

**SUPPLEMENTAL CONDITIONS**  
**Construction (CON 1/07)**

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**1. GENERAL**

- 1.1 Work is located at the Y-12 National Security Complex (Y-12), a government-owned facility, managed by BWXT Y-12 (Company), for the Department of Energy (DOE), in Oak Ridge, Tennessee. Work consists of furnishing labor, supervision, materials, tools, equipment, and services (except that specified to be furnished or performed by others) to perform the work required by the Subcontract.
- 1.2 The Seller shall furnish sufficient trained and qualified personnel, construction materials, equipment, and shall work such hours, including additional shifts and overtime, as necessary to maintain progress in accordance with the Company-approved schedule.
- 1.3 Normal construction work hours are 7:00 a.m. – 5:30 p.m., Monday through Thursday. Seller's requests for training, badges, vehicle access, and permits, and the processing of submittals are to be performed during normal construction work hours. The Company will process Seller requests during normal work hours.
- 1.4 Seller shall obtain approval from the Company to perform work at Y-12 outside the normal construction work hours at least two (2) workdays in advance. Seller shall use the *Overtime Request* form
- 1.5 The Company observes the following holidays on an annual basis. Seller shall not schedule work on observed holidays without prior Company approval.
  1. New Year's Day
  2. Martin Luther King, Jr. Birthday
  3. Good Friday (Standard Day Off)
  4. Memorial Day
  5. Independence Day
  6. Companion Day with Independence Day
  7. Labor Day
  8. Thanksgiving Day
  9. Day after Thanksgiving Day (Standard Day Off)
  10. Christmas Day
  11. Companion Day (Normally Christmas Eve)
- 1.6 The Seller shall submit certified payrolls for all work covered by the Davis-Bacon Act. Submit certified payrolls to the Company Subcontract Technical Representative (STR), for information, within 7 calendar days after each payroll period ends.
- 1.7 A pre-construction meeting will be held and pre-mobilization submittals stated "Work May Proceed" prior to the Company issuing a Notice-to-Proceed with Seller's subcontracted work. Seller and their lower-tier subcontractor supervision personnel shall attend. The meeting will be at Y-12 at a mutually agreed to date and time. Seller shall present their organization; work, quality and other plans; and environmental, safety, and health (ES&H) compliance to the Company to demonstrate Seller readiness to execute work in accordance with the Subcontract.

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- 1.8 Seller shall designate an Authorized Representative with full responsibility to act for and commit the Seller and lower-tier Subcontractors. The Authorized Representative shall be the Company's primary point of contact with the Seller. The Seller shall notify the Company a minimum of four workdays in advance of any changes to the Authorized Representative or Company-designated "Key Personnel" whenever they become unavailable for performance of work under this Subcontract. 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 relocated 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.
- 1.9 Seller shall notify the Company of changes relating to all Seller's and lower-tier subcontractor personnel when personnel are terminated, reassigned off site, have resigned, are on extended absence, etc. Include the name of the individual and badge number. Timely notification is required to facilitate resolution of contract compliance and release of final payment for badge returns, dosimeter returns, bioassay submissions, and return of Company-furnished items.
- 1.10 Progress meetings and Coordination meetings will be held weekly with the Seller. Seller 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 inclusive 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 for their principals and initiate actions responsive to items discussed at the meetings. Items of discussion will include:
- A. Safety
  - B. Security
  - C. Work schedules and progress
  - D. Resolution of problems and action items
  - E. *Requests for Information, Construction STR Change Notices, and Requests for Equitable Adjustments*
  - F. Administrative matters and procedures
  - G. Submittal and materials delivery status
- 1.11 A Safety and Information meeting will be held monthly with the Seller. 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, training, security, and general business.
- 1.12 The Seller shall perform work in compliance with specifications, drawings, drawing notes, and vendor requirements. Seller shall perform work in a skillful, safe, and workman-like manner. The Company may require, in writing, that the Seller remove from Y-12 any Seller or lower tier subcontractor employee the Company deems incompetent, careless, or otherwise objectionable.
- 1.13 Seller personnel, including those of their lower-tier subcontractors, shall fully cooperate with employees of the Company and other Company subcontractors. Do not commit or permit any act that will interfere with the performance of work by others.

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- 1.14 The Company STR may issue a *Construction STR Change Notice* to: (1) notify the 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 subcontract. Seller shall respond in accordance with instructions on the *Construction STR Change Notice*.
- 1.15 The Company may direct the use of a *Daily Summary of Force Account Work* for change work performed by the Seller that allows for the Seller's accumulation of costs as incurred with concurrent approval by the STR. The Seller shall submit the completed form to the STR at the end of each day worked.
- 1.16 The Seller shall utilize a *Request for Information (RFI)* for a Seller-initiated technical question such as:
- A. Clarification of technical documents
  - B. Discovery of a conflict, ambiguity, error, or omission
  - C. Request an alternate/substitute to a prescribed method

NOTE: When an RFI response represents a compensable change, the Seller shall not proceed with the change until authorized by a Company-issued *Construction STR Change Notice* or *Subcontract Modification*. No compensation will be awarded to the Seller where work proceeded without Company authorization. Seller shall maintain an RFI status log and make it available to the Company upon request.

NOTE: Seller shall address a letter to the Company Subcontract Administrator providing notification of any request for compensable schedule impact due to an RFI response. Requests shall be made within four (4) workdays of Seller's receipt of the RFI for the request to be considered by the Company.

- 1.17 The Seller shall notify the Company when work is complete and ready for the Company's inspection and acceptance by submitting a *Request for Inspection of Completed Work* to the STR. The request may be for work completed in part or as a whole to recognize contractual milestone completion dates.
- 1.18 Company-furnished items/services depend on the scope of the Seller's work and may include:
- A. Backflow preventer for hydrant water use not to exceed one per Subcontract.
  - B. Dosimetry for access to the Protected Area (PA), radiological work and Criticality Accident Alarm System (CAAS) areas
  - C. Emergency ambulance and fire fighting response
  - D. Sanitary trash dumpsters, recycle paper and cardboard dumpsters
  - E. Construction radios for emergency notifications
  - F. Security radios for subcontractor-furnished escorts
  - G. PPE and respirators for radiological work

NOTE: Seller shall coordinate requests for Company-furnished items with the STR at least four (4) workdays in advance. Obtain emergency ambulance and fire fighting response by contacting Plant Shift Superintendent (PSS) at 574-7172, from a plant phone 911 or by Company radio.

- 1.19 Seller's employees entering the PA shall wear a Personal Nuclear Accident Dosimeter (PNAD) or Thermoluminescent Dosimeter (TLD). PNADs are available at portal checkpoints. Seller shall ensure PNADs are returned at the completion of the work. PNADs are not included in an annual radiation monitoring report.

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- 1.20 The Seller shall maintain a copy of Company-approved subcontract submittals and a copy of the Subcontract, complete with drawings and specification, at the work site and available to Seller and Company personnel.

