluations of spaces and issuing of permits are performed by the Company.

A. Seller shall submit a Confined Space Program for approval by the Company Confined Space Program Coordinator (CSPC) or designee, or request permission to adopt the Company Confined Space Program and complete Company confined space training.

B. Seller's Confined Space Program shall meet the requirements of 29 CFR 1926 Subpart AA, Confined Spaces in Construction.

C. Seller's lower-tier subcontractors shall comply with the Seller's approved Confined Space Program.

D. Seller air-monitoring data, instrument calibration data, confined space entry equipment certifications, and/or confined space entry permits are subject to inspection and review, at any time by the Company.

E. Definitions

a) Confined Space – has ALL of the following characteristics:

i. It is large enough and configured such that an individual can bodily enter the space.

ii. Its primary function and/or design is something other than continuous human occupancy.

iii. It has restricted entry and exit, meaning the entrant(s) must use the hands, contort the body, or have external assistance to enter/exit the space.

b) Seller/Controlling Contractor – the employer that has overall responsibility for construction at the worksite.

NOTE: When the subcontractor is working under CNS's confined space program, CNS is the host employer, and when the subcontractor is working under its own confined space program, the subcontractor is the host employer.

c) Host employer – the employer that owns or manages the property where the construction work is taking place.

d) Permit-Required Confined Space – a confined space that has one (1) of more of the following characteristics:

i. contains or has a potential to contain a hazardous atmosphere;

ii. contains a material that could potentially engulf an entrant;

iii. has an internal configuration such that an entrant could be trapped by inwardly tapering walls or by a floor that slopes downward or tapers to a smaller cross-section; or

iv. contains any other recognized serious safety and health hazards including, but not limited to, excessive noise, high pressure steam lines, flooding, animals, etc.

NOTE: Containers (such as waste storage containers [e.g., B-24, B-25, Sealand] packing containers, or shipping containers) that are greater than four (4) feet in depth and do not have a side ingress/egress by door or appropriate openings are characterized as non-permit-required confined spaces during routine conditions and tasks being performed.

e) Non-Permit Confined Space – a confined space that meets the definition of a confined space but does not meet the requirements for a permit-required confined space.

F. General Requirements

1. The Seller shall perform work in accordance with 29 CFR 1926 Subpart AA.
2. The STR or designee will act as the liaison on behalf of the Company.
3. Seller's confined space entrant, and attendant personnel shall be physically and psychologically suitable to do confined space work in accordance with ANSI Z117.1, Safety Requirements for Confined Spaces.
4. The Seller shall identify the competent person, by job title, in the Confined Space Program submittal.
5. Criticality Accident Alarm System (CAAS) inaudibility or unknown audibility deems the confined space as a permit required confined space.
6. The Seller is responsible for correctly posting the confined space until contract completion. The Company STR will ensure compliance.
7. The Seller shall formally document and debrief the Company regarding any hazards that were confronted or created in the permit space during entry operations.
8. If the Seller creates a confined space they shall formally contact the Company before entry, to facilitate a mutual characterization of the space that is agreeable to both entities.
9. Confined space entrants shall wear a rescue harness with lifeline, except when the use increases the risk or does not contribute to the rescue as determined by the Y-12 Fire Department.

G. Emergency Response

NOTE: The Y-12 Fire Department personnel are trained and certified in first-aid and cardiopulmonary resuscitation (CPR) and will perform these activities, as necessary.

1. The Y-12 Fire Department is the designated rescue service at Y-12 and are the ONLY employees trained and authorized to physically enter a permit-required confined space to perform emergency rescue activities.
2. The Seller shall include the Y-12 Fire Department in pre-job planning for permit-required confined spaces.
   a) The Seller shall collaborate with the Y-12 Fire Department to develop a rescue plan for permit-required confined space.
   b) The Seller shall collaborate with the Y-12 Fire Department to develop a schedule for permit-required confined space entries.

NOTE The use of an ERM will be at the discretion of the Y-12 Fire Department based on pre-job planning information provided by the Seller.

3. An Emergency Response Monitor (ERM) may be assigned by the Company to support permit-required confined space entries which contain hazardous atmospheres or any other hazard identified by the Y-12 Fire Department (e.g., confined spaces requiring continuous atmospheric monitoring and/or ventilation; performance of hot-work; confined space configurations where the confined space attendant cannot maintain line of sight with the entrant; or sanitary and storm sewers greater-than five (5) feet in depth).
4. The Seller shall coordinate with the Y-12 Fire Department to ensure a rescue plan has been documented and provided to the Y-12 Fire Department and Company STR.
5. The Seller shall coordinate with the Company STR to provide pre-entry notification to the Y-12 Fire Department Alarm Room (call 576-1890) to verify that rescue services are available during permit-required confined space entries.
   a) The Company cannot be held liable by Seller for delays in confined space entries due to unavailability of the Y-12 Fire Department. Interruptions in Y-12 Fire Department support are not grounds for an extension to the Subcontract Completion Schedule.

H. Existing Confined Spaces

1. Identification and classification of a confined space is determined by the Company's Safety and Industrial Hygiene (S&IH) Professional. The Company's Confined Space Coordinator is the final authority over the identification and classification of confined spaces.
2. Before entry operations begin, the Company STR will provide the following information, if it exists, to the Seller.
   a) The location of each known permit space;

b) The hazards or potential hazards in each space or the reason it is a permit space; and

c) Any precautions that the Company or any previous Seller or Seller's lower-tier subcontractors implemented for the protection of employees in the permit space.

3. Before entry operations begin, the Seller is responsible for obtaining the Company's information about the permit space hazards and previous entry operations and provide the information received to the Seller's lower-tier subcontractors entering a permit space and any other entity at the worksite whose activities could foreseeably result in a hazard in the permit space.

4. Before entry operations begin, each Seller lower-tier Subcontractor is responsible for:

   a) obtaining all of the Sellers information regarding permit space hazards and entry operations; and

   NOTE: The Confined Space Program being utilized requires Company approval (reference Section 12.16.A).

   b) informing the Seller of the permit space program that the entry employer will follow, including any hazards likely to be confronted or created in each permit space.

5. The Seller/controlling contractor and entry employer(s) shall coordinate entry operations when:

   a) more than one (1) entity performs permit space entry at the same time;

   b) permit space entry is performed at the same time that any activities that could foreseeably result in a hazard in the permit space are performed; or

   c) more than one (1) entity is performing work in connected confined spaces.

I. Utilizing the Company's Confined Space Program

1. Before entry operations begin, the Company STR will contact the appropriate S&IH Professional to request an initial/baseline confined space evaluation and classification determination for existing confined spaces which have not been previously evaluated.

NOTE: A permit-required confined space may be reclassified as a non-permit confined space by the Company's S&IH Professional after the elimination of the health and safety hazards. Reclassification will be documented on *Verification for Reclassification of a Permit Required Confined Space to a Non-Permit Confined Space*, UCN-26493.

2. The Company STR will request the appropriate S&IH Professional to complete a task based evaluation to determine confined space work classification.

3. Submit requests for Company-issued confined space permits sixteen (16) workdays in advance of need.

4. The Seller is responsible to provide the confined space entry supervisor, or with support from the Seller's supervision, the responsible entry organization may function as the confined space entry supervisor. Personnel performing this role shall be trained in accordance with the Company's confined space training requirements.
5. The confined space entry supervisor shall sign Part D of *Confined Space Entry Permit* to document cancellation or closure of the permit. Return the permit and supporting documentation (e.g., entry logs, monitoring records) to the Company CSPC within ten (10) days of cancellation/closure.

J. Adhere to the following conditions for Company-issued *Confined Space Entry Permit*(s):

1. Request/schedule Company Safety & Industrial Hygiene personnel to perform atmospheric monitoring. Minimum twenty-four (24) hours' notification required.
2. Request/schedule Emergency Response Monitor (ERM) support from Y-12 Fire Department personnel, if required by the *Confined Space Entry Permit*. Schedule several workdays in advance to ensure support availability.
3. Ensure conditions making it unsafe to remove entrance cover, such as internal pressure or hazardous atmospheres, are eliminated before the cover is removed.
4. Implement/perform the control measures specified on the *Confined Space Entry Permit* (e.g., purging, inerting, flushing, ventilating) to eliminate or control atmospheric hazards.
5. Install barriers to protect authorized entrants and attendants from potential external hazards adjacent to the confined space.
6. Post appropriate confined space warning signs and copy of the *Confined Space Entry Permit* at the entrances to the confined space.
7. Evaluate space to ensure audibility of alarm(s), take compensatory measures if warranted.
8. Establish early warning system for entries into confined spaces where potential for non-isolating engulfment hazard exists (e.g., storm water run-off).
9. Provide and ensure operability of the retrieval and fall arrest equipment.
10. Provide all equipment required for entry, including PPE.
11. Ensure communication method is established and operable for summoning emergency and rescue personnel.

NOTE: Seller's personnel who are medically qualified and trained will be enrolled in the Company's Qualification Certification System (QSC) earmarked for the Company's Confined Space Program where a Company-issued permit is required. Personnel shall be current in confined space training and annual medical surveillance to maintain their QSC enrollment. Seller shall provide medical surveillance documentation for their personnel upon request from the Company.

12. Designate authorized entrant(s) and attendant(s), and confirm medical and training qualifications are complete.
13. Affected workers and supervisors shall attend the pre-entry job briefing conducted by the Confined Space Entry Supervisor. Support organizations will be included in the briefing. Conduct a debrief upon conclusion of the confined space entry. Document debriefing on the *Confined Space Entry Permit.*
14. Company will perform the initial atmospheric monitoring required prior to personnel entry for all permit-required confined space entries. When the *Confined Space Entry Permit* requires periodic or continuous atmospheric monitoring, the Company will perform the monitoring. Readings will be documented on the *Confined Space Entry Permit* and available to personnel working under the protection of the permit and their supervisors.
15. Perform pre-entry notifications to the Y-12 Fire Department Alarm Room (call 576-1890) and impacted personnel, such as Facility Shift Manager or Building Manager.
16. Confined space entry is authorized only by the Confined Space Entry Supervisor. Once entry is authorized, the authorized attendant confirms the validity of the confined space permits (i.e., dates, entry authorization signatures), verifies atmospheric readings are established and within acceptable range for entry (i.e., initial, continuous, periodic), ensures communication with entrant and emergency response personnel is in working order, and maintains control of the entrance utilizing the *Permit Required - Confined Space Entry Log*, UCN-17306 and returns the Log daily to the Confined Space Entry Supervisor when the space is vacated.
    a) Re-entry to the permitted confined space, once it has been vacated, requires authorization from the Confined Space Entry Supervisor and atmospheric monitoring by the Company S&IH personnel to verify conditions are safe for entry.
17. Confined space entrants shall be made aware of the alarms, emergency notification devices and any compensatory measures. Confined space entrants shall wear the prescribed PPE and perform work in accordance with the permit.
18. Evacuate the confined space immediately if:
    a) an alarm from an air monitor or any safety-related device is activated;
    b) an alarm from an emergency notification system, including CAAS, is activated;
    c) the authorized attendant observes or is informed of a condition outside the space that could endanger the authorized entrant(s);
    d) behavior abnormalities of authorized entrant(s) are detected that may be the result of hazard exposure;
    e) communications are disrupted; or

f) additional hazards and/or prohibited conditions are recognized or suspected.

K. Standing water greater-than three (3) inches in depth shall be removed from the permit-required confined space prior to personnel entry and kept at less than three (3) inches of standing water while an entrant is inside the confined space.

L. Power tools used in confined spaces shall be pneumatic, electric, or other Company approved devices. Electric hand tools shall be protected by a ground fault circuit interrupter. Non-powered hand tools used in confined spaces containing or potentially containing flammable vapors or explosive dust shall be spark proof or spark resistant. Lighters or matches shall not be taken into confined spaces containing or potentially containing flammable vapors or combustible dusts. Compressed gas cylinders shall not be taken into confined spaces, except for Self-contained Breathing Apparatus (SCBA) and resuscitation equipment.

M. If arc welding in a confined space is to be suspended for any substantial period of time, such as during lunch or overnight, then remove electrodes from the holders, stow holders so that accidental contact cannot occur, and disconnect the machine's power source.

N. Ventilation of confined spaces:

1. Fans/ventilation units used to ventilate confined spaces shall meet NFPA 70-NEC Article 500 requirements and labeled accordingly for the class hazard of the confined space for which they are used.

   a) Class I, Division I – if flammable vapors and gases are present.

   b) Class II, Division I – if combustible dusts or materials are present or potentially present.

2. Minimize the hose length and number of bends;

3. Atmospheric monitoring shall be conducted prior to operating the portable ventilation system and again when ventilation system is in operation. The Company will perform this monitoring on Company issued *Confined Space Entry Permit* spaces.

4. Provide at least twenty (20) air exchanges per hour when using ventilation exhaust blowers and locate the unit at the distance recommended by the Company S&IH Professional away from the opening of the confined space;

5. When using gasoline and/or propane ventilation blowers, equip them with a six (6) foot (minimum) length of discharge hose/duct directed downwind of the intake opening and make personnel aware of where the exhaust air exits the confined space.

6. Do not block the opening to a confined space with ventilation equipment.

12.17 Lockout/Tagout (LOTO)

A. A *Lockout/Tagout(LOTO) Permit* is required before performing work on energized equipment, near overhead lines, or excavating near underground utilities where an energized source exists.

B. Seller shall work under the Company's LOTO Program and receive the applicable training unless Seller's LOTO Program/Procedures complies with OSHA and NFPA 70E standards and are submitted to and approved by the Company. A copy of the Company LOTO Program and training will be provided to Seller upon request.

C. Hazardous energy sources may need to be de-energized and locked out before Seller can begin certain work. Seller shall coordinate with STR to determine need for de-energization or lockout. Seller shall provide a procedure/plan to perform work involving hazardous energy sources.

D. Perform LOTO in accordance with 29 CFR 1910.269, *Electric Power Generation, Transmission, and Distribution*, 29 CFR 1910.333, *Working On Or Near Exposed De-energized Parts*, 29 CFR 1910.147, *The Control of Hazardous Energy (LOTO)*, and/or NFPA 70E.

E. The Company STR will be the Company Service Supervisor (SS) signing the permitted LOTO for Company issued-permits for subcontracted work. The STR may designate another Company employee as Service Supervisor.

F. The Company will perform initial LOTO of existing Y-12 systems and equipment, lockout and issue permit for electrical distribution systems or equipment, and will remove the final lock or tag. A twenty-four (24) workday notice is required for the Company to issue the LOTO permit.

   1. A LOTO permit is not required where energy source has been air-gapped. Seller shall verify absence of energy condition. Seller shall request a Company hazardous energy evaluation and obtain Company approval prior to work start where an energy source has been air-gapped in support of the work. The following definitions of an air-gap shall apply:

      a) Electrical Air Gap – The cutting of a conductor, cable, or conduit so that it can be visually verified and cannot be easily reconnected. This requires the removal of enough of the conductor, cable, or conduit to require rewiring to reconnect. Lifting and taping/capping of leads, removing fuses, and opening disconnects do not qualify as physical air gaps.

      b) Mechanical Air Gap – The cutting of piping or tubing so that it can be visually verified as empty, disconnected from the energy source, and un-pressurized. This requires the removal of enough of the piping or tubing to require major re-work to reconnect. For large diameter piping, 3" OD and greater, it is acceptable to cut or drill multiple holes into the pipe and not remove a complete section of the pipe. The total diameter of the holes cut or drilled into the piping shall equal, at a minimum, half the OD of the pipe. Ensure the pipe is properly supported during and after the air gap activity. The closing of a valve or installation of a pancake does not qualify as a physical air gap.

   2. Seller shall confirm absence of energy on LOTO system/components prior to commencing work. Confirm both AC and DC absence of voltage on electrical and data systems.

G. Double valve isolation is required for pressure systems above 500PSI and temperature systems above 200°F, unless an alternate equivalent process is approved by the Company.

H. Seller working under a Company-permitted LOTO utilizing Seller's Company-approved LOTO Program:

1. Seller shall train all personnel working under the protection of the LOTO (equivalent Company terminology is authorized employee [AE]) and supervisors to Seller's LOTO Program and shall issue the locks and tags.

2. Seller AE and Supervisor shall walk down the permitted LOTO with the Company SS/STR. A copy of the Company-generated *Walk Down Checklist* will be given to Seller to supplement its pre-job brief records. Only those AE and supervisors attending the walk down can lock-on to the permitted LOTO. Changes to Seller's SS and AE requires those personnel attend a walk down of the permitted LOTO with the Company SS/STR.

3. Company SS/STR will establish a satellite lockbox containing the LOTO Permit and accompanying SS lock-key for Seller's AE and supervisor to apply locks to in accordance with Seller's LOTO Program

4. Seller shall complete work associated with the LOTO and remove all locks from the Company SS/STR satellite lockbox to allow the Company SS/STR to remove the final lock or tag. When two (2) or more independent crews, each working under different supervisors, are locked or tagged onto the same Company-permitted LOTO, each crew shall separately remove its locks before the Company-permitted LOTO will be released.

I. Seller working under a Company-permitted LOTO utilizing Company LOTO Program:

1. Seller shall complete the Company LOTO Program training and obtain locks.

2. STR or designee will coordinate with the Company Issuing Authority (IA) to obtain the permitted LOTO Permit. IA will conduct a walk down of the Company-permitted LOTO and generate the *Walk Down Checklist*.

NOTE: DV reviews the LOTO, verifies component position, observes lock securement, and witnesses the confirmation of absence of energy.

3. The Company IA in conjunction with the qualified AE and Designated Verifier (DV), and Company SS will isolate energy and apply a system lock, then establish the controlling lockbox for lock-on by Seller.

a. The AE and DV may be provided by the Company or Seller. A second AE or LOTO trained Seller's supervisor can perform the role of the DV.

4. STR or designee acts as the Company SS and accepts the protection and over locks at each isolation point or at a controlling lockbox.

5. Seller's SS ensures the Company-permitted LOTO of the equipment/system is performed and confirmed prior to Seller performing work.

6. Seller AE and Supervisor shall walk down the permitted LOTO with the Company SS/STR. A copy of the Company generated *Walk Down Checklist* will be given to Seller to supplement its pre-job brief records. Only those AE

and supervisors attending the walk down can lock-on to the Permitted LOTO. Changes to Seller's SS and AE requires those personnel attend a walk down of the permitted LOTO with the Company SS/STR.

7. LOTO personnel cannot perform multiple roles during the LOTO development or implementation process (i.e., SS cannot be the AE).
8. Modifications to the Company-permitted LOTO need to be brought to the IA's attention to re-implement the permit process. Suspend work activities if existing conditions are different than identified on the Company-permitted LOTO.
9. For release of Company-Permitted LOTO, Seller's AE and SS shall clear their locks and tags. The Company will then reposition equipment at each isolation point.
10. The Company issues a Power Distribution Work Permit (PDWP) for isolation and LOTO of electrical transmission and distribution lines and associated equipment. Seller shall follow the aforementioned Company-permitted LOTO requirements to establish control of the PDWP.
11. To remove a Company-permitted LOTO when AE's personal lock is in place and the AE is not available or the lock key is lost, the following steps shall be taken:
    a) The IA or SS shall implement these steps,
    b) The SS shall make all reasonable efforts to contact the AE who is unavailable and has a personal lock that needs to be removed,
    c) The IA or SS shall notify the Y-12 Operation Center, , that a personal lock of an AE that is not onsite needs to be removed,
    d) The PSS, after verifying the AE absence with the SS, authorizes the lock to be removed,
    e) The SS shall verify that all personnel are safely positioned, that it is safe to remove all protection devices, and that no uncontrolled hazards remain,
    f) An alternate AE may remove the unavailable AE's personal lock(s) as directed by the PSS,
    g) The SS shall inform the AE that his personal lock(s) was removed when returning to work.

J. All 3rd party utility outages (LOTO) shall be coordinated with the Company before Seller contacts the utility owner. Seller shall coordinate LOTO schedule dates and times with the 3rd party utility owner and the Company.

K. The energy applied to new lines, equipment and circuits installed by Seller but not formally turned-over to the Company/Facility shall remain controlled by Seller's implementation of its LOTO Program. Where there is a designated energy control boundary, the Company will control the isolation device. Seller may perform LOTO of the energy source beyond the secondary of the transformer without Company authorization when using Seller's LOTO Program approved by the Company.

12.18 Hoisting and Rigging

A. Seller shall perform hoisting and rigging activities (H/R) and certify that equipment meets minimum criteria in accordance with 29 CFR 1910 Subpart N, 29 CFR 1926 Subparts H and N, and the ANSI B30 and ANSI B56 Series.

B. In addition to the requirements of paragraph 12.18.A above, Seller shall implement and follow the Company procedures listed below whenever oversight of the subcontract is by Y-12 Construction. The applicable revisions are the ones in effect at the time of subcontract award.