**2. OPERATING FACILITIES**

- 2.1 Facilities may be in operation during the Seller's work. The Company will coordinate operating Facilities' activities and the Seller's work. Seller shall request permission from the Company eight (8) workdays in advance of need to work in an operating area and receive authorization from the 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 Blocking or wedging of exit or fire doors is not permitted. Keep door openings and surrounding areas clear and allow free operation of the door. Exit doors must swing fully open with a single-handed push. Where the *Work Plan* requires disabling an exit or fire door, the Seller shall provide signage with exit instructions.
- A. Do not remove or paint over UL/FM or similar labels on fire doors.
- 2.3 Seller representative 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" form and provide a daily Work Plan that identifies work activities for the following day.
- A. "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 or for others reporting 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 sheets for the job briefs shall be submitted to the STR on the next workday. Pre-job brief shall include review of applicable *Work Plan*, *Activity Hazard Analysis (AHA)*, training requirements, and manufacturers' material installation and equipment operating instructions.
- 2.5 Seller shall submit requests for system outages a minimum of eight (8) workdays in advance of need. Requests shall include detailed activities and schedule durations for the work to be performed during the outage. The Company will coordinate an outage schedule. Hold outages to a minimum in number and duration. Seller shall identify critical outages on the schedule submitted to the Company.
- 2.6 The Company will provide *Excavation/Penetration Permits*, *Radiological Work Permits*, *Hot Work Permits*, *Confined Space Permits* (for existing confined spaces), and authorizations for Storm and Sanitary Water Discharge (per regulatory permits), Asbestos Removal and Building Demolition.

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- A. Seller shall request Company-provided *Excavation/Penetration Permits* sixteen (16) workdays prior to need and Asbestos Removal and Building Demolition Authorization twenty (20) workdays prior to need and other permits/authorizations four (4) workdays prior to need. *Excavation/Penetration Permits* expire 90 days after issue date on the permit unless work has started.
  - B. Company-provided *Excavation Permit* does not relieve the Seller of responsibility to contact and comply with the Tennessee One-Call System prior to excavation.
  - C. An *Excavation Permit* is required for excavation work activities, except for the following:
    - 1. Work associated with the maintenance, removal, and/or replacement of pavement and sidewalks not in excess of their thickness.
    - 2. Maintenance replacement of the same location, depth, and size as the items being replaced (i.e. sign post, poles, etc.)
    - 3. Earth/rock excavations, twelve (12) inches or less in depth, with a surface area not in excess of twenty-five (25) square feet using hand-held tools, excluding jackhammers.
  - D. A *Penetration Permit* is required for all penetrations in walls, floors, ceilings and roofs except for the following conditions:
    - 4. Where the complete and full penetration of a wall is less than eight (8) inches in any direction in non-nuclear facilities and non-chemically hazardous facilities.
    - 5. Work associated with the installation of fasteners is  $\frac{3}{4}$  inch or less in embedded depth, to floors, walls, ceilings and roofs, in non-nuclear facilities and non-chemically hazardous facilities.
    - 6. Penetrations of pavement and sidewalks is not in excess of their thickness.
    - 7. Penetrations of masonry is not exceeding the face shell thickness.
    - 8. Penetrations in single layer surface where both sides of the surface are clearly visible.
  - E. Seller shall return expired *Hot Work Permits* and completed *Excavation and Penetration Permits* to the STR or Issuing Authority.
- 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. Seller shall provide hoods, enclosures or other methods of containment during sandblasting or similar operations.
- 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 measure requiring the use of Company-furnished Personal Radiation Detection Instrument (PRDI).
- NOTE: The Seller has an option to request a Facility CAAS audibility test while Seller demonstrates work activity producing noise 85 dBA or more to establish compensatory measures.
- 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.

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- 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's personnel accessing the PA or Nuclear Facilities shall complete Company-provided Safety Basis 202 Training.
- 2.12 Seller shall notify PSS and STR for roof access authorization.

**3. WORK PLANNING AND EXECUTION**

- 3.1 Seller shall submit a *Work Plan* and obtain Company approval before the Company issues a Notice-to-Proceed (NTP) to the Seller for mobilization and other Y-12 work activities. The *Work Plan* shall include:
  - A. Technical approach
  - B. Security requirements
  - C. Inspection and tests
  - D. Assignment of responsibilities
  - E. Environmental, Safety and Health oversight and compliance
  - F. Equipment
  - G. Sampling and Analysis
  - H. Waste Management
  - I. Material storage
  - J. Submittal and work sequence schedule
- 3.2 The Seller shall submit a *Daily Report* to the Company no later than the next workday. The *Daily Report* shall include:
  - A. Subcontract Number and Subcontractor name
  - B. Project Name
  - C. Number of employees of Seller and its subcontractors and hours worked, identified by craft including non-manual supervision
  - D. Equipment on site and the condition of the equipment and hours worked or on standby
  - E. Names of visitors
  - F. Description of work, tests, or inspections performed
  - G. Environmental and safety observations/incident
  - H. Special comments (e.g. delays, disruptions, critiques)
  - I. Seller Authorized Representative or designee signature.
  - J. Weather conditions and temperature
  - K. Date

**4. TRAINING**

- 4.1 Company will provide instruction at no cost to the Seller, for *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.
  - A. Seller may request the training record for Seller's employees completing Company-furnished training.

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- B. 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 and task-specific training required for Seller personnel and lower-tier subcontractors. Complete and submit the *Request for Y-12 National Security Complex Training* form to STR to request Company training. Revision to task-specific documents (e.g. AHAs plans) requires re-training. The Seller is responsible for providing personnel who are trained and qualified in the skill of their craft, discipline, or specialty. Seller is responsible for providing its personnel any/all non-Y-12 specific training required to keep its personnel current, any required Federal and State laws codes and standards or required for the employee to be able to perform the work assigned by the Seller. Seller shall document training and provide records to the Company 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 manufactures' instructions. When unique or special tools or equipment are required, the Seller shall have manufacturer or vendor manuals available on site 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 all employees are made aware of the potential environmental impacts of their work and the controls (e.g., procedures, Best Management Practices (BMPs), engineering controls) in place to minimize or eliminate negative impacts, and the potential environmental consequences of departure from specified procedures.

**5. MATERIAL DELIVERY, STORAGE & HANDLING**

- 5.1 Promptly place orders for equipment, materials, and services to complete the work. Provide delivery schedules for critical items into the Seller's schedule. For items requiring a submittal, do not order until the Company provides acceptance.
- 5.2 Seller shall notify the Company of changes in deliveries or circumstances that affect timely delivery of equipment, materials, and services. Seller requests for an extension of time because of late delivery of equipment, material, or services shall be submitted to the Company in writing and accompanied by documentation showing the 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 all Seller-purchased equipment and materials. Deliver materials in a new condition and unload, handle, protect and maintain according to manufacture'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 the Seller's expense, including expediting expenses.
- 5.4 All bills of lading for deliveries shall be addressed to the Seller and state the specific delivery location and point of contact. The STR is available to assist with delivery coordination.

NOTE: The Company will not accept deliveries for the Seller.

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- 5.5 Seller shall comply with manufacturer instructions and requirements for handling and storing of material and equipment. Protect materials and equipment from moisture, dust, and damage, including conditioned storage when required. Seller shall store materials and equipment to prevent damage to the environment and comply with Federal and State regulations.
- 5.6 Seller-purchased materials specified by Configuration Control Equipment Data Sheets (CCEDS) shall have a receipt inspection upon delivery and be secured and tracked until installed per specification Division 1 requirements. Seller shall establish and maintain a Material Control Plan for CCEDS materials/items in accordance with Division 1 requirements. The Material Control Plan shall include, but not be limited to the following:
- 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.
  - 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. The Seller shall be responsible for all loss, destruction, or damage to Seller material (including work in progress). Limit lay down and storage to areas designated by the Company. Seller is responsible for maintaining good housekeeping in storage and laydown areas 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.
- 5.10 Seller is responsible for protection and maintenance of Government-Furnished Equipment/Material (GFE) that has been placed in the Seller's care. Damaged GFE shall be repaired at the Seller's expense, including expediting expenses.