1. *Hoisting and Rigging Operations*, Y17-64-314,
2. *Construction Crane Use and Operation*, Y17-64-315,
3. *Qualification of Construction Crane and Equipment Operators*, Y17-64-316,
4. *Rigger, Signal Person and Competent Person Rigger Qualification,* Y17-64-317,
5. *Control of Hoisting/Rigging Equipment*, Y-17-64-318,

C. Company procedures referenced above define the standard work processes that will be used for planning and executing heavy hauling, rigging, and lifting work performed on Y-12 to include that work performed by Company construction subcontractors. Note that these procedures include H/R activities performed using powered lifting equipment such as cranes, forklifts, excavators and similar equipment when used with attachments for lifting, etc. and hoisting and rigging operations performed by hand utilizing come-a-longs, chain falls, jacks, winches, etc. These procedures also define the roles and responsibilities of Company and Seller personnel that plan, direct, supervise and execute hoisting and rigging activities:

1. Seller shall prepare lift/haul plans as applicable; furnish all required lifting equipment, rigging, hardware, etc.; perform and document required inspections; maintain control of H/R equipment and hardware; and provide all supervision and labor to include Competent Person Rigger(s) (CPR) and equipment operators meeting the qualifications required by the Company. Additionally, Seller shall perform those functions and roles identified in the procedures as being the responsibility of the Superintendent and Project Rigging Engineer (PRE) except those responsibilities given in 12.18.C.3 below.
2. Seller H/R programs and procedures used onsite in the performance of work on this subcontract shall incorporate Company requirements.
3. The Company will provide guidance and direction for lift classification, will review and approve lift and haul plans prepared by Seller, will provide Company required training, testing and approval of CPRs, will review/approve operator qualifications and administer Company required written or oral and practical tests, and will perform oversight of Seller planning and execution of H/R activities. Coordination of H/R activities between Seller and the Company will be through the Company STR.

D. Seller is directed to the referenced procedures for specific requirements. Following is a list, not necessarily complete, of major elements contained within the referenced Company Procedures:

   1. All Seller H/R and heavy hauling operations must be reviewed and approved by the Company for lift classification. Lift classifications include Critical Risk, Medium Risk, and Low Risk. See Table E-1 in Y-17-64-314.
   2. Company procedures apply to all H/R activities including hoisting and rigging operations by hand utilizing come-a-longs, chain falls, jacks, winches, etc.
   3. Where applicable, Seller shall prepare and submit haul/lift plans and *Hoisting and Rigging Hazard Evaluations* (CFN-0215) to the Company for approval. Seller shall complete a *Pre-Lift Safety Checklist* (CFN-0086) and conduct a Pre-Lift Brief for all lifts utilizing a crane or other lifting equipment in a similar manner. See Y17-64-314.
   4. Seller crane operations must comply with requirements of Y17-64-315, Section C, Mobile Cranes-Subcontractor.
   5. All Seller crane operators shall meet Company required pre-requisite qualifications. See Appendix B, Y17-64-316.
   6. All Rigging activities must be supervised by a Seller Competent Person Rigger (CPR) and be addressed in the pre-job brief. A CPR must be present when H/R activities are being performed. CPRs shall meet all Company pre-requisite qualifications and training and pass a Company administered written and practical exam. See Y17-64-317. An annual refresher is required to maintain CPR qualifications.
   7. Seller control, inspection and testing of H/R equipment, slings and hardware shall meet requirements of Y17-64-318. Inspection and testing of H/R equipment includes, as applicable, annual, periodic and prior to use (daily). H/R equipment shall be inspected for suspect/counterfeit items in accordance with DOE requirements. Items found defective shall be promptly tagged out and secured to prevent further use. H/R hardware brought onsite shall be maintained in a controlled access storage area while not in use and Seller shall maintain an inventory of H/R equipment onsite. Documentation of inspections shall be maintained and made available to the Company upon request. Certificates of Compliance and documentation of Proof Tests for H/R hardware shall be provided to the Company prior to use of hardware.
   8. Seller shall utilize Company provided forms unless otherwise approved by the Company.

E. When plastic wrapped contaminated equipment requires hoisting and rigging (including forklift handling) or securing for transportation (on- or off-site), hoisting/rigging and load-securing activities shall be performed under a plan of work that has been submitted by Seller and approved by the Company. The plan shall address the hazard controls to be employed in order to comply with contamination control requirements and ensure safe hoisting/rigging/load-securing of contaminated items.

12.19 Lead and Chromium

A. Lead

1. Perform work on lead-containing materials in accordance with 29 CFR 1926.62.
2. Before starting work involving lead materials, submit for Company approval, a Lead Compliance Plan.
3. Engineering controls (e.g., wet methods, vacuum power tools, ventilation and containment structures) are mandatory regardless of PPE used.
4. All painted surfaces at Y-12 are suspect for lead-containing paint.
5. Seller's Competent Person shall be onsite during work activities involving lead materials.
6. Before generating a waste stream containing lead, establish or identify a waste accumulation area (refer to Section 10.6).

B. Chromium

1. Perform work on chromium containing materials in accordance with 29 CFR 1910.1026.
2. Before starting work involving chromium materials, submit for Company approval, a Chromium Compliance Plan.
3. Engineering controls (e.g., wet methods, vacuum power tools, ventilation, and containment structures) are mandatory regardless of PPE used.
4. Notify Company of all monitoring results and before making decision to discontinue periodic monitoring when results are below action levels.
5. Seller's Chromium Competent Person shall be onsite during work activities involving chromium materials.
6. Before generating a waste stream containing chromium, establish or identify a suitable waste accumulation area (refer to Section 10.6).

12.20 Mercury and PCBs

A. Low levels of mercury and PCBs are detectable in the soil and building materials/components in some areas of Y-12. Painted surfaces at Y-12 are suspect for Polychlorinated Biphenyl (PCB) containing paint. When Seller's work activities create a potential for exposure to mercury or PCB's, Seller's ES&H Plan shall describe how worker exposure monitoring for these constituents will be addressed and how compliance with applicable mercury and PCB regulations will be achieved.Before starting work involving PCB materials, submit for Company approval, a PCB Compliance Plan.

C. Hot work is prohibited prior to removal of the PCB coating on PCB coated surfaces.

D. Before generating a waste stream containing mercury and/or PCB's, establish or identify a waste accumulation area (refer to Section 10.6).

12.21 Refrigerants

A. Seller shall comply with 40 CFR 82 and State regulations when handling or dispositioning equipment containing refrigerant. Only trained and certified personnel shall breach a system containing refrigerants. Seller shall provide a record of training or certificate upon Company request.

B. If equipment containing refrigerant is removed from Y-12 by Seller for reuse, Seller shall follow the requirements of 40 CFR 82 and State regulations after removal. Seller shall indicate in the Work Plan, Waste Management Plan, or by letter the final disposition for the equipment. Seller shall indicate in the document that the equipment and the associated refrigerant are not intended for immediate disposal or resale. Seller shall have written notice from the Company transferring responsibility for the equipment still containing refrigerant prior to being removed from Y-12. The equipment should also have a label attached by the Company indicating the presence of refrigerant. Unless otherwise specified, Seller shall not remove equipment containing refrigerant from Y-12 for the sole purpose of the recovery of the refrigerant.

C. Seller shall notify the Company twelve (12) workdays prior to the disposal of equipment that contains refrigerant. The Company will recover the refrigerant from the equipment prior to Seller dispositioning the equipment. The Company will attach a label indicating removal of refrigerant from the equipment.

12.22 Electrical

A. Seller shall submit its Electrical Safety Program for Company approval for electrical installation and maintenance operations in accordance with 29 CFR 1910, 29 CFR 1926 Subpart K, the *National Electrical Code* (NFPA 70), and *Standard for Electrical Safety in the Workplace* (NFPA 70E). Seller's qualified electrical inspector shall complete compliance inspections prior to requesting Company AHJ electrical inspection and acceptance of the work.

B. Seller shall provide ground fault circuit interrupter protection for cord sets, receptacles, and electrical tools including connections to generators and equipment connected by cord and plug for use by workers.

C. Electrical equipment shall be listed, labeled, and approved by a Nationally Recognized Testing Laboratory (NRTL) for intended purpose, or inspected and approved for use, by Seller's electrical AHJ in accordance with and as described in NFPA 70 & 70E, or equivalent.

D. Seller shall provide the PPE for electrical installation, voltage checks, testing and maintenance operations in accordance with 29 CFR 1910, 29 CFR 1926, National Electrical Code, and NFPA 70E including electrical work protective clothing where needed in radiologically controlled areas. The following clothing and PPE requirements apply when performing confirmation of isolation (absence of voltage checks):

1. Less than 300 volts

   a) 100% long-sleeve cotton coveralls, 100% long-sleeve cotton shirt and pants,

   b) long-sleeve scrubs or anti-contamination coveralls,

   c) safety glasses with side shields,

d) leather shoes,

e) insulated gloves with protectors, and

f) insulated tools;

2. Greater than 300 volts but less than 600 volts

a) 100% cotton coveralls worn under electrical flame-resistant (FR) coveralls (marked on back with ATPV 7), or electrical FR pants and shirt (marked on back with ATPV 11), or electrical anti-contamination Fire Retardant coveralls (marked on back with ATPV 11),

NOTE: 100% cotton, wool or silk, non-synthetic material or FR shall be worn under FR clothing.

b) leather shoes,

c) safety glasses with side shield,

d) electrical rated FR face shield,

e) insulated gloves with protectors, and

f) insulated tools.

12.23 Hot Work

A. Obtain a *Hot Work Permit* through the STR before performing any flame or spark producing work. Return expired *Hot Work Permit* to the Company STR or Issuing Authority.

B. Personnel performing welding, cutting, grinding, and hot work shall complete Company-provided training for Fire Watch for Burning, Welding, and Hot Work. Seller's individual supervising Hot Work activities shall complete Company-provided training for Issuing Authority/Service Supervisor (IA/SS) for Welding and Burning. Seller shall act as the Service Supervisor for Hot Work activities. The Company retains the Issuing Authority responsibility unless Company designates otherwise.

C. Perform welding, burning, and hot work in accordance with 29 CFR 1926, Subpart J, and ANSI Z 49.1. Before initiating hot work:

1. Remove combustibles within thirty-five (35) feet or provide non-combustible cover, and

2. Remove flammable liquids within fifty (50) feet.

3. Review the AHA and implement all required controls.

D. Use fire retardant, plastic/fabric tarpaulins tested in accordance with NFPA 701, *Methods of Flame Propagation of Textiles and Films to Protect Personnel and Property During Spark or Flame Producing Work*. Framing material used to support such coverings shall be non-combustible. FR clothing shall conform to ASTM D 3659 and ASTM F 1506. Fall protection (e.g., body harness) used with spark or flame producing activities shall conform to ANSI Z359.1, and ASTM F887-04.

E. Provide a dedicated, trained fire watcher during, and for a minimum of sixty 60 minutes after, spark/flame producing work. Torch applied roofing operations requires the fire watch during and for a minimum of two (2) hours after, spark/flame producing work. Fire watchers shall attend Company-provided training, maintain proximity necessary to observe the safety of the person(s) performing the hot work, and be able to respond in case of an emergency.

F. Determine the location of the nearest operating fire alarm pull station and Y-12 telephone or Y-12 communication radio.

G. Use dust-reducing methods, such as vacuuming, wetting, or building an enclosure during cutting or grinding operations.

H. Comply with the requirements of 29 CFR 1926.62, *Lead*, when drilling, cutting, grinding, or welding existing painted surfaces.

I. Comply with the requirements of 29 CFR 1926 Subpart J, *Welding and Cutting*, and 29 CFR 1926.1126, *Chromium*, when welding, cutting, grinding, or heating galvanized or stainless steel.

J. Provide point source exhaust ventilation when welding stainless steel material and alloys.

K. Ensure AHA contains analysis of welding, cutting, and grinding using clothing ignition risk factors. In determining the need for PPE for flame and thermal hazards, the following risk factors shall be considered:

1. Amount and duration of open flame, sparks, molten by-products.
2. Potential for accidental contact with direct flame or hot surfaces.
3. Position/proximity of worker relative to flames, sparks, or molten by-products.
4. Risk factors created by wearing PPE, such as heat stress, physical and psychological stress, impaired vision, mobility, and communications.
5. Risk factors shall be identified and eliminated or controlled through engineering and administrative controls. Where the risk factors cannot be eliminated or controlled, PPE is required. If clothing ignition hazards still exist, FR protective clothing shall be used as secondary protection. Leathers such as gauntlets, aprons, and similar protective items shall be used for primary protection, when clothing ignition hazards are identified through the hazards analysis process.

L. Personnel performing welding, cutting, grinding, and hot work (including fire watch personnel and proximate workers) in a radiologically controlled area shall wear FR PPE and outer FR-treated anti-contamination clothing.

M. Thoriated tungsten electrodes used in tungsten inert gas welding are restricted from use unless approved otherwise by the Company. Where authorized for use, a Radiological Work Permit and Radiological Worker II Training are required.

12.24 Asbestos Demolition or Renovation

A. Seller shall possess a Tennessee General License for Asbestos Abatement to perform asbestos work and be accredited per the requirements of Tennessee Rule 1200-01-20. All asbestos workers and asbestos supervisors shall be trained

via a Tennessee accredited training provider and shall be individually accredited (licensed) per 1200-01-20. Perform work in accordance with 29 CFR 1926.1101, *Asbestos*, and 40 CFR Part 61, Subpart M, *National Emission Standard for Asbestos*, and TN 1200-3-11 and 1200-01-20.

1. For asbestos abatement renovations less than 160 square feet or less than 260 linear feet, including incidental work disturbing asbestos-containing material (ACM), Seller shall request an Asbestos Removal Authorization (ARA) from the Company three (3) workdays in advance of need.

NOTE: Demolition is defined as: The dismantling, razing, destroying, and/or wrecking of facility, building, structure, or system, including foundations/slabs, whether in whole or in part, whether interior or exterior. For planning purposes, the following activities are considered pre-demolition, others may be identified as scopes of work and work plans are developed: the removal of universal waste, draining of equipment, abatement of asbestos, isolation of primary and secondary utilities, plugging slab penetrations, intrusive sampling and surveys, and removal of free-standing legacy materials and equipment. This definition is applicable to Y-12 Excess Facility Disposition Program (EFDP) projects. This definition requires an endorsement for use on other programs, projects or site wide application.

2. For demolition of a structure, regardless if asbestos is present or for renovations involving the abatement of greater than 160 square feet or 260 linear feet, Seller shall request a Notification of Asbestos Demolition or Renovation (NoDR) from the Company at least twenty (20) workdays in advance of work start.

3. Seller shall submit an Asbestos Work Plan (AWP) and AHA for Company approval.

    a) Seller shall prepare a Work Plan that meets the requirements of 29 CFR 1926.1101, Asbestos, specifically Items (g) and (h), and shall submit it to Company for review before starting Work. If Seller chooses to use alternative work practices and methods for the removal of thermal system insulation (TSI) and/or surfacing asbestos containing material (ACM) or presumed asbestos containing materials (PACM), the decision shall be certified in writing by a certified industrial hygienist or licensed professional engineer who is an accredited (per the State of Tennessee) project designer. Any project related activities that employ alternative work practices and methods shall meet the requirements in 29 CFR 1926.1101(g)(6). The plans detailing compliance and alternative methods must be reviewed by the Company before any work with ACM or PACM is to begin.

    b) Any negative exposure assessments (NEA) developed by Seller shall be submitted to and reviewed by the Company prior to making any applicable work practices changes related to using NEAs. Approval by Company does not constitute permission to negate other applicable requirements of federal, state, or local asbestos regulations.

B. The Company will notify the State of Tennessee of the required NoDR. Seller shall provide the following information to the STR for the NoDR:

   1. Name, address, contact person, and phone number of the abatement licensee and waste transporter,
   2. Approximate amount of ACM,
   3. Initial exposure assessment,
   4. Scheduled dates for removal,
   5. Description of work methods,
   6. Intention to leave any non-friable ACM in place during demolition, and
   7. Waste disposal site.

C. The AWP shall identify specific work requirements, monitoring, PPE, and training. Seller's Competent Person shall brief and oversee the personnel entering the work area and enforce all requirements. The Competent Person shall maintain an entry/exit log for regulated areas.

D. Seller shall make available, within twenty-four (24) hours and upon written request from Company, any records concerning asbestos handling, including but not limited to, entry/exit logs, exposure records, sampling and analytical records, and training records in a manner that does not breach confidentiality as described in
29 CFR 1926.33 "Access to Employee Exposure and Medical Records."

E. The AWP shall specifically require the following:

   1. Workers shall wear respirators when doffing protective clothing.
   2. Provide workers with disposable coveralls, head and foot coverings, gloves, and eye protection for Class I-IV activities. Workers shall wear protective clothing when performing asbestos work or when friable asbestos is present. Gloves are required when handling broken or loose pieces of non-friable asbestos.
   3. Establish the regulated area prior to pre-cleaning activities, enclosure construction, or other activities that could disturb the ACM.
   4. Where feasible, a fifty (50) -ft perimeter shall be established around the work area. Only those individuals engaged in the asbestos removal process and having the appropriate training are permitted within the work area. The perimeter shall be delineated with construction fences or other Company-approved barriers and shall have asbestos warning signs affixed at a minimum of approximately fifty (50) -ft intervals along the perimeter barrier. Such barriers and signs shall remain until deemed unnecessary by the Company. Otherwise, flag off entrances and approaches to the area with barrier tape (Asbestos-Danger) and signs.
   5. Monitor personnel and area when there is not a "negative exposure assessment" (include initial exposure assessment with the AWP).
   6. Use portable hand tools equipped with a HEPA filtered exhaust ventilation to drill, cut, or otherwise disturb ACM.

7. Mandatory use of wet method for abatement unless otherwise approved by the Company.
8. Filter water from the abatement work through a five (5) -micrometer filter system before discharging to a Company-designated sewer.
9. Provide a two (2) foot square viewing window (Plexiglas) in enclosures approximately five (5) feet above ground level at a location designated by the STR.
10. Provide a negative pressure air-filter system with a minimum of one (1) air change every fifteen (15) minutes (four (4) per hour) at a minimum of 0.02 column inches of water pressure differential relative to outside pressure. System shall operate continuously (twenty-four (24) hours a day) until final clearance is approved. Air leaving the system shall be vented to the outside unless otherwise approved by the Company.
11. Provide a decontamination unit with shower contiguous to the work area. Use of a remote decontamination unit shall be approved in advance by the Company. Workers shall not remove respirators until in the shower. Any glove bag ACM removal of greater than twenty-five (25) linear feet requires a decontamination unit. Shower wastewater filter system requires Company approval. Discharge of wastewater into the storm or sanitary sewer system requires Company authorization. Seller shall allow four (4) workdays for Company authorization.
12. Remove Cat I and II (non-friable) ACM which can become friable as a result of work activity, excluding roof coating and paint, unless specified otherwise.
13. Regarding the removal of asbestos material from outdoor sources, Seller shall, as applicable, secure doors, windows, or other openings (such as ventilation units for buildings) with a minimum of four (4) mil-thick plastic if outdoor work is within 100 ft. of such areas.

F. Personnel Monitoring:

1. Class I activities shall be monitored daily whenever work is being performed. Monitor 25% of each group of representative workers entering the regulated area for excursion and permissible exposure limits.
2. Class II and III activities shall be monitored for three (3) days with a reduction to one (1) day per week if results remain below the Permissible Exposure Limit (PEL).
3. Submit test results to Company for information.

G. Area Monitoring:

1. Conduct daily monitoring for the full work shift inside the negative pressure enclosure.
2. Take at least four samples per 5,000 square feet of enclosure and three (3) samples outside the enclosure. For each waste load out, take additional sample at that location outside the enclosure.

3. Conduct daily full shift monitoring for negative pressure glove bag or mini-enclosure operations. Collect three (3) samples inside the regulated area and three (3) samples outside the regulated area inside the protection zone.
4. Class II and III activities shall be monitored daily for the full shift. Collect three (3) samples inside the regulated area and if located outside of a building one (1) sample upwind and two (2) downwind.
5. After abatement, area must pass a visual inspection, review, and analysis of clearance samples by Seller's Competent Person per 29 CFR 1926.1101.
6. Submit test results to Company for information

H. Engineering controls are mandatory, regardless of PPE used.

I. Material used for abatement shall equal:

1. Polyethylene sheeting used for enclosures shall have a flame spread index of five (5) and a smoke development index of 30-110 in accordance with UL Test 723.
2. Surfactant or amended water shall be specifically manufactured for use in ACM abatement.
3. Company approval is required for use of wood enclosure. If approved, wood shall be treated with fire retardant.
4. Bags for disposal shall be six (6) mil polyethylene with preprinted markings in accordance with 29 CFR 1926.1101(k) (8) (iii) and 49 CFR 172.
5. Equipment having HEPA filter shall be tested in accordance with requirements identified in Section 12.32, Equipment, and Tools.

J. Seller personnel working with ACM shall be approved for respiratory protection, enrolled in medical surveillance, and shall have received the appropriate level of asbestos training. In addition, Seller asbestos workers shall have current and valid Tennessee Asbestos Worker licenses, and supervisors shall have current and valid Tennessee Asbestos Supervisor licenses. Copies of worker and supervisor licenses shall be provided to the Company for information.

K. Medical evaluation and enrollment in a surveillance program is mandatory before granting access to regulated areas.

L. Upon request from the Company, Seller shall provide examining physician’s documentation acknowledging that information stated in 29 CFR 1926.1101(m) (3) has been received.

M. Seller shall employ an independent testing laboratory to perform air monitoring and testing. Air monitoring will be performed per the requirements identified in 29 CFR 1926.1101 Appendix A, Appendix B, the most current version of OSHA method ID-160, or the most current version of NIOSH Method 7400.

1. Personnel performing air monitoring during abatement activities or for the purpose of final clearance shall be accredited per the Tennessee accreditation requirements for Project Monitors.

2. Seller shall provide to Company documentation of successful completion of the NIOSH 582 course, Tennessee Project Monitor accreditation, and a written air monitoring plan upon request.

N. Personnel performing analysis of airborne asbestos samples shall complete the NIOSH 582 Course. All samples will be analyzed per 29 CFR 1926.1101 Appendix B or the most current version of NIOSH Method 7400. Personnel performing analysis of airborne asbestos samples shall be included in the AIHA Proficiency Analytical Testing Program.

O. Seller shall post sampling results at the work area immediately after obtaining the results but no later than forty-eight (48) hours after samples were taken. Seller's Competent Person shall evaluate sample results and initiate any corrective actions. If results exceed the prevalent background level (cannot be > PEL 0.1 f/cc), immediately stop work, extend the boundaries of the regulated area, and notify the STR. Do not continue work until work methods are changed to remediate the problem. Within eight (8) hours of receipt of results exceeding the background level, provide the Company a report describing the problem and the corrective actions taken.

P. All insulated materials and /or those materials suspected of containing asbestos must be treated as such until conclusive characterization data has been received and/or an Asbestos Competent Person has inspected the material and through expert knowledge determines the material is free of all asbestos. Materials of concern include but are not limited to all insulating material, floor tile, ceiling tiles, drywall, siding materials, glues, roof flashing, caulk, and window glazing compound.

12.25 Hearing Protection

A. Seller shall develop and implement a Hearing Conservation Program meeting ACGIH TLVs and BEI current publication guidelines. Sellers Hearing Conservation Program shall be submitted for Company approval. The program shall include audiometric testing when sound levels exceed ACGIH limits.

B. Seller shall ensure that unprotected noise exposure shall not exceed an eight (8) hour time-weighted average of eighty-five (85) dBA using a three (3) dB exchange rate. This applies to the total duration of exposure per workday (eight (8) hours) regardless of whether it is one (1) continuous exposure or a number of short exposures (refer to current ACGIH TLVs for noise). Continuous noise exposure shall not exceed 115dBA or impulse/impact noise exceeding 140dB (peak sound pressure level).

C. When employees are subjected to sound levels exceeding the ACGIH TLVs for noise, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels below the TLVs, personal protective equipment as required in 29 CFR 1926.101 shall be provided by Seller and used to reduce sound levels below these TLVs.

D. Seller shall determine the boundaries where continuous or intermittent noise is expected to exceed the AGCIH TLVs for noise. Seller shall enforce the use of hearing protection within those identified boundaries.

E. Seller shall maintain current documented exposure assessments for employees performing tasks where sound levels exceed eighty-five (85) dBA and hearing protection is not required.

F. Seller shall maintain a list of equipment that exceeds eighty-five (85) dBA noise exposure (either continuous or impulse/impact noise).

12.26 Fall Protection

A. Seller shall perform all work activities requiring fall protection in accordance with 29 CFR Part 1926 Subpart M. Seller shall submit a Fall Protection Plan(s) for Company approval, which provides for roof work or work activities having over six (6) feet elevation, leading edge work, safety net systems, warning line systems and controlled access zones as applicable. Minimum horizontal distance from the roof edge is six (6) feet for roofing activities and ten (10) feet for general rooftop activities.

B. All manufactured equipment utilized for fall protection shall be rated, inspected, and properly implemented in practice.

C. Evaluate all overhead work for fall exposures and plan and install required fall protection systems prior to assigning the work to employees.

D. Make maximum use of primary fall prevention systems such as scaffolds, aerial lifts, personnel hoists, etc. These systems shall be equipped with complete working/walking surfaces free of floor openings, with standard guardrail systems in place and a safe means of access.

E. Seller's ES&H Program shall include a 100% fall protection policy that makes provision for secondary fall protection (full-body harness) for all employees who are working or traveling more than six (6) feet above the ground or a lower surface level.

F. Where lifeline systems are used, anchor points shall be capable of supporting at least 5,000 pounds. Lifelines shall be installed and maintained by qualified persons who are competent and possess the rigging knowledge necessary to ensure the integrity and safety factors necessary for lifeline system installation. Lanyards shall be secured to vertical lifelines by rope grabs only. Knots, painters-hitches, or loops are not acceptable. Horizontal lifelines shall have tie-off points at least waist high.

G. When using retractable lifeline devices, Seller shall secure them by means capable of supporting at least 5000 pounds.

H. Seller shall require employees to wear approved safety harness/lanyard systems if they work from ladders where the fall exposure is more than six (6) feet, and they are unable to maintain three (3) points of contact.

I. In situations where a fall could result in impalement or other injury (i.e., working over a hot process, operating equipment), Seller shall utilize fall protection equipment regardless of the potential fall distance.

J. Seller shall cap the ends of vertical impaling objects such as rebar with protective devices such as blocks of 2 x 4-inch lumber, rebar caps, or other items which adequately cover the impaling end of the objects.

K. Seller personnel shall utilize auxiliary fall protection equipment, such as static lines, perimeter guards, or other suitable means when traveling from one (1) location to another in elevated positions.

L. Seller's Competent Person shall inspect personal Fall Protection equipment at least every three (3) months.

12.27 Thermal Stress

A. Seller shall develop and implement a Thermal Stress Program that meets the guidelines in the most recent ACGIH TLV publication, as applicable. Seller's Thermal Stress Program shall be submitted for Company approval.

B. Seller shall maintain documented assessments (i.e., timed work rest requirement, wet-bulb readings, heart rate monitor, etc.) for employees performing tasks. Assessments shall be available to the Company upon request.

C. Train field employees, especially front line supervisors, on the warning signs/symptoms of early heat or cold related disorders, and instruct workers on the clothing and work methods best suited to avoid heat and/or cold stress. Stay times shall be developed to reduce the possibility of heat or cold related disorders.

12.28 Explosives

Possession and use of explosives is prohibited at Y-12.

12.29 Cranes and High Profile Equipment

In addition to the requirements identified in 29 CFR 1926, the following are required:

A. Request the Company to perform an overhead electrical line evaluation using the *Mobile Crane Overhead Electrical Lines Checklist* (UCN-22330) four (4) workdays in advance of setting up cranes or high profile equipment. For evaluations with high profile equipment other than equipment used as a crane (e.g., man-lift, excavator, tele-handler) use the *Overhead Power Line Hazards and Controls Evaluation* (UCN-26880). During hazard evaluation, determine grounding requirements for overhead work in proximity to energized lines and for underground work having the potential to come into contact with energized lines. Seller request for hazard evaluation shall allow time for obtaining outage or LOTO of energized system in accordance with Sections 2.5 and 2.6.

B. When moving equipment, the booms or masts shall be in a retracted traveling position.

C. In congested or constricted work areas, flagmen donned in high visibility (and reflective in low light conditions) clothing shall direct movement of equipment to prevent contact with objects on the ground or overhead.

D. Verify roadway clearances before work start, equipment movement, and after significant weather events. Contact the STR to verify clearances through security portals and other Y-12 width and height restrictions.

E. Seller's ES&H Representative shall be present when equipment is moved from one (1) location to another and when equipment is near energized electrical conductors or equipment. When traveling, equipment shall be accompanied by appropriate escort vehicle(s).

F. Friction type cranes are not allowed to be used at Y-12. Hydraulic cranes which can be used in a free fall mode shall have the free fall system disabled and so that it cannot be enabled by the operator from the cab.

12.30 Transportation

A. Flammable liquid tank trucks, refueling vehicles, and other vehicles transporting flammable liquids or gases shall comply with 49 CFR 106 - 180 and 325 - 399.

1. Vehicles shall be bonded and grounded during loading and unloading of flammable liquids.
2. Vehicles used for transportation of flammable or combustible materials shall be designated as “No Smoking Areas.”
3. Vehicles shall be equipped with at least one (1) 20-B:C rated fire extinguisher. Two (2) 10-B:C rated fire extinguishers or one (1) 2A-20-B:C rated fire extinguisher may also be used.

B. All transportation of materials, including waste, shall be performed in compliance with applicable Federal (49 CFR Parts 106 – 180 and 325 – 399) and State of Tennessee requirements. Seller shall demonstrate that:

1. Commercial vehicle operators are healthy, unimpaired, and compliant with established regulations, properly licensed, and medically certified.
2. Commercial vehicle operators participate in Workplace Substance Abuse Program.
3. Commercial vehicles are registered, licensed, maintained in a roadworthy condition, operated in a safe manner, have a current annual inspection, and are in compliance with the *Federal Motor Carrier Safety Regulations* (FMCSR).
4. Seller has sufficient liability insurance as outlined in the FMCSR.
5. Seller employees engaged in hazardous materials transportation activities receive the requisite training.
6. Loads being transported do not exceed transport vehicle manufacturer's rated capacity and are properly secured.

C. Seller must provide containment for spoils, waste, and salvageable materials during transport; provide covers on open top containers and trucks; and transport waste in accordance with Section 10.10.

D. Provide a seat belt for each vehicle passenger and enforce the wearing of seat belts any time a vehicle is in motion. Buses provided for onsite transportation may be exempt from this requirement if authorized by the Company in advance of use.

E. In Seller-controlled area(s), Seller shall maintain separation of pedestrian and vehicle routes and establish appropriate roadway design and layout. Pedestrian routes shall be clearly signed and marked.

12.31 Evacuation

A. Observe and participate in notices to evacuate the work area. The Company will establish requirements for evacuation of work area personnel, as needed, to a designated assembly area. Seller must account for all personnel onsite at the time of an evacuation.

B. Before evacuating the work area, shut down equipment or make conditions safe unless doing so endangers personnel.

C. Perform evacuation in accordance with Company public address announcements and/or STR instructions.

12.32 Equipment and Tools

A. Tools and equipment brought to Y-12 shall be used only for the purpose for which they are designed and shall comply with 29 CFR 1926, Subpart I. Tools and equipment shall be inspected (or certified, such as lift slings) and determined to be adequate for the use intended. Conduct routine inspections and perform repairs and maintenance as needed to keep items ready and compliant. Defective or otherwise unsafe items shall be tagged "Do Not Use" and immediately removed from the work area to a secure place to prevent inadvertent use. Re-inspect repaired items before reuse. Deficiencies noted on an inspection record (e.g., small leaks, worn parts) shall be evaluated to determine whether the deficiencies create an unsafe operating condition. The evaluation and its resolution shall be documented on the inspection record prior to use. Hand and portable powered tools and other hand held equipment shall comply with 29 CFR 1910, Subpart P.

1. Manual cutting tools such as personal pocket knives, multi-purpose tools (e.g., Leatherman, Swiss Army Knife), utility knives that **do not** have the self-retracting feature are prohibited from use at Y-12. Only Company acceptable cutting devices are allowed for use at Y-12.

B. Mobile equipment shall be equipped with a fire extinguisher.

C. Modifications, replacement of parts, or repairs of tools or equipment shall maintain at least the same factor of safety as the original. The manufacturer shall authorize tool and equipment modifications in writing prior to use.

D. Maintain a comprehensive log of each power tool and piece of equipment at Y-12, and submit for information upon Company request.

E. Seller’s ES&H Program shall require that each employee and lower-tier subcontract employee be briefed on the safe operation of each power tool and piece of equipment that is used by the employee. The briefing shall also include reviewing the vendor-supplied operation and instruction manual for any special conditions or safety warnings. Submit for information, upon Company request, a list of employees who have been briefed.

F. Maintain an onsite file of the operation and instruction manuals for each power tool and piece of equipment. Manuals shall be available for review by Seller’s workforce.

G. Check all tools for electrical continuity after repairs, maintain records of all tool inspections, and make records available to the Company upon request.

H. Maintain generators and welding transformers in good condition. Keep the areas around generators free of oil and diesel spills. Verify that all rotating components are guarded, that grounding is provided, and outlets are in good condition with no exposed conductors.

I. Install excess flow valves on air manifolds and compressors supplying air to greater than ½-inch inside diameter hoses.

J. Equipment having a HEPA filter requires DOP testing in accordance with ASTM D-2986 and ASME N510 or equivalent testing approved by the Company before use. Re-testing is required when:

1. HEPA filters are replaced.
2. Negative-air machines (NAMs) with HEPA filters are relocated or moved which could impact performance of the unit. NAM's shall always be re-tested whenever relocated using motorized equipment unless otherwise approved by the Company.

K. Inspect negative-air machines (NAM) and HEPA vacuums at the initial set-up and at the beginning of each day to ensure the units' seals are not broken and that there is no damage to units that would compromise equipment function.

1. Negative-air machines are to be DOP tested when they are set into place.
2. Seller to arrange for the Company's Asbestos Coordinator to inspect all HEPA vacuums and negative-air machines before they are used to ensure receipt of specified testing.
3. Seller's Competent Person shall be responsible for determining if retesting is necessary after any movement / relocation of negative-air machines by means other than motorized equipment. Company reserves the right to require Seller retesting.
4. Provide manufacturer's certification for HEPA filters used at Y-12 for HEPA Vacuums and NAMs to the Company for review, prior to use.
5. Provide copies of DOP testing results for HEPA Vacuums and NAMs to the Company, for review, prior to use.

12.33 Scaffolds and Aerial Devices

A. Scaffolds

1. Use metal planking for all scaffolding. Pressure treated fire retardant lumber painted with a clear intumescent paint may be used where metal scaffolding is inappropriate and only when specifically approved by the Company. Wood platforms shall not be covered with opaque finishes, except that platform edges may be covered or marked for identification.
2. Provide a trained Competent Person to inspect and sign off on scaffold erection prior to use.
3. Scaffold users shall be trained in Scaffold User and Fall Protection.
4. Seller shall comply with applicable requirements of 29 CFR 1910 and 29 CFR 1926, Subpart L.

5. Seller shall have an acceptable Scaffolding procedure.
6. Scaffold platforms shall be fully planked or decked out; capable of supporting 4 times the maximum intended load, and all sides shall be protected by a standard guardrail system. The top rail shall be approximately forty-two (42) inches above the platform. A mid-rail and four (4) inch toe board shall be installed.
7. Seller-erected scaffolds where employees are working/passing below shall have planking or netting installed from the platform to the top rail.
8. Seller shall utilize a scaffold tagging system.
   a) Red tag to indicate scaffolds under construction or demolition,
   b) Yellow tag to indicate scaffolds that are complete but have hazards associated with them, and
   c) Green tag to indicate scaffolds erected to a complete, safe standard.
9. Provide safe access/egress to all levels of scaffolds. Scaffold platform accesses shall be protected to prevent the possibility of accidental fall through utilizing secured access gates.
10. Seller shall have a qualified, professional engineer design all special scaffolds, two-point suspension scaffolds, and all scaffolds over 125 feet in height.

B. Aerial Devices

1. Provide a certification that aerial devices used meet the minimum criteria as specified in the following documents and will remain compliant during the course of the work. Seller shall submit certification prior to use.
   a) 29 CFR 1910, Subpart F
   b) 29 CFR 1926, Subpart L
2. Perform routine and pre-use inspections of aerial devices
3. Provide maintenance and inspection reports containing the date and signature of a qualified inspector or agency for each aerial device to the Company upon request.
4. Seller's aerial device operators shall be trained and fully qualified. Qualifications shall include, but are not limited to, physical abilities, knowledge, and skill proficiency based on job functions. Provide evidence of operator training and qualifications to the Company upon request. Company reserves the right to subject Seller's aerial device operators to performance-based verification of minimum equipment operation knowledge and skill levels.

12.34 Concrete

A. Activities that generate concrete silica dust require appropriate engineering controls (wet methods) or PPE to prevent employee exposure to silica above limits identified in 29 CFR 1926 Subpart Z or the ACGIH TLVs, whichever is lower. Wet methods are recommended to reduce the amount of dust generated.

B. Respirator protection is required when performing dust-producing concrete work unless there is a documented exposure assessment for similar work which the Company has accepted.

C. Wet Portland cement can damage the skin because it is caustic, abrasive, and absorbs moisture. Portland cement also contains trace amounts of hexavalent chromium, a toxin harmful to the skin. Seller shall, as a part of its hazard communication program, communicate the hazards of exposure to Portland cement to its employees.

D. In the development of its AHAs, Seller shall evaluate the skin and eye hazards introduced by its concrete operations and shall use appropriate engineering controls and PPE to mitigate the hazards. Seller should consider the relevant guidance from OSHA given in its publication *"Preventing Skin Problems from Working with Portland Cement."*

12.35 Respiratory Protection

A. Seller shall develop and implement a Respiratory Protection Program acceptable to the Company to perform work in accordance with ANSI Z88.2-*American National Standards Institute, Practices for Respiratory Protection* OSHA 29 CFR 1910.134, *Respiratory Protection*; and any substance-specific regulation (e.g., 1926.1101, *Asbestos*).

B. Limit exposure to toxic and hazardous substances to the permissible exposure limits (PELs) of 29 CFR 1926, Subpart Z or TLVs of the ACGIH, whichever is more protective.

C. Provide respirators and cartridges that are NIOSH approved.

1. Seller shall maintain manufacturer's approved respirator configuration. Cartridges, airline hoses, regulators, and other parts are specifically listed as elements that constitute manufacturer's approved configuration.

2. Modifications to respirators or component parts are prohibited.

D. Provide compressed breathing air when required to provide adequate protection factor. Submit data to the Company demonstrating that air quality meets the ANSI/CGA G7.1 requirement for Grade D breathing air. If the Company furnishes supplied-air respirator equipment and compressed breathing air, allow a thirty (30) day time period from when the Company is notified.

E. Air-purifying respirators (APR) shall not be worn in oxygen deficient or immediately dangerous to life or health (IDLH) environments.

F. Seller shall provide optical corrections when needed.

G. Seller shall name a qualified trained supervisor responsible for issue, control, use, care, and sanitation of respiratory protection.

H. Required records.

Maintain respirator protection records in accordance with ANSI Z88.2, ANSI Z 88.6, ANSI Z88.10, and 29 CFR 1910.134 to include:

1. Inspection – Inspection dates, findings, and remedial actions for respirators;

2. Training – Type of training received, type of respirator equipment, manufacturer of respirator, names and dates of persons trained;
3. Fit Testing;
4. Medical Surveillance;
5. Program Appraisal – Annual Respiratory Protection Program evaluation, findings, outcomes, and actions; and
6. Program Surveillance – Spot checks of operations where respirators are in use and findings, outcomes, and actions.

I. Company-furnished respirators

1. Where Company furnishes respirators, Company will provide cartridges, fit testing, and appropriate training. Seller shall bear all other costs associated with its employees' use of Company-furnished respirators (e.g., time for training, medicals, fit-test, checkout, returns, and optical corrections when needed).
2. Work-specific respirator training (may be accomplished through toolbox meeting) will be provided on storing, controlling, and inspecting respirators prior to use of Company-furnished respirators.
3. Seller shall designate an individual to receive Company-supervisor training for the daily storage and checkout of Company-furnished respirators.

J. Inspection

1. Inspect respirator before use to ensure integrity and function.
2. Inspect respirators stored for emergency or rescue use monthly.

K. Prerequisites

1. A medical evaluation and physician's approval is required. The medical evaluation and physician's approval shall be in accordance with ANSI Z88.6, *American National Standard for Respiratory Protection-Respirator Use-Physical Qualifications for Personnel* and 29 CFR 1910.134 (e), *Medical Evaluation* and shall be updated annually.
2. The employee shall complete training that conforms to ANSI Z88.2(8), *Training,* and 29 CFR 1910.134(k) *Training and Information*, and the requirements listed:
   a) Respirator protection and the criteria for selecting a particular type respirator and filter cartridge;
   b) Agent for which the respirator was selected;
   c) Engineering controls and when they are used;
   d) Characterization;
   e) Emergency situations;
   f) Practical exercises to inspect, don, wear, and doff the respirator;
   g) Clearing the respirator with a positive and negative pressure check;

h) Maintenance, storage, recycle, and disposal instructions;

i) Instructions for Company-furnished respirators; and

j) Regulatory requirements for respirator use.

NOTE: Update training annually, except where a particular substance requires training that is more frequent.

3. Seller employees shall receive a quantitative fit test in accordance with ANSI Z88.10, *Respirator Fit Test Methods* and 29 CFR 1910.134 (f), *Fit Testing*. Perform fit testing for initial fitting and update annually, except where a particular substance requires more frequent fit testing. Workers wearing Company-furnished respirators shall be fit tested by the Company.

4. Assigned protection factors are as noted in Supplemental Conditions, Attachment 4, *Respirator Assigned Protection Factors*.