**6. SCHEDULE**

- 6.1 Seller shall submit their Schedule with Resource Profile and Cost Loading to the Company STR within eight (8) workdays after award and obtain approval of the schedule prior to receiving a Notice-to-Proceed from the Company. The approved initial Schedule is the baseline schedule.
- A. The Schedule shall include the Seller's work activity sequence in sufficient detail to provide:
    - 1. Assurance that it encompasses the entire scope of the subcontract.
    - 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](http://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.

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- B. The Company's review and acceptance of the Seller's baseline Schedule is for conformance to the Subcontract requirements only. The Seller is responsible for the schedule logic, reasonableness and feasibility; activity selections and durations; and cost and resource loading. "Cost" is defined as the approved schedule of values, the sum of which shall equal the total Subcontract Amount.
  - 1. Changes to the accepted schedule sequence shall be discussed with the Company and may require a revised baseline Schedule to be submitted by the Seller for acceptance by the Company.
  - 2. The 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.
- 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 as P3 format.
- D. The Schedule shall be a *Critical Path Method (CPM)* Schedule presented in graphic format and updated weekly. Weekly schedule updates shall show the baseline Schedule and current status on activities, costs, and resources. Seller shall provide copies of the Schedule updates for the Progress Meetings.
- E. The Seller shall obtain acceptance of the baseline Schedule before submitting the first *Application for Payment*. Company acceptance of subsequent revisions to the baseline Schedule (re-baselining) is also required prior to approval of *Applications for Payment*.
- F. If the Seller falls behind the accepted Schedule, risking completion of the subcontract period of performance, the Seller shall, without additional cost to the Company, take such steps as necessary to regain schedule.
  - 1. The Company may require the Seller to submit a recovery plan and a schedule in the same format as the original schedule.
  - 2. Upon the Company's determination that the Seller is not executing the work with such diligence to ensure completion within the subcontract period of performance, the Company may perform or have the work performed by others on behalf of the Seller and deduct the cost incurred from the subcontract value.

6.2 Schedule Format and Content

- A. The Schedule shall be a CPM in 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 1 on the Schedule)
  - 2. "Notice-to-Proceed Issue"
  - 3. Other milestone dates specified in the Subcontract
  - 4. "Construction Complete"; logically tied to demobilization
  - 5. "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

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- 10. Activity Target Early Finish
- 11. Variance Target Early Finish/Start

- E. The Seller's Schedule activities, resources, and costs shall be coded as directed by the Company. The Company will provide an electronic file of a P3 Shell and Work Breakdown Structure (WBS). The P3 Shell is a template that contains Subcontract-specific and Company's standard WBS, activity code dictionaries, and resource codes. The Seller shall use the Company-provided P3 Shell and WBS. The Seller shall modify (add to) the Company- provided P3 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 equipment, equipment installations, lockout-tagouts/outages, work activities, test and checkout activities, final cleanup and demobilization, and documentation for turnover.
  - 1. Activity selection shall define discreet elements of work, whose duration shall not exceed 21 calendar days unless approved 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 float is owned neither by the Company nor by the Seller.

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

- A. In the event the Company changes the Subcontract period of performance, the Seller shall submit a revised baseline Schedule to the Company for acceptance within eight (8) workdays after receipt of the Subcontract Modification, changing the period of performance,.
- B. Extensions of time to the Subcontract Completion Date will be granted only to the extent that activities adjusted due to a Subcontract Modification or delay affect the Subcontractor's critical path and Subcontract Completion Date.

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

- A. The Seller shall compile the Resource Profile and Cost Loading utilizing the Company provided P3 Shell. Each schedule activity shall be resource and cost loaded.
- B. The Seller shall provide a 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. Only Subcontract Modifications that have been authorized and approved by the Company shall be included in the revisions to the Resource Profile and Cost Loading. 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.

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**7. PAYMENTS**

- 7.1 Seller shall prepare a *Schedule of Values* to allocate the Subcontract pricing to work activities on the Seller's Schedule when the Subcontract Measurement for Payment allows for interim payments to the Subcontract Pay Item(s). The *Schedule of Values* will be used by the Company as the basis for approving applications for payment. Submission as follows:
- A. Prepare a *Schedule of Values* correlated to work breakdown identified in Seller's schedule.
  - B. Submit to the STR for approval within two (2) weeks after approval of Seller's schedule.
  - C. Update and resubmit with each revision to the Subcontract Pay Item(s).
  - D. Submit approved *Schedule of Values* with *Application for Payment* to show payment requested for work completed.
  - E. Format and Content
    - 1. Provide a breakdown of the price 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 the 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 off-site storage.
    - 3. Temporary facilities and other distributable cost items that are not 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. 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 Progress and Final Payment: Payments will be made in accordance with the Measurement for Payment provision in the Subcontract Pricing Section and the General Term and Conditions clause on Payments.
- A. Basis for Payment
    - 1. Compute progress payments on a basis of completed work for each 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.
    - 2. The date for submittal of each progress payment is the third Wednesday of each month.
  - B. Submittal of *Application for Payment*
    - 1. A person authorized to sign legal documents on behalf of the Seller shall execute the *Application for Payment*.
    - 2. Entries shall match data on the *Schedule of Values* or measurement for payment.
    - 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 (SA), and Accounts Payable.
  - C. Submittal of *Application for Final Payment*
    - 1. Upon completion of the work, submit an *Application for Payment* marked as "final."
    - 2. Provide a signed *Release and Certificate of Final Payment* form with the *Application for Final Payment*.

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3. Prior to submission of *Application for Final Payment*, Seller shall request from the STR information concerning any outstanding contract compliance items; including outstanding submittals, certified payrolls, return of badges, dosimetry, bioassay samples, vehicle passes or other Company-furnished items. Failure to resolve could delay approval of *Application for Final Payment*.
- D. Approval of Application for Payment
  1. 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 Company forms are available through the Company Procurement Public Web Site at url address: [http://www.Y-12.doe.gov/procurement-ext/library/art\\_forms.html](http://www.Y-12.doe.gov/procurement-ext/library/art_forms.html)

- A. *Asbestos Waste Shipment Record (UCN-17379A)*
- B. *Construction STR Change Notice (UCN-21329)*
- C. *Daily Summary of Backcharge Work*
- D. *Daily Summary of Force Account Work*
- E. *Homeland Security Presidential Directive HSPD-12 Badge Request Form (UCN-21519)*
- F. *Individual Accident/Incident Report, DOE F 5484.3*
- G. *Overtime Request*
- H. *Release and Certificate of Final Payment*
- I. *Request for Information*
- J. *Request for Inspection of Completed Work*
- K. *Request for Y-12 National Security Complex Training (UCN-21364)*
- L. *Request for Y-12 National Security Complex Vehicle Pass (UCN-23155)*
- M. *Subcontractor Request for Y-12 National Security Complex Temporary Access and Vehicle Pass (UCN-21354)*
- N. *Subcontract Safety Performance Report (UCN-21439)*
- O. *Subcontractor Hazardous Materials Inventory Report (UCN-21445)*
- P. *Submittal Transmittal Form*
- Q. *Telecommunications Proposal (UCN-16020A)*

Notes:

1. Forms are available in hard copy and electronic format from the STR.
2. Forms referenced are to be submitted to the STR.
3. *Waste Item Description* (Form 2109) and *Escort Package* (UCN 17629) forms are not posted on the Company Procurement Public web site. They are available in hard copy from the Company.