L. Application

1. Single-use of respirators (one (1) don and doff cycle) is required in radiological, beryllium, asbestos, and mercury controlled areas.

2. Seller may obtain a waiver from the single-use of respirators from the Company. Submittal of a waiver request shall include submittal of Seller's Respirator Reuse Plan for cleaning, inspection, control, and storage of re-used respirators. Upon receipt of a Company granted waiver, Seller may then implement the reuse of respirators for workers. The wearer is responsible for the cleaning, inspection, and control of the reuse respirator. Seller shall provide materials for cleaning and disinfecting the respirator to the wearer and provide a secure respirator storage location accessible only to the wearer.

3. Seller shall monitor proper use of respirators and compliance with the Respirator Reuse Plan. The Company will provide respirator radiological surveys, but Seller is responsible for all other contaminate surveys

12.36 Abrasive Blasting/Sand Blasting

Seller shall submit an Abrasive/Sand Blasting Plan for Company approval sixteen (16) workdays (prior to abrasive blasting (using sand or other abrasive material). The Abrasive Blasting Plan shall include consideration of other methods of accomplishment, engineering controls, hazard analysis, and PPE. This Plan shall also address environmental protection controls unless specifically covered in the ES&H Plan.

12.37 Fire Protection

A. Seller shall comply with the DOE Order 420.1 requirements to minimize:

1. Occurrence of a fire or related event;

2. Fires that cause an unacceptable onsite or offsite release of hazardous or radiological material that could impact the health and safety of employees, the public, or the environment;

3. Unacceptable interruption of vital DOE programs as a result of a fire and related hazards;

4. Property loss from fire exceeding limits established by DOE; and
5. Fire damage to critical process controls and systems, structures and components.

B. Seller shall meet the requirements of NFPA 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*, 29 CFR 1910, *Occupational Safety and Health Standards* and 29 CFR 1926, *Safety and Health Regulation for Construction,* as applicable to fire protection, explosion, Life Safety and Fire Protection Operations emergency response. As a minimum the fire prevention activities shall include the following:

1. Implementation and documentation of a weekly self-inspection program with records maintained. Any deficient conditions identified during self-inspections shall be documented and tracked until corrected; Submit records to the Company upon request.
2. Maintaining access to the site for emergency response vehicles;
3. Using noncombustible panels or flame-resistant tarpaulins or equivalent material approved by the Company for temporary enclosures;
4. Controlling the use of ordinary combustible materials (e.g., wood, paper, plastics, etc.), including transient combustibles, so that they do not accumulate and present an unacceptable increase in the fire risk to facilities or personnel. Combustible materials are limited to the quantity required for current needs and are appropriately separated from ignition sources;
5. Storage of Class I and II flammable/combustible liquids shall not exceed sixty (60) gallons within fifty (50) feet of the structure. At point of final use, these liquids shall be kept in approved safety containers;
6. Collecting, storing and disposing of combustible waste and/or refuse to prevent unsafe conditions:
    a) Maintain a housekeeping effort to avoid accumulation or storage of combustible waste inside or adjacent to buildings being constructed.
    b) Small, office-type receptacles for combustible waste and receptacles of forty (40) -gallon capacity and smaller need not be metal and do not require self-closing lids when used in non-construction activity areas.
    c) UL listed/FM approved metal receptacles with self-closing lids are used for collection of flammable or combustible liquid soaked clothing, rags, or waste.
    d) To facilitate the ALARA (as low as reasonably achievable) concept in radiological controlled areas, combustible waste (other than oil-soaked waste) may be collected in receptacles constructed of combustible materials (e.g., plastic bags supported by open metal frames).
7. Minimizing temporary storage of combustible construction or packing materials in unprotected structures under construction or alteration;
8. Maintaining a minimum distance of thirty (30) feet for yard storage of combustible construction materials from the structure under construction or alteration;

9. Where automatic sprinkler protection is to be provided, placing it in service as soon as possible and prior to building occupancy;
10. Installing electrical wiring and equipment for light, heat or power purposed per the requirements of NFPA 70, *National Electrical Code*. The electrical distribution for each temporary structure shall be arranged such that the energy can be shut off by a single switch readily identified for that purpose;
11. Keeping electrical switchgear rooms free of transient combustibles and combustible storage;
12. Using plastic sheeting, blotter paper, etc. for contamination control listed by an approved NRTL for compliance with the requirements of NFPA 701, *Standard Methods of Fire Tests for Flame-Resistant Textiles and Films*;
13. Limiting the use of plastic pallets to products listed by an approved NRTL. In addition, use of plastic pallets shall be approved by the Company on a case-by-case basis and shall be in accordance with restrictions of the FHA and DSA, as applicable; and
14. Restricting use or storage of combustible pallets inside buildings in areas without automatic sprinkler protection, unless approved otherwise by the Company;

    Idle combustible pallets inside buildings are not stacked more than six (6) feet high. Each pile of no more than four (4) stacks of pallets is separated from other pallet piles by at least eight (8) feet of clear space. (NOTE: Compliance is also required with the individual requirements for specific buildings which may be more restrictive.)

C. Fire Barrier

Passive fire protection features shall not be disturbed without Company approval. Passive fire protection features include fire barriers (walls, floors, roofs, and ceilings), fire door and fire window assemblies, fire dampers, fire stops at penetrations, and structural fireproofing materials/assemblies.

D. Temporary Facilities

1. Temporary structures, partitions, or enclosures shall comply with the following:
    a) Framing and/or scaffolding material shall be noncombustible, or shall consist of pressure treated fire retardant lumber listed by an approved NRTL, or shall consist of lumber painted with a clear intumescent paint listed by an approved NRTL, unless otherwise approved by the Company.
    b) Plastic sheeting material or fabric used for protective coverings, partitions or enclosures shall be fire retardant material listed by an approved NRTL for compliance with the requirements of NFPA 701, *Standard Methods of Fire Tests for Flame-Resistant Textiles and Films*.
    c) Where automatic sprinkler protection, means of egress, and/or emergency lighting is impaired, notify the Company for determination on the need for an interim compensatory measure, and

d) All temporary structures or enclosures shall be provided with an appropriate number, type and size of portable fire extinguishers per the applicable requirements of NFPA 10, *Standard for Portable Fire Extinguishers*.

2. Requirements for Temporary Enclosures

a) Temporary enclosures erected within a Facility shall not be supported by piping arrangements designed for automatic sprinkler systems and other fire protection equipment and shall not interfere with the function of such systems and equipment;

b) Combustible materials are not stored within the enclosure;

c) Flammable and/or combustible liquids are kept to an absolute minimum and are stored in and dispensed from UL listed/FM approved safety cans;

d) Combustible materials that are used in the enclosure operations (e.g., rags, paper products, etc.) are removed from the enclosure immediately after use or transported and stored in approved metal containers with lids. Combustible waste is removed from the enclosure after each work shift;

e) Exits are kept unobstructed at all times; and

f) If enclosure is to be utilized as a Fabrication area with welding/hot work, the area must be permitted as a Fixed Weld Shop.

3. Requirements for Tents

a) Large tents (designed for use by ten (10) or more persons) shall be considered acceptable for temporary use (less than seven (7) days) where the tent fabric has been manufactured to comply with the flame retardant requirements of Title 19 of the State of California Code of Regulations. Each section of top and sidewall in large tents shall have a durable label permanently affixed to indicate that the fabric has been approved and listed by the California State Fire Marshal.

b) All tents erected for long term use (seven (7) days or longer) shall require written approval by the Company and shall be manufactured and arranged to comply with the requirements identified in both NFPA 101, *Life Safety Code*, and the Standard Fire Prevention code edition as adopted by the State of Tennessee. Tent fabric shall be manufactured to comply with the requirements for flame resistance as directed in NFPA 701, *Standard Methods for Fire Tests for Flame Propagation of Textiles and Films*.

c) Deviations from the above requirements shall be approved in writing by the Company.

E. Operational Fires

Operational Fires are restricted unless written approval is granted by the Y-12 Area Office of DOE/NNSA. The request for such approval shall be processed through the Company.

Operational Fires are considered fires in open pits; fires for burning debris resulting from land-clearing activities for new structures and road construction;

and the open burning of non-contaminated, chemically untreated, wooden construction waste, wooden pallets, and cleared brush/stumps not associated with actions designed to mitigate potential wildland fires.

F. Fire Patrols

1. Seller-furnished fire patrols shall be instituted, where required by the Company, to increase the level of protection within an area because of ongoing activities, or lack of impaired fire protection measures (passive or active).

NOTE: Qualification is documented via completion of General Employee Training and the required reading on the Use of Portable Fire Extinguishers.

2. Personnel performing fire patrol duties shall be designated and instructed in the following subjects.

a) Basic fire recognition and fire hazard identification;

b) Identification of Class A, B, C, and D type fires;

c) Use of the various types of portable fire extinguishers available; and

d) Proper procedure for sounding the fire alarm and notifying the Facility Building Manager/Operations Manager.

3. Fire patrol personnel shall have no other duties that would interfere with their ability to monitor the Facility/area or immediately sound the alarm should a fire start. Fire Patrols shall check all affected areas of the Facility fires, including locked areas. Fire Patrols shall patrol their assigned areas on a Company-designated frequency and maintain a log documenting time of completion of each scheduled route. Documentation of fire patrol activities shall be submitted to the Company.

G. Flammable Liquid Storage Cabinets

1. Seller's flammable liquid storage cabinets require Company authorization for quantity, type and location.

2. Not more than 120 gallons of Class I, II and III liquids shall be stored in a single cabinet. Of this total, not more than 60 gallons may be of Class I or II liquids.

3. Flammable liquid storage cabinets shall be grounded if flammable liquids are dispensed or transferred from a conductive container located in the cabinet to another conductive container. Bonding shall be provided between the containers.

4. When a flammable liquid cabinet is used indoors, the vent opening shall be sealed with a properly fitted bung(s). If a cabinet is vented, it must be vented directly to the outside, by a method approved for the individual cabinet by the Company.

5. Original plastic shipping containers are acceptable for storage of flammable and combustible liquids in an approved flammable liquid storage cabinet.

6. Aerosol containers with flammable/combustible propellants or contents shall be stored in flammable liquid cabinets, unless required for immediate use.
7. Flammable liquid cabinets shall not be used for storage of liquid, solid, or gaseous oxidizing materials, organic peroxide formulation, flammable compressed gas cylinders, or explosives.
8. Report and response to leaks or spills in accordance with Section 12.3.A.5

H. Portable Heaters

1. Temporary heating equipment shall be listed by a NRTL.
2. Portable Electric Heaters shall be installed, used, and maintained per the manufacturer's instructions and the following requirements. Any deviation from the criteria of this section shall require prior written approval from the Company.
   a) Portable electric heater power cords shall be examined for defects prior to use. If a defect or evidence of equipment damage is identified, the heater shall be immediately removed from service;
   b) Small portable electric heaters shall be directly plugged into an outlet. Heaters shall not be plugged into a power strip or connected via an extension cord. Seller shall shut off the unit and disconnect the power cord when leaving the space being heated unoccupied;
   c) Combustible materials, including the building structure, interior finish materials (excluding flooring), and building contents, shall be maintained at least three (3) feet away from the face of a small heater; and
   d) The use of a large portable electric heater (above 110/120 volt) inside a facility shall be permitted only after Company written approval is obtained. Company approval will document any special conditions related to heater use, including heater location, clearance to combustibles, and requirements for personnel attendance;
3. Requirements for Portable Heating Devices, Liquid and Gaseous-fired
   a) Gasoline-fired heaters and solid-fuel fired heaters are prohibited;
   b) Gaseous-fired heaters are certified by the American Gas Association (AGA), as applicable;
   c) Fuel for approved liquid and gaseous-fired heaters is stored and handled per the requirements of NFPA 30, Flammable and Combustible Liquids Code, and NFPA 58, Liquefied Petroleum Gas Code;
   d) Where patio style gaseous-fired heaters are used outdoors, a minimum of three (3) feet of clearance is maintained between the front of the radiant panel and combustibles;
   e) Fuel-fired heaters are located outside buildings with the heat being ducted inside, unless otherwise approved in writing by the Company;
   f) Fuel-burning space heaters are shut off whenever the space is unattended;

g) A space being heated by a fuel-burning heater has sufficient fresh air both to support combustion and to maintain breathing air quality;

h) When used inside, fuel-burning space heaters are only permitted in sprinklered buildings, the only exception being noncombustible buildings with noncombustible contents. This type of heater is prohibited in a building where flammable or combustible liquids are used or stored; and

i) Indoor use of liquid (other than gasoline) or gaseous-fired heaters is permitted for temporary use under the following conditions:

1) In buildings under construction or undergoing repairs or modifications;

2) As temporary heat in noncombustible industrial occupancies;

3) In other buildings for temporary emergency heating purposes, if necessary to prevent damage to the building or contents;

4) Adequate ventilation is maintained both to ensure support of combustion and to maintain breathing air quality;

5) A continuous fire watch is provided for the duration of the heater's use; and

6) Combustible materials, including the building structure and interior finish materials are maintained at least five (5) feet away from the heat-producing sides of the heater.

I. Tar Kettles for Roofing Activities

1. The tar kettle setup location requires Company approval, and shall be located no closer than twenty-five (25) feet from any building or ten (10) feet from a required means of egress unless approved otherwise. Remove vegetation or other combustibles from within ten (10) feet of the kettle (including beneath the unit) or cover with a fire retardant blanket or tarp material;

2. Compressed gas fuel cylinders for tar kettles shall be limited to a maximum capacity of 100 lb. each. Extra cylinders, other than the cylinder(s) in active use, shall be stored at least fifty (50) feet from buildings. Total fuel supply for roofing operations, including extra cylinders, shall be limited to a one (1)-day supply at Y-12. Gas cylinders shall be properly secured at all times;

3. Material laydown areas for work materials such as roofing felt and insulation board shall be located at least twenty-five (25) feet from buildings except for a one (1)-day supply;

4. Demolition debris, including mops and cloths, shall be removed from the work area at the end of each day's work and stored at least twenty-five (25) feet from buildings;

5. Roofing operations, including tar kettles, shall be under constant attendance while tar kettle burners are operating. The attendant shall be within twenty-five (25) ft. of the tar kettle at all times and is knowledgeable of the operations, equipment, and its hazards;

6. Motorized vehicles shall be detached and relocated from the tar kettle prior to lighting the burners;

7. The appropriate number and type of portable fire extinguishers shall be in the work area and near the tar kettle. As a minimum, two (2) approved fire extinguishers rated for 4A:40B:C shall be maintained within twenty-five (25) feet of the tar kettle and at least one (1) such extinguisher is provided in the vicinity of the roof work area;
8. The vicinity of roofing operations shall be flagged, and exposed combustibles removed or protected;
9. Prior to beginning roofing activities, exit routes shall be verified to be accessible and each crew member shall be made aware of the means of egress available for use during an emergency, portable fire extinguishers shall be available and ready for use, and personnel are familiar with means to summon emergency equipment;
10. Materials susceptible to spontaneous ignition, such as oily rags and used mop heads, shall be stored in listed noncombustible containers when not in use;
11. In special cases, the Company may determine that roofing activities are “hot work.” Seller’s fire watchers may be required on the underside of combustible roofs, as defined by the Company;
12. Tar kettles shall have a working visible temperature gauge that indicates the temperature of the material being heated. Where required for safe operation and in conformance with the vendor/manufacturer’s instructions, temperature probes or sensors shall be in place and operational and check valves between the burner and the fuel source shall be in place; and
13. Where used, tar pumps and piping shall be properly supported and stabilized to prevent falling.

J. Stock Storage Over Twelve (12) Feet High:

Prior to any stock storage in excess of twelve (12) feet on pallets stacked in piles, or twelve (12) feet on pallets placed on racks, or fifteen (15) feet without pallets, obtain written approval from the Company. Stockpiles of soil and aggregate material not containerized, with a natural angle of repose are exempt from needing Company approval.

12.38 Beryllium

A. Seller shall comply with 10 CFR 850 *Chronic Beryllium Disease Prevention Program*. Seller shall perform work under the Y-12 Chromic Beryllium Disease Prevention Program to control dust generation to minimize the potential of airborne concentrations below the Y-12 Plant Action Value and PEL. The Company will prepare and issue a Beryllium Work Plan to the Seller based on work activity type. Key elements of the Program include

- medical surveillance,
- hazard assessment, and
- establishing beryllium regulated area.

B. Seller shall submit for Company approval an implementing Work Plan describing methods used to control exposures within PELs. Subsequent to the Work Plan approval, the Company will prepare and issue an *Active Beryllium Worker - Beryllium Work Plan* (BWP) (UCN-21324) to Seller.

C. Seller employees performing beryllium work at Y-12 are subject to Company approval and shall:

1. Attend the Company-provided Beryllium Worker Training.
2. Be enrolled in Seller-provided medical surveillance program compliant with 10 CFR 850 *Chronic Beryllium Control Program*.
3. Provide current respirator fit test and training records,
4. Provide the following medical information: medical history, physical exam results, chest X-ray written interpretation, beryllium lymphocyte proliferation test results, spirometry report, other pertinent lab studies (i.e., blood chemistry, CBC, etc.), Medical Program Clearance form (signed medical opinion).

D. Seller shall provide temporary facilities for break room, restroom, change area, and shower activities. Set up temporary facilities in Company designated area as close as possible but outside the beryllium area.

E. Seller shall provide work related clothing, including not only PPE but modesty garments suitable for travel from Seller's changing and showering facility to the point for donning the disposable coveralls at the boundary of the beryllium area. Seller shall provide laundry service for its employee modesty garments, towels, wash cloths, etc.

F. Each visit to the beryllium area requires a one-piece disposable coverall with integral hood and booties, full face respirator, gloves, and disposable shoe covers. All PPE items selected by Seller shall be approved by Company.

1. The one-piece disposable coveralls with integral hood and booties shall have welded seams.
2. Respirators shall be full face with P100 or equivalent filters for one-time use, unless approved otherwise by the Company. Respirators shall be discarded after each visit to the beryllium area.

   a) Variance for the type of respirator requires Company approval (e.g. Powered Air Purifying Respirators, self-contained breathing apparatus, supplied air respirator).

   NOTE Work method, PPE, and sample data will be taken into consideration for respirator reuse variance.

   b) Variance for the reuse of respirators used in a beryllium area requires Company approval. Respirator reuse variance is not for off-site release.
3. Gloves shall consist of two (2) pairs of disposable nitrile gloves.
4. Disposable shoe scuffs shall be worn over the Tyvek suits.

NOTE: Leather gloves can be used over the nitrile gloves during activities which could tear nitrile gloves. These leather gloves can be left in the beryllium area and reused.

G. Seller's equipment and tools require survey by the Company for both radiological and beryllium contamination prior to delivery to and exit from the work area. Seller is responsible for decontamination.

H. Unless stated otherwise in the Statement of Work, the Company will perform personnel and area Beryllium monitoring which includes, personnel air monitors, pumps, and breathing zone monitors. The Company will provide results to Seller. If airborne readings exceed the PEL, a review of the data will occur with Seller for action. The review outcome will be to reduce exposure levels by improving work methods and techniques, ensuring cleaning methods are adequate, and/or increasing worker understanding of protective measures.

I. Seller shall package waste and maintain a complete inventory of all containerized waste. A *Waste Container Log* (UCN-21482), a detailed inventory, and a *Waste Container Preparation and Filling Instructions/Checklist* (UCN-21668 for a ST-90 or 7A Box, UCN-21670 for a Cargo/Sealand Container, and UCN-21667 for a drum) shall be completed for each container.

1. The Company will supply containers and labels needed for the waste removed.

   a) The beryllium label "Notice of Release to General Public on Non-Beryllium Area" shall be attached to the outside of containers, plastic bags, or equipment and other items when smears are > or = 0.01ug/100cm^2 and < 0.2ug/100cm^2. Surface contamination shall be < 0.2ug/100cm^2 for free release to the public and general plant areas.

   b) The beryllium label "Danger, Contains Beryllium" shall be attached to the outside of containers and plastic bags with equipment and other labels when: (1) smear results are > or = 0.2ug/100cm^2, (2) contamination levels are unknown, (3) waiting for smear results, and (4) are beryllium-containing materials.

   c) Containers with solid waste shall include an absorbent to trap liquid residue. Absorbent shall be appropriate to the type of liquid residue (i.e., water or aqueous liquid use Quik-Solid, Waste Lock 770 or equal acceptable to the Company; oil or organic liquids use Oil-Dri, kitty litter, or equal acceptable to the Company). Where oil has been drained from equipment being disposed, fill the oil reservoir with Oil-Dri, kitty litter, or Company approved equal absorbent.

2. Seller shall secure unattended containers which contain waste to prevent unauthorized dumping of material into the waste container while in Seller's custody. Seller is responsible for verification of waste materials placed in containers and double wrapped or bagged items removed from the work area.

3. Company RADCON technicians will survey the waste material to determine radiological conditions before Seller begins packaging waste for transportation and disposal.