**9. TEMPORARY FACILITIES AND WORK AREA CONTROLS**

9.1 The following regulatory requirements are incorporated by reference:

- A. *NFPA 70-02, National Electrical Code (NEC).*
- B. *NFPA 501A, 1999, Standard for Fire Safety Criteria for Manufactured Home Installation, Sites, and Communities.*
- C. *ANSI D 6.1, Manual on Uniform Traffic Control Devices for Streets and Highways.*
- D. *ANSI A225.1, Anchor and support requirements.*
- E. *SBCCI, Southern Building Code Congress International.*
- F. *Standard Building Code.*

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- G. *TN 1200-5, Rules of the Tennessee Department of Health and Department of Environment and Conservation, Division of Water Supply.*
- H. *29 CFR Part 1926 Subpart G, Signs, Signals, and Barricades*

9.2 Temporary Utilities/Company-Furnished Facilities

- A. Seller shall provide temporary lines and equipment to existing Y-12 electric and water utilities. The Seller is responsible for installing, maintaining, and repairing temporary lines and distribution equipment. Tie-ins and disconnects to Y-12 utilities will be performed by the Company. Provide material and equipment in place and ready for tie-in. Remove temporary utilities upon completion of the work and after final disconnect.
  - 1. If Company electric power is not available, Seller shall provide portable power, as required. Provide Ground Fault Circuit Interrupters for temporary electrical lines. Perform temporary electrical work in accordance with NFPA 70 (NEC) requirements. If portable power requires a ground rod, an excavation/penetration permit is required if existing ground is not available.
  - 2. The Company will provide a water source at existing locations. Company-installed backflow preventers are required on all hydrants. The Seller is responsible for providing distribution line (e.g., hoses, nozzle), from the backflow preventer/water source to the work area. Seller shall provide booster pump(s) as necessary. The Seller shall provide portable water holding tanks with discharge pumps or mobile water tanker where Company does not provide a water source convenient to the Seller's work area.
  - 3. Discharge into Y-12 storm or sanitary sewer in accordance with regulatory permit(s). Coordinate with STR to obtain Company authorization prior to water discharges.
  - 4. Hard-wired telephone service is available through Qwest. The Seller is responsible for providing telephone service. Cordless telephones are prohibited at Y-12.
  - 5. Provide chemical toilet facilities and maintain them in a safe and sanitary condition.
  - 6. Seller consumption of Company-provided electrical and water is at no cost to the Seller.
  - 7. Seller's electrical installation to temporary facilities shall pass an inspection by the Y-12 Authority Having Jurisdiction (AHJ) before tie-in or connection to a portable generator greater than 5KW or Y-12 power distribution system.
  - 8. Company will not be held liable by Seller for delays in completing utility tie-ins.

9.3 Protection of the Work Area

- A. Seller shall provide flagging, signs, and barricades for storage areas and construction work areas and shall comply 29 CFR 1926, Subpart G. Barrier fence shall be 48" high, orange plastic, Vallen Safety, catalog number FNC-450 or equal. Remove temporary fencing, barriers, barricades, and signs upon work completion. No post shall be installed greater than 12" without an excavation/penetration permit.
- B. 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 at each work area, temporary facility, and storage area. Include contact information for off-shift and weekend hours.
- C. Traffic and Pedestrian Control
  - 1. Notify STR eight (8) workdays in advance of road 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 vehicle traffic. Submit plan to the Company, for approval, eight (8) workdays prior to implementation. Company approval is required prior to implementation of the plan.

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3. Provide traffic control that conforms to ANSI D 6.1.
4. Provide and maintain pedestrian walkways and building access to the greatest extent possible. The area shall be flagged with orange plastic barrier fencing and applicable signs.
5. Provide structurally sound walkways over open excavations.
6. Provide adequate concrete barricades at open trenches adjacent to vehicle traffic.
7. 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.

9.4 Temporary Facilities

- A. Temporary facilities include office trailers, change facilities, and other facilities that will be removed upon completion of the work. Company approval is required prior to the Seller setting up any temporary facilities.
- B. Locate temporary facilities a minimum of 35 feet clear of existing buildings.
- C. Provide a platform, stairs, and handrails at each exterior door. Steps shall have a non-skid surface.
- D. Anchor and support the trailer in accordance with ANSI A225.1 and NFPA 501A. An Excavation Permit is required prior to driving anchors or ground rods.
- E. Provide and maintain portable fire extinguishers that are clearly identified.

**10. WASTE MANAGEMENT**

10.1 The following regulatory requirements are incorporated by reference:

- A. 29 CFR 1910.145, OSHA, *Specification for Accident Prevention Signs and Tags*
- B. 40 CFR 261, EPA, *Identification and Listing of Hazardous Waste*
- C. 40 CFR 262, EPA, *Standards Applicable to Generators of Hazardous Waste*
- D. 40 CFR 279, EPA, *Standards for the Management of Used Oils*
- E. 40 CFR 761, EPA, *PCB Manufacturing, Processing, Distribution in Commerce, and Use Prohibition*
- F. 49 CFR 171, EPA, *General Information, Regulations, and Definitions*
- G. 49 CFR 172, DOT, *Hazardous Material Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information and Training*
- H. 49 CFR 173, DOT, *Shippers-General; Requirements for Shipments and Packaging*
- I. TDEC 1200-1-11, *Hazardous Waste*
- J. DOE Order, DOE O 435.1, *Radioactive Waste Management*

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 proper materials. Notify the STR if unauthorized waste is found.
- C. Store waste at a staging area until Company approval is obtained for removal from the work area.
- D. The Company will provide containers for storage and disposal of wastes to be transported by the Company, unless noted otherwise. See *Materials Disposition Table* for items to be transported by the Company.

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- 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 packaged inside the Protected Area or Limited Area shall be by Q-cleared individuals. Company may request Seller to develop a Waste Container Security Plan.

10.3 Waste Identification and Labeling

- A. The Company's *Waste Item Description* Form 2109 is required to be completed before wastes may be removed from the work area. The Seller, with assistance from the Company, shall prepare the form. The Y-12 Landfill requires the Seller to submit and obtain approval of the Form 2109 six (6) workdays prior to need before they accept the waste for disposal.
- B. The Seller shall complete and submit to the Company the *Asbestos Waste Shipment Record* (UCN 17379A) before asbestos waste is removed from the work area. The Company will provide an Asbestos Work Authorization Number upon the Seller's request.
- C. The Seller shall label the waste package containers with assistance from the Company.
  - 1. Company RADCON will survey and analyze the waste material, verify that the waste meets the Y-12 Landfill radiological acceptance criteria, and issue a green tag before the Seller begins transferring waste for packaging, transportation, storage, and/or disposal.
- 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. Provide a minimum of one (1) workday advance notice to the Company STR before scheduled removal of waste from the work area after receipt of the approved Form 2109.