4. Bagged items [suitable for disposal by bagging] or personal protective equipment [PPE doffed as waste after every entry into the beryllium area], shall be packaged by Seller in a minimum of 0.006 inch thick plastic bags which have been evacuated using a HEPA portable vacuum and “J” tied using duct tape. The first bag is then placed into a second 0.006 inch thick, clean plastic bag at the boundary. The second bag will also be evacuated and “J” tied. Both bags shall have beryllium labels applied.
5. Beryllium-labeled containers require Company authorization prior to removal from the Beryllium Buffer Area.

12.39 Barriers & Posting

A. Seller is responsible for erecting and maintaining barricades and barriers in a manner that provides adequate protection and does not impede the work of other subcontractors or the Company. Refer to Section 9.2.C for *Traffic and Pedestrian Control*.

B. Barriers erected by Seller shall have appropriate signs and tags indicating the nature of the hazard and the responsible supervisor, i.e., yellow and black for “CAUTION” or red and black for “DANGER.” Barrier devices, including barrier tape, shall not be used as a substitute for a barricade as they do not offer adequate protection.

1. Plastic (e.g., three (3) mil) barricade tape may only be used indoors. Barrier tape that meets the 200-lb pull test and is durable may be used indoors or outdoors.

C. Barriers and signs shall be installed such that the work area is entirely isolated and identified. The isolated area shall be of sufficient size to afford appropriate protection.

D. As appropriate for the scope of work, post the required safety signs (e.g., prohibition signs, warning signs, mandatory action signs, fire safety signs, etc.).

E. Post all emergency exits, passageways, fire doors, first aid stations, eye wash stations and emergency evacuation points in the assigned work areas with safety condition signs. Warning signs shall be erected and displayed for fire hazards, openings, overhead work, noise areas, temporarily energized electrical equipment, and other hazards.

F. A qualified electrician shall escort unqualified personnel in electric equipment rooms having greater than 600V equipment.

G. Work being performed on equipment (electrical or mechanical) that is de-energized and placed in a safe condition that exists in a work area having other energized equipment that is similar in size, shape, and construction, one (1) of the alerting methods (either signs and barricades or use of an attendant) shall be employed to prevent the worker from entering look-alike equipment. The alerting method is applicable to all energized look-alike equipment.

12.40 Floor and Wall Openings

A. Seller shall review the fall hazards involved in its scope of work and construct standard handrail systems where required. Handrails shall be constructed with the top rail forty-two (42) inches from the floor or platform level and shall have a

mid-rail and toe-board. Toe-boards shall extend four (4) inches above the floor or platform level.

B. Install vertical support posts for handrails at intervals of not more than eight (8) feet.

C. Erect barriers around all floor openings, or install properly labeled and substantial covers (as a minimum, ¾-inch, fire-rated exterior grade plywood able to withstand environmental exposure and at least twice the anticipated load). All floor-opening covers shall be stenciled or painted with this statement: "OPEN HOLE – DANGER, DO NOT REMOVE". Covers shall be appropriately blocked to prevent them from being dislodged.

D. Where floor opening cover need to be removed for a short period of time, Seller shall post a guard at the opening to keep personnel away.

E. Workers within ten (10) feet of a floor opening or wall opening shall be in fall protection PPE.

12.41 Portable Ladders – Control and Inspection

A. Seller shall use ladders constructed of wood or fiberglass (not metal) with non-slip feet and only wooden ladders that are treated with preservative.

B. Erect ladders so that access/egress areas are unobstructed.

C. Seller shall have a Ladder Inspection Procedure (may be included in the ES&H Plan) acceptable to the Company

D. Use ladders for egress and/or to conduct low level work of short duration, and do not use ladders in lieu of scaffolds as a primary means of conducting work of longer duration.

E. Two (2) or more people shall not work from the same ladder unless it is specifically designed for two (2) or more people.

F. Side rails of ladders in use shall extend thirty-six (36) inches above the landing (when this is not practical, grab rails shall be installed). Tie, block or otherwise secure straight ladders prior to use to prevent displacement.

G. Straight ladders shall be no longer than twenty (20) feet, extension ladders shall be no longer than thirty-six (36) feet, and step ladders and platform ladders shall be no longer than twelve (12) feet, as determined by the front rail.

12.42 Suspended Personnel Platforms

A. Company approval is required prior to using any suspended personnel platform. Seller shall provide written justification that methods other than use of a suspended platform would create more of a hazard or are not possible. Unless adequately justified, use of suspended personnel platforms is prohibited.

B. Seller shall submit for Company approval its procedure for suspended personnel platform use that complies with 29 CFR 1926.1431, *Hoisting Personnel.*

C. In addition to the aforementioned requirements of paragraphs 12.42 A and B, Seller shall implement and follow the requirements of Section 12.18. The use of a suspended personnel platform is categorized as a Critical Risk lift, and a Lift Plan shall be prepared accordingly.

12.43 Compressed Gas Cylinders

A. Seller shall have an acceptable Compressed Gas Cylinder Handling and Storage Procedure (may be included in the ES&H Plan) for proper use and storage of compressed gas cylinders in accordance with 29 CFR 1926.350, *Gas Welding and Cutting*. The procedure shall at a minimum, address segregation by type, signage, protective isolation of fuel gases from oxygen, provisions to keep cylinder caps in place, positive upright securing of bottles, maintenance of safe distances from ignition sources, and transportation of cylinders.

B. Seller shall provide a key wrench for each cylinder in use that is turned off by a key wrench.

C. Seller shall remove damaged/defective cylinders from service, tag them "DANGER – DO NOT USE," and report the damage to the Company ES&H representative.

D. Notify STR (Operations Center during off-shift) of defective cylinders that require special handling for disposal of contents and/or cylinders to obtain Company Environmental Compliance input.

E. Activity Hazard Analysis (AHA) to include Oxygen Displacing Hazard (ODH) assessment.

12.44 Illumination

A. Temporary illumination of the work area(s) shall meet 29 CFR 1926.56 *Illumination* at a minimum. Seller shall perform daily inspection and maintenance of lighting equipment and ensure that all lighting equipment prior to use. LOTO or air gap shall be initiated before performing maintenance. Use of equipment shall be in accordance with NFPA 70E Article 110.4 *Use of Equipment*.

B. Seller shall follow requirements of 29 CFR 1926.405(a) (2) *Temporary Wiring* for the installation of temporary lighting and equipment. Installation of job-made equipment shall be inspected by Seller's qualified electrician for compliance to NEC requirements.

C. Exits and pathways shall be illuminated and marked. Ladder access and egress areas shall be illuminated.

D. Temporary installations must meet all the requirements of the National Electrical Code. All sockets in lighting strings shall be occupied.

12.45 Fork Lifts and Power Industrial Trucks

A. Powered industrial trucks shall only be operated by trained and authorized operators.

B. Powered industrial trucks shall have the proper type designation and NRTL approval to operate in the particular area in which work is being done.

C. Prior to use, Seller shall submit an evaluation for Company information demonstrating that the powered industrial truck operation is in compliance with 29 CFR 1910.178 and NFPA 505 *Powered Industrial Trucks Including Type Designations, Areas of Use, Maintenance, and Operations* and any Company Facility requirements. Evaluation should include but not be limited to:

a. indoor or outdoor environmental controls and potential need for ventilation system,

b. proximity to Facilities and potential constraints,

c. overhead evaluations including electrical evaluation,

d. surface conditions including limits for ramps or slopes being traversed,

e. equipment weight and load and lift limits,

f. load properly secured and load hazard identified and accounted for,

g. blind spot recognition and potential use of spotter/signal person,

h. travel speed limit set at no more than 5 miles per hour (mph),

i. equipment modifications and attachments approved by the manufacturer, and

j. equipment refueling and maintenance including annual and daily inspection.

D. Seller shall comply with all manufacturer requirements and recommendations for safe operation, loading, traveling, and maintenance.

E. If there is blocked/limited/obstructed view or a congested area when moving a load with a powered industrial truck, then consider use of a spotter. Spotter shall have completed Powered Industrial Truck Operator training or have received spotter training.

F. Prior to performing powered industrial truck lifts, Seller shall ensure that pallets are used, if applicable and inspected to the extent possible. Loads shall be secured, as appropriate.

G. Provide adequate ventilation and appropriate controls when operating combustion-powered vehicles within buildings or enclosed areas. If operating in areas where fire and/or ordnance hazards exist, the exhaust of the truck shall be equipped with a spark arrestor. When operating in buildings or enclosed areas, internal combustion engines will be shut down when not in use. Only Company approved industrial trucks shall be used in hazardous locations.

H. Operators shall not use cell phones or mobile radio/phone while operating a powered industrial truck.

12.46 Housekeeping

A. Seller facilities and work areas shall be maintained in a neat and orderly condition at all times. Remove trash and scarp on a regular basis (i.e., at least daily). Trash and scrap shall never be accumulated in walkways, under stairs, at the bases and landings of stairs and ladders, or near flammable substances.

B. Immediately correct any instances of poor housekeeping that create tripping, slipping, or fire hazards.

12.47 Air Surveillance Program

A. Seller shall identify work activities that could lead to potentially hazardous atmospheric conditions caused or created by Seller or lower-tier supplier or subcontractor activities. Examples include the operation of fueled equipment

inside an enclosed area, welding, the use of hazardous or toxic materials, etc. Monitor and institute mitigating steps to prevent exposure to such conditions.

B. Provide equipment adequate for air sampling and monitoring and develop an Air Surveillance Procedure covering sampling, monitoring, and identification of source contaminants. Submit the procedure for Company review if requested. Sampling and monitoring equipment shall be operated only by qualified personnel and shall be calibrated pre- and post-use per manufacturer protocol. Surveillance logs, records and results shall be maintained and made available to the Company.

12.48 Blood Borne Pathogens

A. Seller shall submit an Exposure Control Plan (ECP) addressing an acceptable Blood Borne Pathogens Plan per 29 CFR 1910.1030. The ECP shall address the controls utilized to eliminate or minimize the occupational exposure to blood borne pathogens.

B. Seller shall train employees who are exposed to blood borne pathogens regarding their responsibilities, required control measures, and personal safety. Training shall be provided at the time of initial assignment and annually thereafter. Proper personal protective equipment shall be used when exposure hazards exist. Employees whose job duties puts them at risk of exposure (e.g., nurse, first aid and CPR person, cleaning personnel, etc.) shall be offered vaccinations by Seller, and documentation of the vaccination or declination shall be maintained and made available to the Company upon request.

C. Provide all employees with a general overview on the hazards associated with blood borne pathogens, possible means of exposure, and proper control methods.

D. Seller shall provide for proper disposal of hazardous medical wastes and post a sign in the treatment area warning of biohazards. A “sharps” container shall be maintained in the first aid area for the secure disposal of used needles and similar medical waste. Proper sterilization methods and materials shall be used.

12.49 Respirable Silica Exposure Control Program

A. The Seller shall submit for Company approval a Respirable Silica Exposure Control Program which documents how the Seller will implement the requirements of 29 CFR 1926.1153, *Respirable Crystalline Silica* and the 10 CFR 851 Technical Amendment. The following components are required:

1. Specified exposure control methods (i.e., Table 1 in 29 CFR 1926.1153)

NOTE: All construction contractors are required to comply with the 2016 ACGIH Threshold Limit Value (25 µg/m³) for respirable silica.

2. Exposure limits
3. Exposure assessment and monitoring requirements for activities not included in Table 1of 29 CFR 1926.1153
4. Methods of sample analysis
5. Methods of compliance (i.e., engineering controls, work practices, written exposure control plans, competent person)

6. Written exposure control plan (ECP) which includes the following components:
   a. Specific tasks that involve potential exposure to respirable silica;
   b. Engineering controls, work practices, administrative controls, and PPE used to limit exposures
   c. Housekeeping methods
   d. Method for restricting access to work area (i.e., signs, postings, barricades, etc.)
7. Medical surveillance requirements
8. Training requirements
9. Routine inspections by the competent person

NOTE: Dry sweeping (including sweeping compound), dry brushing, and the use of compressed air are prohibited at Y-12.

10. Housekeeping requirements
11. Recordkeeping, reporting, and employee notification requirements

B. The Seller shall submit exposure monitoring data and/or objective data sufficient to verify that employee exposures for all tasks (including tasks listed on Table 1 in 29 CFR 1926.1153) are <25 µg/m³, as required by the 10 CFR 851 Technical Amendment.

13. SECURITY

13.1 General

NOTE: Visitor access requires a valid government issued photo identification and proof of citizenship. Access for foreign nationals shall be approved through the Y-12 Foreign National Visit and Assignment Process.

A. Individuals requiring access to Y-12 shall provide a valid government issued photo identification and an original proof of United States citizenship. Valid forms of proof of United States citizenship are:
   1. Birth certificate (certified copy issued by city/county/state government with raised and/or colored official seal – hospital records are not acceptable);
   2. Certificate of Naturalization [Immigration and Naturalization Services (INS) Form N-550 or N-570];
   3. Certificate of United States Citizenship issued by Immigration and Naturalization Services (INS Form N-560 or N-561);
   4. Report of Birth Abroad of a Citizen of the United States of America (Form FS-240); or
   5. Active United States passport.

B. If delivery, service, or vendor personnel do not possess requisite proof of citizenship, the Company may authorize restricted access with an escort. Seller shall provide an escort to accompany them while at Y-12. Such escorts shall be

appropriately cleared, photo badged, complete a brief *Overview of Responsibilities,* and be dedicated solely to escort duties.

C. All personnel with access to subcontract drawings and specifications shall be U.S. citizens unless the Company grants specific approval for foreign nationals in writing.

D. All packages briefcases, bags, etc. brought into Y-12 shall be marked with owners' name, organization/company and phone number. They shall not be left unattended.

NOTE: Technical Review Requests (TRR) are not required for personal or non-Y-12 business wireless devices (e.g., smartphones, tablets, portable computers); however, the device shall be stored or used only in the parking lots or other authorized areas.

E. Any device with infrared or wireless capability used to collect, store, or communicate data about Y-12 requires completion of a Technical Review Request (TRR). For example, devices such as surveying equipment, ground penetration devices, hand drills, heavy equipment or any other equipment/tool with wireless capabilities require an approved TRR. The TRR must be approved by both the Company and DOE/NPO prior to being brought to Y-12. An approved TRR is required for all non-government-provided electronic devices prior to introduction into the Protected Area (refer to 13.2.E.23).

   Provide the following information to enable a thorough evaluation for utilizing the device at Y-12:

   1. Identify the Legal authority or Federal Communications Commission (FCC) rule that allows for operation of the wireless/radio device. Examples: FCC Part 15 "Unlicensed Device"; FCC Part 90 "Business Band"; NTIA Federal Radio Frequency Authorization (RFA).
   2. If licensed, attach a copy of FCC license or NTIA RFA to the TRR.
   3. Attach a copy of device manufacturer's data sheet to the TRR.
   4. Identify the exact frequency(s) to be operated on (not the frequency "band," but the exact frequency(s).
   5. Identify the maximum transmitted power output.
   6. Describe where the device/equipment will be used at Y-12.

F. Use of Business Class Radios (Not issued by Company) requires an approved TRR prior to being brought to Y-12.

   1. Seller shall assign a qualified individual to monitor the business class radios during work activity and notify the Y-12 Operations Center in case of an emergency.
   2. Seller shall submit a valid Federal Communication Commission license to operate its Business Class Radio in this geographical area to the Company for information.

G. Seller cell phones are permitted inside Y-12 Property Protection Areas.

1. The use of cell phone camera and other recording features is prohibited at Y-12.

2. Violators of the cell phone policies are subject to disciplinary action, which may include denied access to the site and loss of badge.

H. Prohibited items at Y-12 are addressed in *Access to Y-12 Plant* (UCN-26303).

I. Request Company approval eight (8) workdays prior to needing Portal access during off-shift hours.

J. All Seller vehicles and personnel are subject to search when entering or exiting Y-12. Cargo configuration for trailers entering Y-12 shall conform to Y-12 Security vehicle-loading requirements (refer to the Company Procurement Public Web Site).

K. Seller shall not bring Seller owned computing devices (laptops, desktops, PDA's, printers, etc.) into Y-12 without an approved TRR. Computing equipment with network connections to Y-12 network must be provided by Y-12 at Seller expense. Seller business operations on Y-12 computers and networks are limited to the minimum required to support the subcontract. Seller communications and activities on computers will be monitored.

L. Seller computing equipment specific to an individual task (such as equipment calibration, system certification, etc.) requires Company TRR approval prior to being brought to Y-12. Seller's equipment is subject to review prior to entering the site and prior to leaving the site. Equipment must remain in the possession of a Company Q-cleared employee with the approved TRR if the equipment enters a secure area, (e.g., Protected Area, Material Access Area). Removal of equipment from the site in any case requires a separate approval for re-admittance of the equipment to the site.

13.2 Site Access

A. General Access

1. General Access Area – Two (2) areas are designated as General Access Areas (GAA). They are the New Hope Center lobby and museum area and the Central Training Facility (CTF) Building K1654-D, along with open areas at the CTF.

a) Workers accessing the GAA do not require a security clearance.

2. Company Construction STR office buildings are located south of Bear Creek Road on Old Bear Creek Road.

3. For Y-12 access, Seller shall complete and submit a *Y-12 Badge and Access Request* form (UCN-21519) to the STR to obtain photo badge for Seller's employees and lower-tier subcontractors. **The information put on the *Y-12 Badge and Access Request* form shall be typed.**

a) Requests for vehicle access to the Protected Area shall be submitted to the STR using the *Subcontractor Request for Y-12 National Security Complex Vehicle Pass* (UCN-21355) form. Refer to Section 13.2.E.9 thru 14 for material delivery and access requirements.

b) Seller shall allow two (2) workdays for badge request processing and ten (10) workdays when requesting 10 or more badges be processed.

c) Seller's employee photo badges require validation quarterly. Seller is to provide the STR a list of names with badge numbers for validation. Failure to submit may result in restricted access.

4. Pickup for photo, visitor, or temporary badges and vehicle passes is at New Hope Visitors Center on Scarboro Road in Oak Ridge, Monday through Thursday, 6:30 a.m. to 4:00 p.m. Photo identification (e.g., driver license) is required for badge and pass pickup and original proof of US Citizenship must be presented to pick up photo badge.
5. General Employee Training (GET) and a Security Briefing provided by the Company are required for all Seller personnel requesting a photo badge.
6. Seller personnel shall present their badges to Security Police Officer (SPO) when entering Y-12. Badges shall be prominently displayed above the waist on outermost clothing with photo visible at all times while at Y-12. Badges shall be removed from view upon exiting Y-12 and shall be maintained in a secure place.
7. All photo badges issued to Seller are government property. Seller shall notify the Company and return photo badges to the STR within one (1) workday of expiration of the Subcontract, termination of the employee, or when access to Y-12 is no longer needed. Persons holding L or Q clearances are required to attend a Security debriefing (approximately thirty (30) minute). Debriefings shall be scheduled through the STR three (3) workdays in advance of need.
8. Seller shall brief its personnel, vendors, suppliers, and delivery transporters of the eight (8) feet vehicle height restriction on Bear Creek Road while within the Y-12 boundary.

B. Limited Area (LA) Access

1. Limited Area – Security areas designated for the protection of classified matter and Category III Special Nuclear Material (SNM) where internal controls and physical barriers encompass the designated space to ensure only authorized personnel are allowed access. Personnel clearance requirements are posted at the entrance to the LA.
2. Seller personnel requiring entry to the LA shall submit personal information (name, badge number, and date of birth) to the STR a minimum of two (2) workdays prior to need.
3. Seller personnel not meeting the clearance requirements for entry to the LA require an escort with security clearance and an Escort Package (EP) and the area posting indicating that uncleared personnel are in the area. Refer to Section 13.3 for escorting of uncleared workers.
4. All personal items shall be placed in a clear plastic bag to allow visual inspection of the items. Lunch bags and enclosed containers will require opening for inspection.
5. Uncleared drivers will require a 1:1 Q-cleared escort to driver ratio for deliveries. Only the uncleared driver with escort can enter and exit with the

vehicle. Seller shall provide a vehicle for the escort, if escort cannot ride in the delivery vehicle. Comply with Section 13.2.E.9 for materials delivered or removed from the LA

6. Lock all vehicles, equipment, and toolboxes when unattended and at the end of each workday.
7. Do not leave keys in unattended vehicles and equipment. Keys may be confiscated by SPO resulting in work delays. Such delays are at the expense of Seller.
8. Coordinate access to all LAs with the Company STR.