10.4 Waste Segregation

- A. Segregate wastes by type (e.g., recyclable, hazardous, special, spoils, sanitary waste, and construction debris).
- B. The Company will assist in identifying waste type, packaging, labeling, marking, and storage requirements.
- C. The Seller shall initiate the request for special waste disposal at the Y-12 Landfill through the Company STR. Special waste permits that are required will be processed by the Company and can take up to 90 days to obtain.

10.5 Waste Handling

- A. Deliver the wastes to the appropriate Y-12 Landfill as identified in the attached *Material Disposition Table*, on weekdays Monday through Friday between the hours of 7:30 A.M. to 11:00 A.M. and 11:30 A.M. to 2:30 P.M.. Seller should assume an average of 45 minutes from arrival to dumping at Company Landfill for non asbestos debris. Landfill VII operating hours are impacted by deliveries to Landfill V. Seller shall provide a schedule for waste shipments to the Y-12 Landfill to the Company eight (8) workdays in advance of waste disposal.

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1. Drivers shall stop at the Waste Acceptance Technicians (WAT) office and check-in. 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 Landfill, look to the Equipment Operator for guidance on placement of the load for disposal.
  2. Smoking and other tobacco use is prohibited within the Y-12 Landfill offices.
  3. The use of cell phones while driving vehicles is prohibited at the Y-12 Landfill. Only Company approved cell phones may be used at the landfill since the landfill is located within the 229 boundary (Blue Line).
- B. For waste disposal at the Y-12 Landfill, reduce waste to a maximum length of eight feet. Pipe diameters shall not exceed twelve inches in diameter. Oversize waste previously approved for disposal requires a two (2) workday notification to the Y-12 Landfill.

Note: Oversized waste may require a Special Waste Permit.

- C. At the Y-12 Landfill, respiratory protection is required for workers who get outside the enclosed cab of a transportation vehicle hauling wastes or are within 100 feet of disposal activities identified by the Y-12 Landfill as a respiratory hazards (e.g. asbestos, beryllium, man-made fibers). All workers are required to wear high visibility vests, safety glasses, and safety shoes while at the Y-12 Landfill and outside the enclosed cab of a transport vehicle. Also, hardhats are required where overhead work is being performed.
- 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 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 the Seller to cover the collection area with 6-mil poly, cover the stored bags of waste with 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.
- E. Friable asbestos-containing material (ACM) insulation shall be properly packaged and labeled for delivery to Landfill V. Loose friable insulation will not be accepted for disposal. Deliver to Landfill V between the hours of 8:00 – 10:45 a.m. and 12:00 to 2:00 p.m., Tuesdays only. Seller should assume an average of 60 minutes form arrival to dumping at Company Landfill. Waste handling operation at Landfill V is suspended for a 30 minute period in the morning. Non-friable ACM will be accepted 5 days a week.
- F. Radioactive hazardous waste as defined in 40 CFR 261, PCB waste as defined in 40 CFR 761, and free liquid wastes will not be accepted for disposal at Landfill V or VII.
- G. The Seller shall store, package, transport and dispose of hazardous and/or radioactive waste as follows:
1. Store hazardous waste as defined by RCRA and corresponding state of Tennessee regulations in a Company-approved 90-day Accumulation Area or Satellite Accumulation Area in accordance with TDEC 1200-1-11. Seller shall obtain Company approval for hazardous waste Accumulation Area prior to beginning waste storage or staging. Seller shall coordinate with the STR to register the Accumulation Area with the Company. RCRA hazardous waste generator training is required to operate RCRA 90-day Accumulation Area per 40 CFR 262.34 (a)(4).
  2. Transport RCRA waste to the location designated by the Company for storage and management.
  3. Store and package radioactive waste in Company-provided DOE-approved (e.g. 55-gallon drums, B-25 boxes) containers in accordance with DOE O 435.1. Seller shall coordinate with the STR to register Radioactive Materials Storage Area(s) (RMA) with the Company. Transportation and disposal will be by the Company.

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4. Store and package PCB materials in accordance with 40 CFR 761. Seller shall coordinate with the STR to register PCB Waste Storage Area(s) with the Company. Segregate wire from demolition debris and package as PCB waste if it is PCB contaminated. The Company will pick up the material at the work area.
- H. Waste Oil, Solvents, and Sludge
1. Package oil and solvents in DOT-specification 55 or 30-gallon polyethylene-lined bung top drums. Package sludge in DOT-approved open top drums with polyethylene lining. Leave 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.
  2. Once the drums are filled, tighten the large bung with a bung wrench. For drums of waste oil and solvents, replace the smaller bung with a vent plug.
  3. After filling, wipe the exterior (sides and top) of drums clean of residue. Apply tag to the side of each drum. Tags shall be a Company-furnished UCN-2114A, *Hazardous Waste Identification* for RCRA hazardous wastes, or a UCN-2114B, *Waste Identification* for nonhazardous waste. Insert the tag in a self-adhesive vinyl envelope and attach to the side of the drum, near the top, and angle downward to keep out water. Mark the tag with permanent ink, and print all information, including the Seller's name and subcontract number. Dispose of wipes in accordance with applicable waste regulations.
  4. Segregate oil, solvent, and sludge waste by type, origin, and contaminants.
  5. If any packaging requirements are not met, the waste will not be accepted and transported by the Company.

10.6 Recycling

- A. The Seller shall make every effort to remove packing material prior to delivery of the material to the work area and recycle the material appropriately.
- 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 6 ft. Notify the Company for pick-up.
    - b. For larger quantities, the Company will provide and transport containers. Cut materials to lengths that will easily fit in the containers provided.
  4. Light bulbs: Store light bulbs in a manner to prevent breakage. Segregate broken bulbs from unbroken bulbs. Package and keep containers neatly stacked and dry. Deliver to the Company in approved containers during building operating hours.
  5. Used oil: Store and maintain used oils for recycle in accordance with 40 CFR 279 and EPA requirements. The STR will designate a Y-12 location for oil collection and storage.

10.7 Transportation

- A. Provide containment for spoils, waste, and salvageable materials during transport. Provide covers on open top containers and trucks.
- B. Transport asbestos waste in accordance with 49 CFR 173.216. Line the truck cargo bed with two layers of 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.

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- C. Transport waste to designated Y-12 disposal facility utilizing shortest possible route.
- D. Dump trailers are prohibited from delivering waste to the Y-12 Landfill.

10.8 Waste Control

- A. Do not remove waste from Y-12 without prior approval by the Company.
- B. The Company is responsible for 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 off-site after exiting Y-12.