C. Not Used

D. Property Protection Area (PPA) Access

1. Property Protection Area – Area(s) established to protect government property against damage, destruction, or theft. The 229 Boundary (the Blue Line) identifies the PPA boundary.
2. Access to the PPA requires a Y-12 issued photo badge or a temporary visitor badge. Working in the PPA does not require a security clearance.
3. Refer to Section 13.2.A.3 for instruction to obtain a Y-12 photo badge.
4. Vehicle entrance to the PPA on the east end is through Portal 23 on Bear Creek Road and Portal 13 on East Portal Road, and on the west end through Portal 20 on Bear Creek Road.
   a) Portal 23 (east end portal) is open at all times.
   b) Portal 20 (west end portal) maintains a restricted time schedule; therefore, access and egress from the west end of Bear Creek Road requires coordination through the STR for use outside normal construction working hours.
   c) Portal 13 (east end portal) is used primarily for deliveries and has a restricted schedule. Coordinate delivery schedule with the STR.
5. Other Vehicle Requirements:
   a) Seller’s vehicles shall prominently display two (2) Seller identification signs (one (1) on each front door).
   b) Vehicle operators and passengers shall comply with all State of Tennessee Motor Vehicle Laws and Regulations including, but not limited to, the use of seat belts and automotive insurance.
   c) The Company will designate Seller vehicle parking areas. Seller shall furnish onsite transportation of its personnel within the PPA.
   d) Insurance certificates for vehicles shall be provided to the Company upon request.
6. Seller’s vehicles and equipment are subject to a security search when entering and exiting Y-12. Containers, boxes, and compartments shall be fully accessible for inspection. All deliveries (i.e., materials, equipment) are

required to enter the K-9 inspection area (as described below) prior to site entry.

a) Portal 13, at the east end of Y-12 on East Portal Road, is the normal entry portal for deliveries and vehicles over eight (8) feet in height. Portal 13 operating hours are 7:00 AM to 12:30 PM, Monday thru Friday. If Portal 13 is closed, K-9 inspections will be conducted at Portal 23, the main site checkpoint on the east end of Bear Creek Road.

b) Vehicles over eight (8) feet in height may enter from the west end of Bear Creek Road through Portal 20; however, entry through Portal 20 requires prior Company authorization and shall be scheduled through the STR a minimum of one (1) workday in advance.

c) Arrange cargo so that K-9s and Security personnel can access the load(s) for inspection. Allow thirty (30) minutes on average for inspection. Large loads may require Seller to unload and reload cargo for inspection. Any costs associated with cargo unloading and reloading shall be borne by the Seller and are not reimbursable.

d) After inspection, delivery vehicles may enter Y-12 and proceed along routes designated by the Company.

7. Maintain a twenty (20) foot wide clear zone along the plant security fences. If work is to be performed within the twenty (20) foot clear zone, provide two (2) workdays advance notice to the STR to obtain Company Safeguards and Security, Security Operations Interface team approval.

E. Protected Area (PA) Access

1. Protected Area – Area within the PPA that protects Special Nuclear Material and requires Q-clearance for entry or Q-cleared escorts with an approved Escort Package (EP) for uncleared workers.

2. Seller's Q-cleared personnel requiring entry to the PA shall submit personal information (name, badge number, and date of birth) to the STR a minimum of two (2) workdays prior to need. An Escort Agreement is required for personnel without Q-clearances. All personnel entering the PA must have registered a personal identification number (PIN) and biometrics at the Visitor's Center prior to entry.

3. Allow thirty (30) minutes on average per person or escorted group (up to five (5) uncleared) for each entry into the PA and twenty (20) minutes on average per person or escorted group for each exit from the PA. Each person will receive a detailed search when entering and exiting the PA. Seller shall utilize Portal 33 for PA entry and exit during normal work hours unless Company STR authorizes another portal.

4. Only hand carried items that clear the metal detector or that can be visually inspected are allowed. Seller personnel shall minimize personal items carried into the PA. Items such as coins, keys, billfolds, and foil wrappers can cause delays at the entry portal. All personal items shall be placed in a clear plastic bag to allow visual inspection of the items. Lunch bags and enclosed containers will require opening for inspection. Items that cannot

clear the metal detector and/or are sealed (not allowing internal inspection) are not authorized through the entrance Portal. Personnel will be allowed up to three (3) attempts to clear the portal before being sent to the back of the line. Company is not responsible for delays caused by Seller's personnel being unable to clear the metal detector.

5. Entry prior to 6:30 a.m. by escorted uncleared workers is not authorized unless the Company grants prior approval.
6. To minimize the number of vehicle entries, Seller shall arrange transportation (shuttle van) to remain within the PA as required for its workers. Deliveries shall be consolidated at Seller's laydown yard or other suitable area outside the PA to minimize entries. Emergency entries must be arranged through the STR. Multiple planned shipments (e.g., demolition debris transportation, building materials) shall be arranged through the STR. The Company does not guarantee Seller entries in excess of one (1) entry per workday.
7. All vehicles and contents are subject to a comprehensive search by Security personnel.
8. Allow up to one (1) hour for processing of vehicles and deliveries into and out of the PA.
9. Seller delivery trucks and other service vehicles and trucks shall enter the PA through Portal 33. Entry and exit requires a Y-12 National Security Complex Vehicle Pass and for materials transported through the portal a *Non-Radioactive Inbound/Outbound Shipment Plan* (UCN-26064) or a *Radioactive Inbound/Outbound Shipment Plan* (UCN-21822), as applicable.
    a) A *Subcontractor Request for Y-12 National Security Complex Vehicle Pass* (UCN-21355) form shall be requested through the STR. Seller will pick up the appropriate vehicle pass from the Visitor's Center prior to accessing Y-12. Supplies shall be loaded in a manner to allow inspection of all contents. Loading shall allow a clear aisle for a walking inspection around the materials. Deliveries not loaded to allow inspection shall be off-loaded for inspection at Seller's expense. Display the vehicle pass on the vehicle dashboard at all times while within the Y-12 boundary. Remove the vehicle pass from the dashboard and make sure it is not visible while outside the Y-12 boundary.
    b) Inbound/Outbound Shipment Plans shall be requested through the STR. Seller shall request the Portal of entry and exit and identify the materials being transported. The Inbound/Outbound Shipment Plans are held at the designated Portal by Company Security personnel.
10. Uncleared drivers will require a 1:1 Q-cleared escort to driver ratio for deliveries. Only the uncleared driver with escort can enter and exit with the vehicle. Seller shall provide a vehicle for the escort if escort cannot ride in the delivery vehicle.
11. For trucks transporting material/debris out of the PA, special requirements may be necessary due to the presence of radiation monitors potentially alarming. Coordinate the hauling of debris through the STR two (2) workdays

prior to need. Delivery of concrete and gravel into PA shall be coordinated through the STR a minimum of eight (8) workdays prior to delivery.

12. For trucks transporting radioactive material/debris, Seller shall prepare a *Radioactive Inbound/Outbound Shipment Plan* (form UCN-21822) requesting ingress or egress of radioactive shipments for the PA. Prior to entering the portal, notify Security Police Officer at the portal of the radioactive cargo. Containers staged in the PA shall be loaded or witnessed by Q-cleared personnel and sealed immediately after closing. Tankers shall be loaded or witnessed by Q-cleared employees and locked while staged within the PA and unattended. Seller shall describe the method of protecting the shipment's radioactive material from potential diversion from the PA without authorization.
    a) If a shipment containing dirt, roofing, demolition material, etc. and believed to be nonradioactive activates the radiation monitor, then contact the STR and arrange for the load to be transported back to and dumped at the original loading location while being monitored by Q-cleared personnel and then reloaded with a smaller amount of material. If there was no approved shipment plan on file or the plan on file needs modification as a result of activation of the radiation monitor, then coordinate with the STR to request Inbound/Outbound Shipping Plan approval on the reloaded material.
13. Water trucks shall enter empty and be filled at the designated fill point within the PA. Provide a three (3)-day notice prior to required entry.
14. Bed-mounted fuel tanks are prohibited in the PA.
15. Seller shall allow for eight (8) crew hours lost time per month for security lock downs and other emergency drills and notifications (A crew hour is defined as the total of all hours from workers and equipment within the PA). During a lock down, work inside a building or outside within a controlled work area may continue unless directed to stop by Security. Work outside, other than in a controlled work area, shall cease and await instruction from Security. Workers in transit shall stop and obey all instructions from Security.
16. Lock all vehicles, equipment, and toolboxes when unattended and at the end of each workday.
17. Do not leave keys in unattended vehicles and equipment. Keys left in unattended vehicles and equipment may be confiscated by Security personnel potentially resulting in work delays. Such delays are at the expense of Seller.
18. Maintain a fifty (50) foot wide clear zone along security fences (inside or outside of the PA). If work is to be performed within the fifty (50) foot clear zone, provide three (3) workdays advance notice and receive approval from the Company.
    a) Heavy equipment shall not be staged or used within fifty (50) feet of the PA boundary security fence (inside or outside of the PA) without prior Company approval by Security Operations Interface.

b) Uncleared heavy equipment operators shall be under continual surveillance of a Q-cleared escort with an Escort Package.

c) Special Company instructions shall be followed when using boom type equipment within fifty (50) feet of the security fence.

19. Minimize deliveries into and out of the PA. Special arrangements can be made to expedite entry of time sensitive or other special materials if Seller makes the required arrangement through the STR a minimum of two (2) workdays prior to need.

    a) Radiological samples and sources exiting the PA require two (2) authorized persons to be present. Both carrier and voucher must be listed on securities exception list.

20. While in the PA, breaks and lunches shall be held at the work area. Seller shall provide a suitable area for breaks and lunch and portable restroom facilities.

21. Any Seller-provided trailer which is set-up in the PA shall be complete and ready for use (including power) four (4) workdays prior to requesting a Security Operations authorization for use..

22. All Seller's electronic equipment entering the PA requires an approved TRR and sticker. Items currently listed on an exception may remain on the exception while being evaluated through the TRR process.

13.3 Escorting Uncleared Construction Workers (Construction/Yankee Team Escorting)

A. Seller's uncleared workers shall not enter the PA, or Limited Areas without an approved *Protected Area Escort Package* (EP) (UCN-17629) or *Limited Area Escort Package* (EP) (UCN-17629A), respectively, and the appropriate Company authorized Escorts.

1. Escorting more than one (1) uncleared person is conducted using the Yankee Team concept.

NOTE: The EP, along with the email from the Security Operations Interface representative approving the EP, will be held by the Escort at all times when escorting uncleared personnel. The EP is stored in the CEC locked cabinet when not in use.

B. Seller shall provide accurate and complete information to the STR and Company Construction Escort Coordinator (CEC) for the development of the EP. Allow twelve (12) workdays for approval of the EP upon information submission to the STR and CEC. Seller shall review accuracy of the approved EPs on a daily basis. Immediately submit to the STR any required changes to a standing EP, including personnel changes. Allow up to eight (8) workdays for approval of a revised EP. The completed EP is a controlled document labeled as "Official Use Only."

C. Seller shall provide the following information for the EP including but not limited to the work, laydown and break areas; routes of ingress and egress; scheduled work dates and times; names of personnel to be escorted, their roles, and employers; and any other pertinent information. The STR will assist Seller in

obtaining plant and Facility information for the EP, but Seller retains responsibility for the information to be provided.

D. Entry into the PA prior to 6:30 a.m. is not authorized unless coordinated in advance with the STR.

E. Seller shall incorporate Escorts operations into the Work Plan, AHA, and project-specific ES&H Plan, to integrate the Escort activity into the overall work. Seller shall train Escorts on the Work Plan, AHA, and project-specific ES&H Plan and include the Escorts in daily Pre-job briefings.

F. The Company will provide authorized Escorts at no cost to Seller unless otherwise specified in the Subcontract. Seller-provided Escorts shall be obtained from the Company authorized Escort Subcontractor(s), as needed unless the Company approves otherwise. The Company CEC will train, administer and coordinate all Company-provided authorized Escorts.

   1. Escorts who accompany individuals into a Material Access Area (MAA) shall be certified in the Company's Human Reliability Program (HRP). The HRP certification requires a Company medical assessment, psychological evaluation, drug testing and security review.

G. Seller provided Escort(s) shall be administered and coordinated by Seller. Seller-provided Escort(s) shall complete the required Company Construction/Yankee Team Escort Training and acknowledge reading the *Escorting Uncleared Workers Handbook*. The Company Escort will shadow Seller-provided Escort(s) for their initial two (2) days of escorting. Additional training is required for Escorts working EP in a Limited Area or having cyber security protection. Seller shall keep the Company CEC apprised of daily ongoing escort activities. Incident of Security Concern (IOSC) or violation of the *Escorting Uncleared Workers Handbook* shall be reported immediately (within fifteen (15) minutes) to the STR or Company CEC.

H. Escorting of uncleared workers shall be performed in accordance with the Company's *Escorting Uncleared Workers Handbook* unless otherwise specified in the EP. A copy of the handbook will be provided to Seller upon request to the STR or CEC.

I. Escorts performing under Yankee Team concept shall have no other assigned job responsibilities.

J. Security Escorts and uncleared workers shall be identified as such by utilizing a visible method as detailed in the handbook, EP or as otherwise approved by the Company.

K. Uncleared workers being escorted shall carry a "green card" for accountability unless waived by the Company. "Green cards" are provided by the STR or CEC.

L. Escorts shall brief uncleared workers on prohibited items and ensure they do not take such items to the entry portal of the PA.

M. The Company CEC will assign a Security radio to an Escort when the ratio of Escort to uncleared worker is greater than 1:1. Security Escort will pick up a Security radio at a Company designated location.

1. Security radios shall be strictly controlled at all times and returned to the CEC or designee at the end of the shift for storage in a locked room/cabinet. Damaged or misplaced Security radios shall be reported immediately to the CEC. In no case is the Security radio to be taken offsite or left unattended/unsecured.

N. The Company may authorize a single Escort to escort up to ten (10) uncleared workers utilizing the Company's Construction/Yankee Team concept. The Company will define the maximum ratio of Escort to uncleared personnel when approving the EP. The Escort must maintain visual line-of-sight of the uncleared workers under escort. Splitting the work crew into visually separate areas would require additional Escorts or specific Company approval. Examples of work crew Escort requirements are:

1. If any uncleared worker in the group of uncleared workers exits the PA, then all shall exit unless an additional Escort accompanies the uncleared worker to the exit portal.
2. An uncleared superintendent, ES&H Representative, or other Seller employee moving around the work area shall be in visible proximity to their assigned Escort. If working and moving about individually where a line-of-sight is not possible, then each requires an assigned Escort.
3. An uncleared photo badged truck driver hauling materials into and out of the PA shall be escorted from the PA entrance Portal to the work area and back to the exit Portal.
4. One (1) assigned Escort can escort an uncleared heavy equipment operator, an uncleared spotter, and an uncleared laborer providing dust suppression as long as they are all in visible proximity to their Escort.
5. An uncleared worker who leaves his crew of uncleared workers to retrieve tools or equipment requires escorting by another assigned Escort if he leaves visual proximity of the crew Escort.
6. If the Escort needs to leave to go to the restroom, then all the uncleared workers shall exit the area unless another Escort is assigned to replace the exiting Escort.

O. Crews in the PA or LA having both Q-cleared and uncleared workers can be used, but the uncleared workers shall be escorted by an authorized Escort with an EP and who has no other duties.

13.4 Information Security

NOTE: Unclassified Controlled Nuclear Information (UCNI), Official Use Only (OUO) and Personally Identifiable Information (PII) documents are also categorized as Controlled Unclassified Information (CUI).

A. Personnel issued Unclassified Controlled Nuclear Information (UCNI) and Official Use Only (OUO) documents shall complete the requisite briefing provided by the STR, a Y-12 Information Security Officer, or designee.

B. Seller personnel completing the required briefing may issue UCNI/OUO documents to lower tier subcontractors and/or suppliers providing such parties are given the same requisite briefing by the Company or designee. Seller shall

be responsible for the control of the UCNI and OUO documents and is not relieved of this obligation for documents provided to others, refer to *UCNI/OUO Information Protection Requirements for CNS Suppliers*, UCN-26608.

C. Seller is responsible for:

1. Protecting UCNI and OUO information.
2. Ensuring that no UCNI or OUO information is released without review for release restrictions.
3. Flowing down these requirements to lower-tier subcontractors and suppliers.
4. Granting access to UCNI and OUO information only to persons with a need-to-know.
5. Recognizing the sensitivity of information before it is used, processed, or stored on an information system and ensuring the system is certified for the information. Any Automated Information System (AIS) must be certified by the Company prior to Seller using or storing OUO information or UCNI on an AIS.
6. Reporting security breaches or deviations from expectations to the STR. Seller shall cooperate with the Construction Division Security Officer (DSO) investigation. Seller is responsible for costs incurred because of Incidents of Security Concerns (IOSCs). Cost includes those incurred by Seller and may include Company incurred costs.

D. Definitions:

1. Access authorization - An administrative determination that an individual is eligible for access to unclassified sensitive matter.
2. Automated Information System (AIS) - An assembly of computer equipment, facilities, personnel, software, and procedures configured for sorting, calculating, computing, summarizing, storing, and retrieving data and information.
3. AIS Equipment - All computer equipment, peripherals, software, data, networks, and facilities.
4. AIS security incident - A failure to comply with AIS security requirements, which results in attempted, suspected, or actual compromise of unclassified sensitive information.
5. AIS Security Plan - A document that describes the protection of a sensitive AIS against unauthorized disclosure, modification, or destruction of the system or data, and denial of service to process data, including physical, personnel, administrative, telecommunications, hardware, and software security features.
6. AIS storage media - A means used by an AIS to convey or store information.
7. Computer Security Officer (CSO) - Seller person(s) responsible for the implementation of Seller’s AIS Security Plan.

8. Information Security (INFOSEC) - A system of administrative policies and procedures for identifying, controlling, and protecting from unauthorized disclosure, information for which protection has been authorized.
9. Information Security Officer (ISO) - Seller person(s) responsible for the implementation of requirements to avoid unauthorized disclosure of information.
10. Infraction - A knowing, willful, or negligent action contrary to the requirements for information security.
11. Label - The marking of an item of information to reflect the sensitive information (e.g., UCNI, OUO, PII).
12. Need-to-Know - A determination by an authorized person having responsibility for sensitive information that a prospective recipient requires access to information in order to perform official, approved, authorized tasks or services.
13. Official Use Only - Unclassified sensitive, but otherwise uncontrolled, information which may be exempt from public release under the Freedom of Information Act (FOIA).
14. Personally Identifiable Information (PII) – Any information collected or maintained about an individual, including, but not limited to, education, financial transactions, medical history and criminal or employment history, and information that can be used to distinguish or trace an individual's identity such as an individual's name in conjunction with Social Security Number, date and place of birth, mother's maiden name, biometric data, and including any other personal information that is linked or linkable to a specific individual.
15. Security plan - A document that describes the protection of the Facility and its assets.
16. Unclassified - The designation for information, a document, or material that has been determined not to be classified or that has been declassified by a proper authority. Unclassified information is not approved for Public Release until formally approved by the Y-12 Information Release Office.
17. Unclassified Controlled Nuclear Information—Certain unclassified government information prohibited from unauthorized dissemination as defined by Section 148 of the Atomic Energy Act of 1954 (revised) and 10 CFR Part 1017.

E. Training requirements

Seller personnel responsible for safeguarding UCNI information shall be briefed by the Company on proper handling and storage requirements.

F. Document & Media Requirements

1. All correspondence between Seller and the Company, or between Seller and its lower-tier subcontractors/suppliers conveying UCNI labeled information, shall be handled by approved carriers (e.g., Express, Certified, or Registered Mail) or a commercial carrier that uses a signature service.

2. No electronic transmissions (e.g., fax, computer) of UCNI will be allowed unless formally pre-approved by the Company.
3. Fax transmissions of OUO information should be protected by encryption. Unencrypted fax transmissions are permissible provided:
   a) It is preceded by a telephone call to the recipient so that he or she can control the document when it is received or respond to the sender that the facsimile was not received as expected, and
   b) The sender is assured by the recipient that the facsimile is, and will be, only in the possession of an individual who has the proper need-to-know and is a U.S. citizen. Although not required, it is encouraged that the sender obtains a positive response from the recipient that the fax was received as expected.
4. All computers at Seller facilities shall be certified by the Company to process UCNI and OUO information and shall operate in compliance with a Company-approved AIS Security Plan. The Company shall approve the area where the AIS equipment is located. Seller shall submit a request for a certification inspection by the Company.
5. If Seller desires to establish a secure document room, submit a request to the Company for a certification inspection. Once the room is certified, UCNI and OUO documents may be displayed as long as the room is locked when unattended.
6. OUO and UCNI documents shall be kept in a secure place at all times. Seller shall be responsible for control of documents issued to them by the Company. Further issuance of documents to lower tier subcontractors and/or suppliers does not relieve Seller of this responsibility.
7. Seller shall install encryption software in compliance with Company instructions.
8. Computer systems and media containing UCNI and OUO information at Seller's facility and at lower-tier subcontractors' facilities shall be dedicated to this work unless otherwise approved by the Company. UCNI and OUO information requires removable media unless prior approval by the Company is obtained through a written AIS Security Plan. All media, including CDs, DVDs, thumb-drives, hard-drives, etc., shall be encrypted utilizing Company approved encryption methods in compliance with FIPS 140.2 Level 1 or greater standards.
9. The Company will certify the AIS equipment and its physical location at Seller facility and at associated lower-tier subcontractors' facilities. Seller shall schedule certification visits through the Company a minimum of ten (10) workdays prior to need.
10. The Company will perform regular and unannounced assessments relative to approved information, computer, and physical security plans.
11. Modifications to Seller's AIS and/or Security Plans shall be presented to the Company before implementation. The Company will approve and/or certify the modification before Seller implements the modification.