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<b>MATERIAL DISPOSITION TABLE</b>			
<b>WASTE MATERIAL</b>	<b>CONTAINER BY:</b>	<b>TRANSPORTATION BY:</b>	<b>DISPOSAL LOCATION</b>
<b>NON-RADIOACTIVE CONTAMINATION (GREEN RADCON TAG REQUIRED)</b>			
Aerosol cans –empty	Seller	Seller	Industrial Landfill V
Aerosol cans – product remaining	Seller	Seller	Seller Supplied Facility
Asbestos-Containing Material (ACM)			
• Friable	Seller	Seller	Industrial Landfill V
• Non-friable construction debris	Seller	Seller	Construction Landfill VII
Construction/Demolition debris – wood, sheet rock, roofing, incidental metals	Seller	Seller	Construction Landfill VII
Earthen materials (Spoils) – soil, brick, concrete, masonry materials, rock, asphalt	Seller	Seller	Industrial Landfill Spoil Area
Fluorescent bulbs	Company	Seller	Bldg. 9401-1 Lamp Recycle
Fluorescent light ballasts:			
• Non-PCB (Recycle)	Company	Company	Recycle
• PCB	Company	Company	Waste Operations 90-Day Yard
Glass	Seller	Seller	Industrial Landfill V
Gray water (i.e. shower & wash water)	Seller	Seller	Sanitary Sewer
Incandescent bulbs	Company	Seller	Bldg. 9401-1 Lamp Recycle
Mercury	Company	Company	Waste Operations 90-Day Yard
PCB-contaminated bulk product:			
• PCB level <2 PPM	Seller	Seller	Same as non-PCB
• PCB level ≥2 and <50 PPM	Seller	Seller	Industrial Landfill V w/ special waste approval
• PCB level ≥ 50 PPM	Seller	Seller	Industrial Landfill V w/ special waste approval
PCB Oily Rags and Wipes			
• Chemicals	Company	Company	Offsite Facility
Sanitary waste			
• Plastic, Paper, Food waste	Company	Company	Industrial Landfill V
• Portable Toilets and Holding Tanks	Seller	Seller	Commercial offsite disposal
Scrap metal, including lead	Company	Company	New Salvage Yard metal recycle area
Used oil:			
• No Rad Added Certification	Company	Company	Waste Operations 90-Day Yard
• PCB Oil	Company	Company	Waste Operations 90-Day Yard
• Detectable uranium (below yellow tag )	Company	Company	Company Storage
Wiring (non-PCB, non-ACM)	Company	Company	Salvage Yard metal recycle area
Wood (unpainted, untreated, trees & vegetation)	Seller	Seller	Y-12 Burn Area
<b>RADIOACTIVE-CONTAMINATED MATERIALS (Yellow RADCON Tag)</b>			
ACM Materials	The Seller shall package radioactive contaminated wastes in Company-furnished DOT containers for transportation. The Company will transport radioactive contaminated waste.		
PCB Materials			
Construction Debris			
Roofing			
Scrap metal			
Wood			
Aerosol cans			
Light bulbs			

**NOTE: Contact STR if materials not identified in this table are encountered during the performance of the work.**

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**11. RADIATION CONTROL (RADCON)**

11.1 The following regulatory requirements are incorporated by reference:

- A. American Standard for Testing and Materials (ASTM) D-2986-95a, Standard Practice for Evaluation of Air Assay Media by the Monodisperse DOP (Dioctyl Phthalate) Smoke Test.
- B. 10 CFR 835, *Occupational Radiation Protection*

11.2 Definitions

- A. Radiological Work Permit (RWP): A Company-issued permit (administrative control), used to maintain the radiological exposure of personnel as low as reasonably achievable.
- B. Surface Contamination: Unwanted radioactive material, which is deposited on the surfaces of structures, objects, or personnel.
- C. Radiological Area: Area where radioactive contamination (fixed or removable) or radiation exists at levels where work controls are necessary.

11.3 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 (e.g. Knoxville Building and Construction Trades Council – Laborers’; Local 818). Provide employee's full name, job title, title of course(s), training date, and training organization. Include a copy of the training certificate(s). Successful completion of a written Company test, dress out, and practical exercise is required by the Company in addition to training.
- B. *Radioactive Source Request* to include manufacturer’s data, inspection, and maintenance documentation for radiological sources.

11.4 Delivery, Storage, and Handling

- A. Remove packaging to the maximum extent possible prior to transporting material into radiological areas.
- B. Minimize radiologically contaminated waste by segregating from non-contaminated waste.
- C. Material and Equipment Surveys
  - 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 must clean equipment prior to arrival. Equipment shall not have a heavy layer of grease, dirt, or debris that may hinder the radiological surveys.
  - 2. Upon completion of the work and prior to removing from Y-12, the Company will survey Seller's tools, materials, and equipment to ensure they have not become contaminated. If contamination is encountered, decontamination will be performed by the Company. The Company will not decontaminate nor reimburse the Seller for tools or equipment valued at less than \$200 which became contaminated.
    - 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, the Seller shall provide a copy of appropriate license(s) that authorizes them to possess such material, to the Company.

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11.5 Materials and Equipment

- A. Company-furnished items:
  - 1. Coveralls, gloves, shoe covers, and other protective clothing needed to work in radiologically contaminated areas (excluding safety shoes, glasses, and hardhat).
  - 2. Respirators and cartridges.
  - 3. Storage containers for radiologically contaminated waste.
  - 4. Radiation dosimeters.
  - 5. Personnel monitoring station and equipment to perform required monitoring.
  - 6. Change facilities including showers and lockers.
  - 7. Characterization of the work area.
- B. Seller-furnished items:
  - 1. Safety shoes (shoes cannot leave the radiological area until decontaminated).
  - 2. Vacuum cleaners equipped with HEPA filters.
  - 3. Portable electric hand tools equipped with HEPA filters.
  - 4. Industrial Safety Personal Protective Equipment (e.g. hardhats, glasses, welder aprons)
    - a. HEPA filters shall provide an efficiency of not less than 99.97% when challenged with 0.30-micrometer particle size aerosol.
- C. 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 radiologically controlled area.
- D. Radioactive Sources:
  - 1. Seller shall submit a written request 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:
    - a. Description of source, including radionuclide(s), activity, and contact dose rate.
    - b. Manufacturer and unique identification number.
    - c. Current leak test report.
    - d. A copy of license(s) permits, operating procedures, and emergency procedures.
    - e. List of authorized users, training records, and contact phone number.
    - f. Storage location.
    - g. Date the source will be arriving and the date it is to leave Y-12.
    - h. Seller's Source Custodian and telephone number.
    - i. Subcontract number.
    - j. A description of the work and how the source will be used.
  - 2. The Company will provide a Source Custodian to act as a liaison between Seller and STR, and to ensure Company radioactive source control procedures are followed. Specific Y-12 procedures will be provided to the Seller as a part of the Company approval process.
  - 3. 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.
  - 4. Notify the Company STR, both verbally and written, when the source is brought to and removed from Y-12.

11.6 Radiological Work Preparation

- A. Work will be performed within the Y-12 Controlled Area as defined in 10 CFR 835, *Occupational Radiation Protection*.

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- B. Radiological Worker Training:
  - 1. Personnel shall complete a 20-hour *Radiological Worker II Training* Program and pass an examination (written test and dress-out practical exercise). Retraining is required every two (2) years.
- C. Radiological Monitoring
  - 1. A baseline bioassay sample is required for all Seller personnel prior to working in radiologically controlled areas governed by a RWP. An exit bioassay sample is required for those who participated in the bioassay program upon completion of the RWP work. Depending upon the RWP, bioassay sample 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 return of bioassay sample. Bioassay (baseline and periodic) is only required if stated in the RWP.
  - 2. The Company will notify the 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 or encounter radiological contamination will be issued dosimetry badges by the Company before the start of work. Wear dosimetry badges in plain view above the waist at all times while working in a radiological controlled area. Collect and return all issued Thermoluminescent Dosimeters (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. If any employee fails to return their TLD and/or provide a required bioassay sample, the 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 working at Y-12.
  - 5. The Company will provide an annual radiation monitoring report to each Seller employee who received radiation exposure monitoring.
- D. *Radiological Work Permit (RWP)*
  - 1. The Seller shall request an RWP one (1) week before the scheduled work activity. The Seller's Work Plan and AHA shall accompany their request for an RWP. The RWP shall be posted at Boundary Control Stations/Access Points before access is permitted to the radiological area.
  - 2. The RWP will identify specific work requirements including work instructions, PPE, dosimetry, and training. Personnel entering the work area shall sign 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.
    - a. A Pre-Job Brief on the 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.
- E. Equipment Testing
  - 1. Equipment having a HEPA filter shall be tested in accordance with requirements identified in Supplemental Conditions, Part 12, Environmental, Safety and Health – Equipment and Tools.
- F. Radiological Area – Dress Out Not Required
  - 1. Review radiological hazards as identified in the RWP with the Company.
  - 2. Maintain a log of personnel entering the radiological area, and if required by the RWP, record the entry and exit times.
  - 3. Eating, drinking, using tobacco or chewing gum is not allowed.
  - 4. Enter only to perform required work.

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5. Personnel monitoring is required before leaving the area.
- G. Radiological Area – Dress Out Required
  1. Review radiological hazards as identified in the RWP with the Company.
  2. Maintain a log of personnel entering the radiological area, and if required by the RWP, record the entry and exit times.
  3. Eating, drinking, using tobacco or chewing gum is not allowed.
  4. Enter only to perform required work.
  5. Personnel monitoring is required before leaving the area.
  6. Wear PPE as required on the RWP, which typically includes:
    - a. No personal outer clothing.
    - b. Anti-C coveralls.
    - c. Shoe covers and booties.
    - d. Work boots (provided by Seller).
    - e. Surgeon gloves.
    - f. Anti-C gloves.
    - g. Hood.
    - h. Dedicated hardhat (provided by Seller).
    - i. Respiratory protection for certain work activities.
- H. Containment of Dust and Debris
  1. The following is required for contaminated work areas:
    - a. Equip portable hand tools used to drill, cut, or otherwise disturb contaminated materials with a HEPA-filtered exhaust system.
    - b. 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.

11.7 Company-furnished RADCON Services:

- A. Radiation Work Permit (RWP).
- B. Radiological Control Technician(s).
- C. Radiological surveys and evaluations.
- D. Bioassay sampling.
- E. Permits for removal of waste.
- F. Air monitoring.
- G. HEPA filter in-place testing.
- H. Laundry service for PPE and cleaning service for Company-furnished respirators.
- I. Decontamination services for tools, equipment, and personnel.
- J. Personnel exposure records.
- K. Survey of tools/equipment brought to and removed from Y-12.
- L. Source custodian for any radioactive source brought to Y-12.

11.8 Characterization During Demolition

- A. During demolition, previously inaccessible areas may be uncovered. Consistent with the AHA process, the Seller shall stop demolition and allow additional radiological characterization by the Company in areas where radiological contamination may be present.

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11.9 Personnel Monitoring

- A. Each Seller worker exiting the radiological area into a less restrictive area shall self-monitor. Monitoring requirements are provided during the Rad Worker II Training. Follow posted instructions and utilize the Company-provided equipment.
  - 1. A whole body frisk is required (estimated time is 15 minutes).
  - 2. A hand and foot frisk is required (estimated time is 5 minutes).
- B. Contamination is not expected to be found during monitoring. If contamination is found, 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 occurrence.

11.10 Respiratory Protection

- A. The Company will provide respiratory protection for work under an RWP. The RWP and Company monitoring will determine when respiratory protection is required. Seller personnel wearing Company-respirators shall be Company trained and fit tested.

**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. Subcontractors shall comply with 10 CFR 851, *Worker Safety and Health Program*. Subcontractors at any tier are subject to civil penalties for failure to comply with applicable 10 CFR 851, *Worker Safety and Health Program* requirements.

12.2 Integrated Safety Management (ISM)

- A. Use ISM per Department of Energy Acquisition Regulation, DEAR 970.5204-2 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 pollution prevention, waste minimization, and resource conservation. ES&H management activities shall include the five 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 core ISM functions into the 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).

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12.3 Clean Water Compliance

- A. A Best Management Practices (BMP) plan is required for all construction and demolition work to comply with environmental requirements that protect water and with 40 CFR 122.22(k) and the Y-12 *National Pollutants Discharge Elimination System* (NPDES) permit. Additionally, the BMP shall be submitted to the STR for approval (the BMP may be a section in the ES&H Plan) and, as applicable, incorporate storm water pollution prevention measures. The BMP shall consider the following:
1. 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.
  2. 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.
  3. Implement and maintain erosion controls (e.g., straw bales, silt fence, sandbags).
  4. Cover contaminated waste stockpiles to protect against migration from wind and storm water.
  5. Protect raw materials and new supplies from storm water and high winds.
  6. Identify potential sources of pollution and inspect them periodically (e.g., transformers, generators, equipment, etc.) and correct any deficiencies.
  7. 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.
  8. Stabilize bare soil areas at the work area.
  9. Immediately report leaks or spills to the STR and the Y-12 Plant Shift Superintendent (PSS) office. The Seller shall maintain a container marked "Spill Kit" with absorbent materials at the work area to assist in spill control.
  10. Inform all workers of the controls to be implemented.
  11. Provide secondary containment for stored hazardous or regulated liquids and solid items that may contain these liquids (e.g., batteries, motors).
    - a. Secondary containment should be set up on level ground and be able to hold 100% of the volume of the largest container or 10% of the total volume of all the containers which ever is larger.
    - b. Secondary containment shall be leak tight and compatible with the contents of the containers.
    - c. A minimum of 20 mil plastic shall be used when half pipe berm and plastic liner is used for secondary containment. Berm shall have 6" height or higher.
    - d. A 6oz. or more geotextile mat shall be used under the plastic liner
  12. Equipment with free oils or oil residue that could become mobile if exposed to rain water should be wrapped in plastic if stored outside.
  13. Equipment and/or material with metal dust, loose rust, and/or metal cuttings to be stored outside must be removed or equipment and/or material be wrapped in plastic.
- B. Water discharge authorization shall be obtained from the Company prior to discharging water to the storm or sanitary sewer system, unless specifically permitted.
- C. Where work area involves disturbance of one (1) acre or more, Seller shall employ Competent Person to ensure compliance with provision of TDEC General Storm Water Permit. Competent Person shall have completed eight (8) hour Tennessee Erosion Prevention and Sediment Control Training and Certification Program for construction sites.

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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* and other plans, Hazard Communication, Hazardous Materials Information System(HMIS), and AHA to on-site 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 on-site employees of the reporting process.
- C. Stop Work Authority:
  - 1. Ensure that all workers are informed to stop/suspend work, without reprisal by management or co-workers, when a situation exists which will place them, their co-worker(s), or the environment in imminent danger. The Seller is responsible for costs incurred when either the Seller or the Company stops or suspends work.
    - a. "Stop Work" is defined as stopping the task or activity that poses imminent danger to human health and/or the environment. The resolution of a "Stop Work" requires the Seller to write a corrective action plan and submit it to the Company for approval. Resumption of work requires Company authorization.
    - b. "Suspend Work" is defined as temporarily interrupting a specific activity that could pose an unsafe situation to human health or the environment. The resolution of a "Suspend Work" requires authorization from the STR. The Seller's Safety Representative shall ensure that resolution of the issue(s) has occurred and the work can be performed safely.