12. Seller shall return all UCNI and OUO electronic data, hard copies, materials and data media upon subcontract completion unless directed otherwise by the Company. When lower-tier subcontractors and suppliers have completed their work, the associated electronic data, hard copies, materials and data media shall be forwarded to Seller for disposition in accordance with Company direction.
13. The computers associated with UCNI and OUO work will be decertified by the Company upon subcontract completion or sooner if Seller indicates they are no longer required for the work.
14. Seller generated documents shall comply with the following:
    a) Protect hardcopy documents generated from Controlled Unclassified Information (CUI) certified computers as "UCNI PENDING REVIEW."
    b) Mark documents as "PROTECT AS UCNI PENDING REVIEW" by using a separate piece of paper on the first page and last page of the document or an UCNI cover sheet may be used as the first page and last page of the document.

    NOTE: To obtain the UCNI/RO review and have the documents marked as final, the subcontractor or vendor will submit the necessary document(s) to the STR. The STR will obtain the necessary review and transmit the final document back to the subcontractor or vendor for replacement of the draft. This submittal must be completed by using an iron-key thumb drive and Y-12 e-mail account on a Government Furnished Equipment (GFE) laptop or computer or by submitting a hard copy or iron-key thumb drive via FedEx, mail, or hand carry.

    c) Obtain an UCNI/RO review for documents that are final.

    NOTE: Organization is defined as the Seller and its lower-tiers at all levels. Where the Seller is collaborating potentially CUI information within their Organization, documents being transmitted between companies within the Organization must be appropriately marked and protected. Documents that may contain UCNI, were created from an UCNI source, or are generated on UCNI-certified equipment must bear the "PROTECT AS UCNI PENDING REVIEW" stamp when transferred between companies within the Organization.

    d) Mark document(s) sent outside the Organization as a final document.

G. Seller Information Security Officer (ISO) responsibilities:
    1. Representing Seller and lower-tier subcontractors concerning Information Security (INFOSEC) issues.
    2. Ensuring implementation of, and compliance with, all INFOSEC requirements.
    3. Reporting INFOSEC-related incidents to the Company and participating in the inquiry of incidents.
    4. Performing an annual INFOSEC self-assessment.

5. Determining INFOSEC training needs and ensuring training is conducted in a timely manner.
6. Disseminating periodic INFOSEC awareness material to employees who have responsibilities that include protection and control of sensitive information.
7. Attending meetings and training sessions as requested by the Company.

NOTE: Company will classify and mark documents. Seller shall protect at the highest level marked on any documents contained in the Subcontract Documents.

H. UCNI Access Requirements

Access to UCNI shall be provided only to those authorized for routine access. Routine access refers to the normal exchange of UCNI during the conduct of official business and allows for further dissemination of UCNI if the requirements in Item 2 below are met.

1. Authorized individual—An authorized individual, who may be the originator or possessor of UCNI, may grant routine access to UCNI to another person eligible for routine access to UCNI (see Item 2 below) by giving that person UCNI documents and providing assurance that the individual is briefed in the handling of UCNI. No security clearance is required. The recipient of the UCNI documents becomes an authorized individual for that specific UCNI.
2. Eligibility for routine access—to be granted routine access to UCNI, a person must “need to know” the specific UCNI in the performance of official duties. In addition to the need-to-know requirement, the person must be a U.S. citizen. Non-U.S. citizens (i.e., foreign nationals) are not allowed any access, casual or otherwise, to UCNI or media.
3. Dissemination limitations—an authorized individual may disseminate UCNI only to a person who is eligible for routine access to UCNI and is briefed to handle UCNI. The Company will provide briefing to Seller personnel in the handling of UCNI documents prior to handling by Seller personnel.

I. OUO Access

1. A person accessing OUO documents shall be a U.S. citizen. If a foreign national has a “need to know” OUO information, Seller shall obtain approval from the Company before supplying this information.
2. An authorized individual may disseminate OUO to an individual who has been briefed by the Company for handling and processing OUO.

J. Paper Documents, Materials, and Equipment

1. Store UCNI and OUO to preclude unauthorized viewing and disclosure. If an area is neither controlled nor guarded, UCNI and OUO documents, material, or equipment shall be stored in a locked container or locked room, which has been certified by the Company, to which only individuals authorized for routine access to UCNI or OUO have entry.
2. Reproduction of UCNI/OUO shall be limited to the minimum number of copies necessary to carry out official duties. Reproduced copies shall be protected

in the same manner as the original document including labeling and UCNI cover sheets (available from the STR upon request). Copy machine malfunctions shall be cleared and all paper paths checked for UCNI/OUO material. Completion of reproduction shall be followed by processing three (3) blank sheets through equipment. Reproduction of UCNI and OUO may be performed on Seller owned or managed digital equipment including digital copiers under Seller control. The Company shall approve reproduction of UCNI and OUO material by a commercial reproduction provider not wholly owned by Seller prior to reproduction.

3. Transmission of UCNI or OUO matter shall be by means that preclude unauthorized disclosure or dissemination.
4. The following applies to documents transmitted outside an approved facility:
   a) Documents marked as UCNI or OUO shall be packaged in a single, opaque envelope or wrapping. The envelope shall be sealed and marked TO BE OPENED BY ADDRESSEE ONLY.
   b) Any of the following U.S. mail methods may be used: Express, Certified, or Registered Mail.
   c) Any commercial carrier using a signature service may be used.
   d) An authorized individual may hand carry the matter as long as he/she can control access.
5. The following applies to matter transmitted within an approved facility:
   a) A standard distribution envelope, such as the U.S. Government Messenger Envelope or equivalent, may be used.
   b) An authorized individual may hand carry the matter as long as he/she can control access including preventing visual access to others not authorized.

NOTE: Provide written notification to the STR stating what documents Seller destroyed. UCNI and OUO documents shall be returned to the Company unless prior approval for destruction is obtained from the Company.

K. Destruction

At a minimum, UCNI and OUO matter shall be destroyed by using shredders or cross cut shredders that result in residue of no more than ¼-inch wide by two (2) inches long strips. Strips shall be randomly mixed prior to disposal. UCNI and OUO matter may also be returned to the Company for destruction.

L. Infractions and Incidents

1. Failure to comply with requirements specified herein may result in an Incident of Security Concern (IOSC) or a security infraction.
2. Any person who violates applicable civil law under Atomic Energy Act provisions is subject to civil penalties or may face criminal prosecution.

M. Computer Security - If Seller uses an Automated Information System (AIS) with UCNI/OUO documents, Seller Computer Security Officer (CSO) is responsible for:

1. Ensuring the implementation of, and compliance with the AIS Security Plan.
2. Representing Seller/lower tier Subcontractors for computer security issues.
3. Coordinating general AIS security briefings.
4. Reporting AIS-related security incidents to the Company and participating in the inquiry of incidents.
5. Coordinating the certification of computer systems processing UCNI or OUO information with the Company.
6. Ensuring that the AIS system described by the AIS Security Plan has been certified prior to use.
7. Taking immediate action to resolve AIS security deficiencies.

N. Important Information

1. Processing UCNI or OUO information will only be permitted in locations that meet the security requirements and shall be approved by the Company.
2. The AIS Security Plan serves as the formal security record of the system. An AIS Security Plan shall be prepared for each system that processes UCNI or OUO information.
3. A risk assessment shall be performed by Seller in conjunction with the Company to document any threats, concerns, and vulnerabilities that may exist related to Seller computer systems.
4. An AIS processing UCNI/OUO information shall be re-certified by the Company every three (3) years or when changes occur that affect the security posture of the system. A configuration modification of hardware, system software, or layered products may be cause for recertification of a system. The Company must approve modifications that change the security posture of a system prior to implementation.

O. UCNI/OUO AIS Resources and Information

1. It is the responsibility of Seller to know and provide the degree of protection required for the type of information being processed.
2. All computer security incidents involving UCNI or OUO information or AIS resources shall be reported to the Company, including:
   a) Fraudulent action involving AIS.
   b) Processing of information without an approved Security Plan.
   c) Leaving a session active while not properly protected (e.g., unattended, unsupervised).
   d) Unauthorized testing of a certified AIS.
   e) Printer ribbons, cards, diskettes, hardcopy output, and/or magnetic media left unattended (not properly physically protected).
   f) Disclosure of sensitive information (e.g., failure to properly protect data files).

g) Hackers/crackers or other unauthorized access attempts.

h) Release of Y-12 Personally Identifiable Information (PII) must be reported to the Y-12 Operation Center (OC) at 865-574-7172 within ten (10) minutes of recognition of the release.

i) Release or failure to protect UCNI or OUO must be reported to the Y-12 OC, at 865-574-7172 or to the Y-12 STR or Computer Security officer upon recognition of the incident.

3. System hardware components shall be marked to indicate the most restrictive category of information processed, as directed by the Company. Labels shall be placed on media designating the highest sensitivity of the information on the media.

4. AIS equipment shall be decertified of all UCNI/OUO information before connecting to a network or computer system of a lower category or before equipment is removed from service.

5. All voice and electronic data transmissions of sensitive information (UCNI) shall be over secure telephone unit (STU III) or approved encrypted communication links. Applications utilized across Internet or distribution of sensitive information over the Internet is not permitted unless through encryption (i.e., Entrust or Company approved encryption) and then only after certification by the Company. When new computing systems or networks are connected to existing approved networks, they shall be documented and approved by the Company before connection and use.

6. OUO voice and data transmissions shall only be conducted using landline phones. Cellular and cordless phones shall not be used.

7. Access controls shall be used to prevent unauthorized access to information.

P. Physical Security

1. AIS processing UCNI or OUO information require a combination of physical controls and administrative controls. The location of each multi-user system shall be reviewed and approved by the Company.

2. Company will certify physical controls including rooms. Physical controls and administrative controls will prevent surreptitious entry.

Q. Personal Workstations

For personal workstations, the primary security feature is physical access control for the information. Access to the computer may be further restricted by the hardware and software controls as follows:

1. In offices with lockable doors and immune to surreptitious entry, no hardware security devices are required as long as the room is locked when unattended.

2. In open offices and where there is not a common need-to-know of all information, appropriate protective measures (e.g., UCNI and OUO workstations require chassis locks, keyboard locks, or approved hardware password devices) are required as directed by the Company.

R. Output Devices

The monitor, printer, and any other output device of an AIS processing UCNI/OUO information shall be positioned to prevent casual viewing by unauthorized personnel.

ATTACHMENT 1

TRAINING REQUIREMENTS				
Module Title	**Duration (hours)**	**Frequency**	**Provided By**	**Required For**
General Employee Training				
General Employee Training (GET) – Classroom Training	7.5	Once (unless refreshers are not taken)	Company	All personnel onsite or visiting for more than ten (10) calendar days
GET Refresher - web-based training (WBT)			Company	All personnel with GET classroom training to remain current and maintain Y-12 badge custody.
• GET General Employee Radiation Training	1	Every 2 years		
• GET Emergency Management	1	Annually		
• GET Hazard Communication	1	Every 2 years		
• GET Occupational Safety & Health	1	Every 2 years		
• GET Fire Protection	1	Annually		
• GET Basic Nuclear Criticality Safety	1	Every 2 years		
• GET Quality at CNS	1	Every 2 years		
GET Safety Overview	0.5	Every 2 years	Company	All personnel onsite less than ten (10) days
Special Precautions for Work Within 200 Feet of a nuclear Facility	1	Annually	Company	All personnel who work within 200 feet of a nuclear Facility
Security				
Initial Security Briefing	1	Once	Company	All badged personnel
Annual Security Refresher Briefing	0.5	Annually	Company	All badged personnel
Comprehensive Security Briefing (applicable to cleared personal)	1	Annually	Company	Seller L or Q Cleared personnel
Limited Area Escorting	2	Initially and trng updates	Company	All Security Escorts
Escort Construction /Yankee Team	2	Initially and trng updates	Company	All Security Escorts
Escorting Uncleared Worker Handbook	2	Initially and Handbook updates	Company	All Security Escorts
CT 401 Cyber Security Escort	2	Once	Company	Security escorts escorting in areas with classified computers
Security Clearance Debrief	0.5	Once	Company /Seller	L or Q Cleared personnel whose clearance is being terminated.
Unclassified Controlled Nuclear Information (UCNI) Handling	1	Once	Company	All personnel handling or having access to UNCI.
Industrial Hygiene				
Beryllium Training (when working on a task where beryllium is present)	4	Once	Company	All personnel exposed to beryllium while performing job duties. This includes active beryllium workers, supervisors, and those identified by their management as requiring this course.
Beryllium Refresher Training (WBT)	1	Every 2 years	Company	All personnel exposed to beryllium while performing job duties. Active beryllium workers, supervisors, and those identified by their management as requiring this course.

TRAINING REQUIREMENTS				
Module Title	**Duration (hours)**	**Frequency**	**Provided By**	**Required For**
When Using Company Confined Space Program • Confined Space Entrant/Attendant • Confined Space Entry Supervisor & Owner • Confined Space Refresher Training (WBT)	 3 2 1	 Once Once Every 2 years	Company	Supervisors and all personnel entering a confined space and/or serving as an attendant for a Company-created confined space. (Only supervisors are required to complete the supervisor course.) Atmospheric testing personnel require confined space instrumentation training.
When Using Company-approved Seller Confined Space Program • Confined Space Entrant/Attendant Training • Confined Space Entry Supervisor Training • Confined Space Refresher Training	 3 2 1	 Once Once Every 2 years	Seller	Supervisors and all personnel entering a confined space and/or serving as an attendant for a Seller-created confined space. (Only supervisors are required to complete the Supervisor course.) Atmospheric testing personnel require instrumentation training.
40-Hr Hazardous Waste Operations and Emergency Response (HAZWOPER) – Initial Training	40	Once, (unless no refresher taken within 3 years)	Seller or Company	All personnel that perform activities identified in 29 CFR 1910.120(e)(1) through (e)(3)(i)… clean-up operations required by a governmental body involving hazardous substances that are conducted at uncontrolled hazardous waste sites; initial investigations of government identified sites which are conducted before the presence or absence of hazardous substances has been ascertained; corrective actions involving clean-up operations at sites covered by RCRA; voluntary clean-up operations at sites recognized as uncontrolled hazardous waste sites; emergency response operations for the release of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.
24-Hr Hazardous Waste Operations and Emergency Response (HAZWOPER) – Initial Training	24	Once, (unless no refresher taken within 3 years)	Seller or Company	RCRA workers directly involved in hazardous waste operations conducted at treatment, storage, and disposal facilities regulated by 40 CFR 264, 40 CFR 265, and 29 CFR 1910.120(p) in RCRA Permitted areas.
8-Hr HAZWOPER Annual Refresher – Classroom Training	8	Annually	Seller or Company	Personnel that perform HAZWOPER activities outlined in 29 CFR 1910.120 (e) or (p) require eight (8) hours of annual refresher training.
HAZWOPER Three (3)-Day Field Experience Verification (After a person completes three (3) days of supervised field work, it is documented on the Company web training page)	24	Unlimited	Company – Documented on web training page	Personnel required to have 40-Hr HAZWOPER training must also document three (3) days of supervised field experience on the HAZWOPER site before they are allowed to work on their own.
HAZWOPER One (1)-Day Field Experience Verification (After a person completes one (1) day of supervised field work, it is documented on the Company web training page)	8	Unlimited	Company – Documented on web training page	Personnel required to have 24-Hr HAZWOPER training must also document one (1) day of supervised field experience on the HAZWOPER site before they are allowed to work on their own.
Mercury General Awareness Training	0.5	Once	Company	Personnel who actually work with or handle mercury as part of their job.
Respirable Crystalline Silica Awareness (WBT)	0.5	Annually	Company	Personnel that work with respirable crystalline silica in accordance with 29 CFR 1926.1153, or 29 CFR 1910.1053.

TRAINING REQUIREMENTS				
Module Title	**Duration (hours)**	**Frequency**	**Provided By**	**Required For**
OSHA Asbestos General Awareness	2	Annually	Company	This awareness course is for personnel who may be exposed above the PEL and/or Excursion Level (per 1910.1101) but, will NOT be doing activities that involve the disturbance of Asbestos Containing Material (ACM) or Presumed Asbestos Containing Material (PACM). Completion of this course does NOT authorize a person to perform any asbestos work.
Asbestos Worker Initial Training – (Course must be conducted by an Accredited Training Provider for the State of Tennessee, TDEC Toxic Substances Program)	32	Once, (unless no refresher taken within 1 years)	Seller	Seller's asbestos workers
Asbestos Worker - Refresher Training – (Course must be conducted by an Accredited Training Provider for the State of Tennessee, TDEC Toxic Substances Program)	8	Annually	Seller	Seller's asbestos workers
Asbestos Accreditation/License as an Asbestos Worker as required by TN Rule 1200-01-20-.03	NA	Annually	Seller	Seller's asbestos workers must have a current TN Accreditation as an asbestos worker on their person to perform asbestos work.
Asbestos Supervisor Initial Training – (Course must be conducted by an Accredited Training Provider for the State of Tennessee, TDEC Toxic Substances Program)	40	Once, (unless no refresher taken within 1 years)	Seller	Seller's asbestos work Supervisors
Asbestos Supervisor - Refresher Training – (Course must be conducted by an Accredited Training Provider for the State of Tennessee, TDEC Toxic Substances Program)	8	Annually	Seller	Seller's asbestos work Supervisors
Asbestos Accreditation/License as an Asbestos Supervisor as required by TN Rule 1200-01-20-.03	NA	Annually	Seller	Seller's asbestos work supervisor must have a current TN Accreditation as an asbestos supervisor on their person to perform asbestos work
Lead Awareness Training – WBT	0.5	Annually	Seller	All personnel exposed to lead while performing job duties
Hearing Conservation Initial Classroom Training	2	Once	Seller or Company	All personnel around noise producing equipment and/or machinery
Hearing Conservation Refresher Training – WBT	0.5	Annually	Seller or Company	All personnel around noise producing equipment and/or machinery
Hazard Communication for Supervisors (Classroom or WBT)	2	Annually	Company	All supervisor or designated personnel overseeing work having exposure to hazardous chemicals or substances
Temperature Extremes WBT – Heat/Cold Stress	0.5	Once	Seller	All site personnel exposed to hot or cold temperatures
Blood borne Pathogens	4	Annually	Seller	Personnel identified by management as having a reasonably anticipated skin, eye, or mucous membrane contact with blood or other potentially infectious materials during their routine job assignment..

TRAINING REQUIREMENTS				
Module Title	**Duration (hours)**	**Frequency**	**Provided By**	**Required For**
Waste Management and Environmental Compliance				
RCRA Hazardous Waste Characterization (Initial –Classroom)	2.5	Once	Company	Anyone who characterizes waste or certifies that waste is hazardous or mixed.
RCRA Hazardous Waste Characterization Refresher – WBT	1.5	Annually	Company	Anyone who characterizes waste or certifies that waste is hazardous or mixed.
RCRA Hazardous Waste Accumulation Area (Initial – Classroom)	3	Once	Company	Anyone who operates, adds or removes waste, or performs inspections in Satellite Accumulation Areas, Universal Waste Accumulation Areas, or Ninety (90)-Day Accumulation Areas.
RCRA Hazardous Waste Accumulation Area Refresher – WBT	1.5	Annually	Company	Anyone who operates, adds or removes waste, or performs inspections in Satellite Accumulation Areas, Universal Waste Accumulation Areas, or Ninety (90)-Day Accumulation Areas.
Low Level Radioactive Waste Awareness - WBT	1	Annually	Company	Anyone who operates, adds or removes waste, or performs inspections in LLW Accumulation Area or Storage Area.
Oil Handling Awareness – WBT	1	Annually	Company	Seller's Supervisor(s) and ES&H Representative where oil and fuel handling or staging will be performed including spill response measures.
Storm Water Pollution Prevention – WBT	1	Once	Company	Seller's Supervisor(s) and ES&H Representative overview of the environmental requirements, concerns, and aspects of the Y-12 Storm Water Program.
Respiratory Protection				
When Using Company Respiratory Program and Wearing Company-furnished Respirator • Basic Respirator Training • Respirator Training for Supervisors • Respirator Fit-Test (NOTE: If designated as an "infrequent user," the fit-test is not done until the need to wear a respirator arises)	 3.5-Init / 2 Requal 4-Init / 2 Requal 1	 Annually Annually	Company	All personnel who are supervising, or working under protection of Company Respiratory Protection Program. All personnel who use the Company-furnished respirators and all supervisors who have personnel who wear Company-furnished respirators.
When Using Company-approved Seller Program • Basic Respirator Training • Supervisor Training • Respirator Fit-Test	 3.5-Init / 2 Requal 4-Init / 2 Requal 1	 Annually Annually	Seller	All personnel who wear Seller provided respirators and their supervisor.

TRAINING REQUIREMENTS				
Module Title	**Duration (hours)**	**Frequency**	**Provided By**	**Required For**
Industrial Safety				
When Using Company Lockout/Tagout (LOTO) Program… • LOTO Initial Training • LOTO Refresher Training • LOTO Training—Authorized Employee /Service Supervisor/Issuing Authority	 8 3 8	 Once Annually Once	Company	All personnel who are supervising, performing LOTO verification, or working under protection of Company LOTO program
When Using Company-approved Seller Lockout/Tagout (LOTO) Program • LOTO Initial Training • LOTO Refresher Training • LOTO Training—Authorized Employee/Service Supervisor/Issuing Authority	 8 3 8	 Once Annually Once	Seller	All personnel who are supervising, performing LOTO verification, or working under protection of Seller LOTO program
Fall Prevention Safety Training (includes Ladder Safety training)	3	Once	Company	All personnel working at heights exceeding six (6) feet (e.g., ladders, lifts, scaffolds, etc.)
Personal Fall Arrest System (PFAS) Training	3	Every 3 years	Company	All personnel working at heights exceeding six (6) feet
Scaffold Users Safety Training	3	Once	Company	All personnel who perform work while on a scaffold
American Heart Association – Cardio Pulmonary Resuscitation (CPR) and Standard First Aid – Classroom Training	2.5	Every 2 years	Seller	Each subcontract is required to have at least one (1) trained Seller individual to administer first aid and CPR. In addition, personnel who perform work on or assist with verification of energized circuits, includes electricians and air conditioning & refrigeration mechanics.
CPR and First Aid Refresher (available from the Company WBT)	0.25	During the off years that class is not attended – Every 2 years	Seller	Each subcontract is required to have at least one (1) trained Seller individual to administer first aid and CPR. In addition, personnel who perform work on or assist with verification of energized circuits, includes electricians and air conditioning & refrigeration mechanics.
Personal Protective Equipment Awareness and Proper Use (Prior to Use)	0.5	Once	Seller	All personnel using PPE
Fire Protection				
Fire Watch For Burning, Welding & Hot Work • Initial Qualification • Requalification	 3 1	 Once Annually	Company	All personnel who perform or supervise welding, burning or hot work activities and personnel who have duties as a fire watcher for welding, burning or hot work.
Issuing Authority/Service Supervisors (IA/SS) for Welding & Burning (required for Hot Work Permits)	1.5	Once	Company	All personnel who write or approve welding, burning or hot work permits, and those who supervise personnel who perform welding, burning or hot work

TRAINING REQUIREMENTS				
Module Title	**Duration (hours)**	**Frequency**	**Provided By**	**Required For**
Mobile Equipment/Hoisting and Lifting				
Aerial Lift Safety Initial Qualification	4	Once	Seller or Company	All personnel who operate aerial lifts
Aerial Lift Equipment Requalification for each model of Lift Equipment.	1 per lift	Every 3 years	Seller or Company	All personnel who operate aerial lifts
Basic Hoisting and Lifting Safe Operations • Initial Qualification • Requalification NOTE: Construction Subcontractor utilizing operators who maintain a training certification issued by Knoxville Building and Construction Trade Council, Operating Engineers Local 917 or equivalent are exempt.	 16 2	 Once Every 3 years	Seller or Company	All personnel performing work activities involving the use of hoisting and rigging equipment and devices that are included in the scope of the Hoisting and Rigging Program (Y73-115PD).
Basic Lift Truck (Forklift) Operation Initial Training and associated performance demonstration for each model of Lift Equipment. NOTE: Construction Subcontractor utilizing operators who maintain a training certification issued by Knoxville Building and Construction Trade Council, Operating Engineers Local 917 or equivalent are exempt.	4	Once	Seller or Company	All personnel who operate any of the three (3) types of standard forklifts -- the standard sit-down fork truck, the stand-up (order picker) lift and the powered hand truck (walkie).
Performance Requalification for each model of Lift Equipment. NOTE: Construction Subcontractor utilizing operators who maintain a training certification issued by Knoxville Building and Construction Trade Council, Operating Engineers Local 917 or equivalent are exempt.	1	Every 3 years	Seller or Company	All applicable personnel as per the requirements of 29 CFR Part 1926, *Subpart CC, Cranes and Derricks in Construction*
Mobile Crane Training	8	Every 3 years	Seller or Company	All applicable personnel as per the requirements of 29 CFR Part 1926, *Subpart CC, Cranes and Derricks in Construction*
Signal Person (crane work)	4	Every 3 years	Seller or Company	All personnel who will act as a signal person for crane work
Competent Person Rigger (Only required for Construction Subcontractors prior to rigging lifts)	8	Annually	Company	All personnel who will act in the role of Competent Person Rigger as identified in the Section 12.18.D.6
Radiation Worker				
Rad Worker II (Applicable to enter Radiological Areas)	20	Every 2 years	Company	All personnel requiring unescorted access for entering radiological areas or when performing work activities that are likely to encounter previously identified contamination
Personal Radiation Dosimeter Instrument (PRDI) (Required Read, applicable to work in CAAS control areas)	1	Once	Company	All personnel requiring unescorted access for entering CAAS controlled areas

TRAINING REQUIREMENTS				
Module Title	**Duration (hours)**	**Frequency**	**Provided By**	**Required For**
Medical Enrollments				
Asbestos	-	Annual	Seller	All Seller affected personnel
Confined Space	-	Annual	Seller	All Seller affected personnel
Commercial Vehicle Operator	-	Annual	Seller	All Seller affected personnel
HAZWOPER	-	Annual	Seller	All Seller affected personnel
Hearing Conservation	-	Annual	Seller	All Seller affected personnel
Mobile Equipment Operator	-	Annual	Seller	All Seller affected personnel
Respirator Wearer	-	Annual	Seller	All Seller affected personnel
Seller-Specific Training				
Workplace Substance Abuse Program		As Required	Seller	All onsite Seller personnel
Environment, Safety, and Health Program		As Required	Seller	All Seller identified Key personnel
Environment, Safety, and Health Plan		As Required	Seller	Seller Key Personnel, supervisors, and onsite workers
Activity Hazards Analysis		As Required	Seller	All Seller personnel working onsite
Hazard Communication Work Area Specific Training		Each task and updates	Seller	All personnel exposed to hazardous chemicals or substances in performance of a task.
Work Plan, Best Management Plan, Waste Management Plan and Other Plans		As Required	Seller	All Seller Key Personnel, supervisors, and onsite workers
Inspection Package/Inspection Test Plan		As Required	Seller	All Seller personnel performing hands-on work

NOTE: Training Module applicability is determined by the work and/or the location of the work being performed. Seller training duration times are “minimum acceptable times.”

ATTACHMENT 2

MATERIAL DISPOSITION TABLE			
WASTE MATERIAL	**CONTAINER BY:**	**TRANSPORTATION BY:**	**DISPOSAL LOCATION**
NON-RADIOACTIVE CONTAMINATION (GREEN RADCON TAG REQUIRED)			
Aerosol cans –empty/punctured (must be verified by Company prior to placement in accumulation bin)	Seller	Seller	Construction Scrap Metal Accumulation Bin
Aerosol cans – product remaining	Company/Seller[1]	Company	Generator Services 90-Day Yard
Asbestos-Containing Material (ACM) • Friable • Non-friable construction debris	 Seller Seller	 Seller Seller	 ORR Industrial Landfill V Construction Landfill VII
Bulbs/Lamps • Fluorescent bulbs • Incandescent bulbs	 Seller Seller	 Seller Seller	 Bldg. 9720-58 Recycle Center Bldg. 9720-58 Recycle Center
Construction/Demolition debris – wood, sheet rock, roofing, incidental metals	Seller	Seller	ORR Construction Landfill VII
Chemicals	Company/Seller[1]	Company	Generator Services 90-Day Yard
Earthen materials (Spoils) – soil, brick, concrete(without rebar), masonry materials, rock, asphalt	Seller	Seller	ORR Industrial Landfill Spoil Area
Equipment/tools	Seller	Seller	ORR Industrial Landfill V w/special waste permit provided by Company
Fluorescent light ballasts: • Non-PCB (Leaking) • Non-PCB (Non-Leaking) (Recycle) • PCB (Non-Leaking and Leaking)	 Company/Seller[1] Company/Seller[1] Company/Seller[1]	 Company Company Company	 ORR Industrial Landfill V w/ special waste permit Bldg. 9720-58 Recycle Center Generator Services 90-Day Yard
Batteries • Lead Acid / NiCad • Mercury/Lithium/Silver • Alkaline	 Seller Seller Seller	 Company Company Company	 Bldg. 9720-58 Recycle Center Bldg. 9720-58 Recycle Center Bldg. 9720-58 Recycle Center
Glass	Seller	Seller	ORR Industrial Landfill V
Gray water (i.e., shower & wash water)	Seller	Seller	Sanitary Sewer w/ Environmental Compliance Department approval
Mercury-Containing Equipment (intact)	Company/Seller[1]	Company	Generator Services 90-Day Yard or 9720-58 Recycle Center

MATERIAL DISPOSITION TABLE			
WASTE MATERIAL	**CONTAINER BY:**	**TRANSPORTATION BY:**	**DISPOSAL LOCATION**
PCB-contaminated bulk product:			
• PCB level <2 PPM	Seller	Seller	Same as non-PCB
• PCB level ≥2 and <50 PPM	Seller	Seller	ORR Industrial Landfill VII w/ special waste approval
• PCB level ≥ 50 PPM	Seller	Company	ORR Industrial Landfill V w/ special waste approval
• PCB level ≥ 50 PPM (not suitable for landfill disposal)	Company/Seller[1]	Seller	Generator Services 90-Day Yard
• Metals w/ PCB Paint < 50 PPM	Seller	Seller	Construction Scrap Metal Accumulation Bin
• Metals w/ PCB Paint ≥ 50 PPM	Seller	Seller	ORR Industrial Landfill V w/ special waste approval
PCB Oily Rags and Wipes	Company	Company	Generator Services 90-Day Yard
Sanitary waste			
• Plastic, Paper, Food waste	Company	Company	ORR Industrial Landfill V
• Portable Toilets and Holding Tanks	Seller	Seller	Commercial offsite disposal
Recyclable Scrap metal, including lead	Seller	Seller	Construction Scrap Metal Accumulation Bin
Used oil:			
• Non Rad	Company/Seller[1]	Company	Generator Services 90-Day Yard
• PCB Oil	Company/Seller[1]	Company	Generator Services 90-Day Yard
• Detectable uranium (below yellow tag)	Company/Seller[1]	Company	Generator Services 90-Day Yard
Wiring (non-PCB, non-ACM)	Seller	Seller	Construction Scrap Metal Accumulation Bin
Wood (unpainted, untreated, trees & vegetation)	Seller	Seller	Nature's Best Organics at Solway
RADIOACTIVE-CONTAMINATED MATERIALS (Yellow RADCON Tag)			
ACM Materials	Seller shall package radioactively-contaminated wastes in Company-furnished DOT containers. Company Waste Management personnel must be present when waste is containerized. The Company will transport radioactive waste for disposal.		
PCB Materials			
Construction Debris			
Roofing			
Scrap metal			
Wood			
Equipment/Tools			

MATERIAL DISPOSITION TABLE			
WASTE MATERIAL	**CONTAINER BY:**	**TRANSPORTATION BY:**	**DISPOSAL LOCATION**
HAZARDOUS OR MIXED WASTE MATERIALS			
Light bulbs (mixed)	Company	Company	Generator Services 90-Day Yard
Aerosol Cans (mixed)	Seller	Company	Generator Services 90-Day Yard
PPE/Combustibles (mixed)	Seller	Company	Generator Services 90-Day Yard
Waste Water	Company	Company	Y-12 Disposal (West End Treatment Facility – WETF)
Mercury Containing Equipment (leaking) or spill cleanup wastes	Seller	Company	Generator Services 90-Day Yard
Dewatered Sludge (haz or mixed)	Seller	Company	Generator Services 90-Day Yard

NOTE: Contact STR if materials not identified in this table are encountered during the performance of the work.

[1] Refer to Section 10.2.D, Seller shall supply container unless indicated otherwise in the subcontract Statement of Work (SOW)

ATTACHMENT 3

RADIOLOGICAL ANTI-C CLOTHING GUIDELINES (March 6th, 2017)

1. ANTI-C CLOTHING REQUIREMENTS

The designations of the types of anti-C clothing typically include the following:

A. Low-Risk Set of Anti-C Clothing:

Lab coats (or coveralls if lab coats not available)

Rubber shoe covers

Surgeon's gloves (with optional cotton glove liners)

- Taping of gloves not required

B. Single Set of Anti-C Clothing:

Anti-C coveralls with hood or alternative head coverings, (e.g., flight deck caps)

Plastic or cloth booties

Rubber shoe covers

Surgeon's gloves (with optional cotton glove liners)

Rubber anti-C gloves

- Rubber anti-C gloves and booties are taped to coveralls

C. Double Set of Anti-C Clothing:

Two (2) pairs of anti-C coveralls with hoods

Two (2) pairs of plastic or cloth booties

Rubber shoe covers

Surgeon's gloves (with optional cotton glove liners)

Two (2) pairs of rubber anti-C gloves

- Inner rubber anti-C gloves and booties are taped to inner coveralls
- Outer rubber anti-C gloves and booties are taped to outer coveralls

D. Splash proof Anti-Clothing:

Splash proof anti-C coveralls with attached feet and hood

Waterproof shoe covers (high or low shoe covers will be specified on the RWP)

Surgeon's gloves (with optional cotton glove liners)

Rubber anti-C gloves

- Gloves and boots are taped to the Splash proof anti-C coveralls with waterproof tape

NOTE**:** RADCON may increase or decrease the level of anti-C clothing needed depending on the type, level, and extent of contamination; the work to be performed; and other non-radiological considerations.

E. Low contamination (radiological areas in which the general-area removable contamination levels are 1 to 10 times the values specified in Y/RCO-001REF, Y-12 Radiological Control Organization Controlling Limits Reference Guide):

- Minor work, tours and inspections: Low-risk set of anti-C clothing
- Heavy Work Activities: Single set of anti-C clothing.
- Pressurized and Large Volume Liquid Systems: Splash proof anti-C clothing.

F. Moderate contamination (radiological areas in which the general- area removable contamination levels are 10 to 100 times the values specified in Y/RCO-001REF, Y-12 Radiological Control Organization Controlling Limits Reference Guide):

- Minor work, tours and inspections: Low-risk set of anti-C clothing
- Heavy Work Activities: Double set of anti-C clothing
- Pressurized and Large Volume Liquid Systems: Splash proof anti-C clothing

G. High Contamination Area (radiological area in which the general- area removable contamination levels are greater than 100 times the values specified in Y/RCO-001REF, Y-12 Radiological Control Organization Controlling Limits Reference Guide):

- Minor work, tours and inspections: Low-risk set of anti-C clothing
- Heavy Work Activities: Double set of anti-C clothing
- Pressurized and large volume liquid systems: Splash proof anti-C coveralls over a single set of anti-C clothing. One (1) pair of either high-top or low-top rubber shoe covers generally required.

H. Airborne Radioactivity Area:

- All work: Clothing applicable to existing or anticipated conditions (e.g., Contamination Area, High Contamination Area), with the addition of a specified respirator, if required; (one (1) pair of rubber shoe covers is generally required); hood taped to respirator as required by the applicable RWP.
- Pressurized and large volume liquid systems: Splash proof anti-C coverall over a single set of anti-C clothing; hood taped to respirator with waterproof tape, when required by the applicable RWP. One (1) pair of either high-top or low-top rubber shoe covers is generally required.

I. Fixed Contamination Areas (FCAs), RMAs, and RBAs:

Anti-C clothing is not normally required in these areas.

J. Areas established to limit exposure to radiation (Radiation Areas, High Radiation Areas):

Anti-C clothing is not normally required in these areas, unless they are also designated as Contamination Areas, or High Contamination Areas.

K. Soil Contamination Areas:

Anti-C clothing is not required for entry to these areas unless the soil is to be disturbed.

Requirements will then be specified on the applicable RWP.

L. Underground RMAs:

Anti-C clothing is not required for entry to these areas unless the soil is to be disturbed.

Requirements will then be specified on the applicable RWP.

2. RUBBER GLOVES, REQUIREMENTS

Glove, premium quality latex. Used mainly in electronics industry for its comfort, grip, sensitivity and chemical resistance. Orange color, 12.75-inch length, 18-mil thickness, rolled cuff, roughened plan pattern.

Size: Identical to the following, or equivalent.

A. Manufacturer: Marigold Industrial

B. Part Number: 2-242TS (small)
2-2425M (medium)
2-242TL (large)
2-242TXL (extra large)

3. PLASTIC BOOTIES, REQUIREMENTS

Booties, polyethylene 4 mil

Size: Identical to the following, or equivalent.

A. Manufacturer: Nuclear Power Outfitters

B. Part Number: F10PCZ*, where Z identifies the size
Example: F10PCOO4517XL (EXTRA LARGE)

4. SURGEON'S GLOVES, REQUIREMENTS

Glove, low natural rubber latex protein levels, textured grip, 8 mils of uniform thickness, 12" length, rolled/beaded cuff. Inspected and packaged in class M3.5 cleanroom environment. Applications:

Chip Assembly.

Size: Identical to the following, or equivalent.

A. Manufacturer: Mapa Professional

B. Part Number: 0726-Z*, where Z identified size
Example: 0726-7 (Size 7)

5. DISPOSABLE ANTI-C COVERALLS, REQUIREMENTS

Increasing Protection					
Light/Moderate Work Activities	**Heavy Work Activities**	**Splash Resistant**	**Splash Proof**	**Flame Resistant**	**ARC Flash**
Kimberly-Clark™ KleenGuard® A20, A65 A10 – Light work only OREX® Original Lab coats – approved coverall materials	OREX® Deluxe/FR LYNX Tuff-Cat™ International Enviroguard® Body Filter 95+™/Viroguard	Kimberly-Clark™ KleenGuard® A30-A60 OREX® Ultra / Xtreme (Trilaminate) Dupont™ Tyvek®(400,500,600 Series)/Tychem® 2000 & QC Q-Gard Quantumwear® C	Kimberly-Clark™ KleenGuard® A80 Dupont™Tychem® 4000 & SL w/sealed seams (Saranex) Dupont™ Tychem® 6000 FR & ThermoPro LYNX Rain-Cat™ Lakeland™ ChemMax®4	OREX® FR or Dupont™ Tychem® ThermoPro **may** be suitable for certain activities**	OREX® FR (HRC 2) Dupont™ Tychem® 6000 FR & ThermoPro (HRC 2) ***

(March 6, 2017)

Light Work Activities - tours, surveillance, planning, system alignments, general laboratory operations, systems sampling. Activities in this category have a low potential for exposure. (source – Y75-56-122)

Moderate Work Activities - activities involving assembly/disassembly of equipment, painting, wire pulling, breaching internally **non**-contaminated systems. Activities in this category have a high potential for exposure. (source – Y75-56-122)

Heavy Work Activities - work involving highly abrasive techniques such as grinding, scrubbing, mechanical cutting, etc. Activities in this category have a high potential for exposure. (source – Y75-56-122)

Disposable Lab coats should be used only for Light Work Activities.

OREX® & Eastern Technologies, Inc. are the same manufacturer.

Alternate manufacturer of disposable coveralls requires Company approval.

** CONTACT SAFETY AND INDUSTRIAL HYGIENE PRIOR TO USING for ALL WELDING, BURNING, HOT WORK OR ANY ACTIVITY REQUIRING FIRE RATED (FR) CLOTHING.

*** Evaluated by Safety and Industrial Hygiene and determined to be adequate up to HRC 2.

ATTACHMENT 4

RESPIRATOR ASSIGNED PROTECTION FACTORS

RESPIRATOR TYPE	ASSIGNED PROTECTION FACTOR
Tight-fitting, half-face, air-purifying	10
Tight-fitting, full-face, air-purifying	50
PAPR* with loose-fitting face piece (6 CFM minimum)	25
PAPR with half-face mask (4 CFM minimum)	50
PAPR – Hood or helmet (6 CFM minimum)	25 / 1000 **
Continuous flow atmosphere supplying airline	25 / 1000 **
Hood or helmet (including abrasive blasting helmets)	
PAPR with tight-fitting full-face mask (4 CFM Minimum)	1000
Airline, tight-fitting half-face mask, continuous flow	50
Airline, tight-fitting half-face mask, pressure demand	50
Airline, tight-fitting full-face mask, continuous flow	1000
Airline, tight-fitting full-face mask, pressure demand	1,000 ***
Airline with loose fitting hood continuous flow	25
Self-contained breathing apparatus, pressure demand	10,000 ***

NOTE**:** This is a guide and may not reflect the current NIOSH-assigned protection factors and other OSHA substance-specific standards. Whenever there is a conflict, the most stringent assigned protection factor shall be used.

** PAPR - Powered air-purifying respirator.

** Seller or lower-tier employer must have evidence provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an Assigned Protection Factor (APF) of 1000. Without such performance testing data, all other PAPRs and atmosphere supplying respirators with helmet or hood are to be treated as loose-fitting face piece respirators and receive an APF of 25.

*** Self-contained breathing apparatus, pressure demand mode, or airline, tight-fitting full-face mask, pressure demand mode with auxiliary self-contained air supply may be used for immediately dangerous to life or health (IDLH) atmospheres.