12.5 Qualifications

- A. Qualified Competent Persons (e.g., scaffolding, excavation, lead, asbestos work) shall be identified by the Seller in *ES&H Plan* or permits. Seller shall identify Competent Person, TDEC-certified for erosion prevention and sediment control for ground disturbance of one (1) acre or more in size. Competent persons shall remain on site when work requiring their review is in progress.
- B. Seller shall designate an electrical Authority Having Jurisdiction (AHJ) qualified in accordance with NFPA 70 and 70E to ensure compliance for all electrical work.
- C. Certify by name that workers and competent persons 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. The following regulatory requirements are incorporated by reference and does not release Seller of all other applicable regulatory requirements:
  - 1. 10 CFR Part 830, *Nuclear Safety Management*.
  - 2. 10 CFR Part 835, *Occupational Radiation Protection*.
  - 3. 10 CFR Part 851, *Worker Safety and Health Program*.
  - 4. 29 CFR Part 1904, *Recording and Reporting Occupational Injuries and Illnesses*.
  - 5. 29 CFR Part 1910, *Occupational Safety and Health Standards, including referenced codes and standards*.
  - 6. 29 CFR Part 1910.134, *Respiratory Protection*.
  - 7. 29 CFR Part 1910.145, *Specification for Accident Prevention Signs and Tags*.
  - 8. 29 CFR Part 1910.146, *Permit-Required Confined Spaces*.
  - 9. 29 CFR Part 1910.147, *The Control of Hazardous Energy (Lockout/Tagout)*.

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10. 29 CFR Part 1910.269, *Electric Power, Generation, Transmission, and Distribution.*
11. 29 CFR Part 1910.333, *Working On or Near Exposed De-energized Parts.*
12. 29 CFR Part 1910.1200, *Hazard Communication.*
13. 29 CFR 1910 Subpart F, *Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms.*
14. 29 CFR 1910 Subpart N, *Materials Handling and Storage.*
15. 29 CFR 1910 Subpart P, *Hand and Portable Powered Tools and Other Hand-Held Equipment*
16. 29 CFR Part 1926, *Safety and Health Regulations for Construction*, including referenced codes and standards.
17. 29 CFR Part 1926.23, *First Aid and Medical Attention.*
18. 29 CFR Part 1926.55, *Gases, Vapors, Fumes, Dusts, and Mists.*
19. 29 CFR Part 1926.62, *Lead.*
20. 29 CFR Part 1926.101, *Hearing Protection.*
21. 29 CFR Part 1926.1126, *Chromium VI*
22. 29 CFR Part 1926.1101, *Asbestos Standard.*
23. 29 CFR Part 1926 Subpart E, *Personal Protective and Life-Saving Equipment*
24. 29 CFR Part 1926 Subpart F, *Fire Protection and Prevention*
25. 29 CFR Part 1926 Subpart H, *Materials Handling, Storage, Use, and Disposal.*
26. 29 CFR Part 1926 Subpart I, *Tools-Hand and Power*
27. 29 CFR Part 1926 Subpart J, *Welding and Cutting*
28. 29 CFR Part 1926 Subpart K, *Electrical.*
29. 29 CFR Part 1926 Subpart L, *Scaffolding.*
30. 29 CFR Part 1926 Subpart M, *Fall Protection*
31. 29 CFR Part 1926 Subpart N, *Cranes, Derricks, Hoists, Elevators, and Conveyors.*
32. 29 CFR Part 1926 Subpart P, *Excavations.*
33. 29 CFR Part 1926 Subpart T, *Demolition*
34. 29 CFR Part 1926 Subpart Z, *Toxic and Hazardous Substances.*
35. 40 CFR Part 61, *National Emission Standards for Hazardous Air Pollutants*, Subpart A - *General Provisions*, and Subpart M - *National Emission Standards for Asbestos.*
36. 40 CFR Part 82, *Protection of Stratospheric Ozone.*
37. 40 CFR Part 763, *Asbestos Hazard Emergency Response Act.*
38. 49 CFR Part 106-180, *Hazardous Materials Transportation Regulations.*
39. 49 CFR Part 325-399, *Federal Motor Carrier Safety Regulations.*
40. DEAR 970.5204-2, *Integrated Safety Management.*
41. TN 1200-4, *Rules of the Tennessee Department of Health and Tennessee Department of Environment and Conservation, Division of Water Pollution Control.*
42. TN 1200-4-10, *Rules of the Tennessee Department of Health and Tennessee Department of Environment and Conservation, National Pollutant Discharge Elimination System (NPDES) General Permits.*
43. TN 1200-3, *Rules of the Tennessee Department of Health and Department of Environment and Conservation, Division of Air Pollution.*
44. American Conference of Government Industrial Hygienists (ACGIH) 0022, *Threshold Limit Values (TLV) for Chemical Substances and Physical Agents, and Biological Exposure Indices (BEI).*
45. ANSI B30 Series, *Safety Standards for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks and Slings.*
46. ANSI B56, *Safety Standards for Powered Industrial Trucks.*
47. ANSI Z41, *Personal Protection – Protective Footwear.*
48. ANSI Z49.1, *Safety in Welding, cutting and Allied Processes.*
49. ANSI Z87, *Practice for Occupational and Educational Eye and Face Protection.*
50. ANSI Z88.2, *Respiratory Protection.*

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51. ANSI Z88.6, *Respiratory Protection – Respirator Use – Physical Qualifications for Personnel.*
  52. ANSI Z88.10, *Respirator Fit Test Methods.*
  53. ANSI Z89.1, *Protective Headwear for Industrial Workers.*
  54. ANSI Z117.1, *Safety Requirements for Confined Space.*
  55. ANSI Z359.1, *Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components*
  56. ANSI CGA G7.1, *Commodity Specification for Air.*
  57. ASME N510-1989 *Testing of Nuclear Air Treatment Systems.*
  58. ASTM D2986 *Method for Evaluation of Air Assay Media by the Monodisperse DOP Smoke Test.*
  59. ASTM D3659, *Standard Test Method for Flammability of Apparel Fabrics by Semi-Restraint Method.*
  60. ASTM F887, *Standard Specifications for Personal Climbing Equipment*
  61. ASTM F1506, *Standard Performance Specification for Flame Resistant Textile Materials for Wearing Apparel for Use by Electrical Workers Exposed to Momentary Electric Arc and Related Thermal Hazards.*
  62. FMCSR, *Federal Motor Carrier Safety Regulations*
  63. NFPA 70, *National Electrical Code*
  64. NFPA 70E, *Standard for Electrical Safety in the Workplace.*
  65. NFPA 701, *Methods of Flame Propagation of Textiles and Films to Protect Personnel and Property During Spark or Flame Producing Work*
  66. NIOSH 582 *Sampling and Evaluating Airborne Asbestos Dust.*
  67. NIOSH Method 7400 from the NIOSH Manual of Analytical Methods.
  68. Tennessee Code Annotated Title 4, Chap. 3, Part 14, Titles 62 and 63.
- B. 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). The Seller is responsible to execute the more restrictive requirements.

12.7 Submittals

- A. Prior to the start of work, submit the following for Company approval. The Company will consider Sellers request to omit submittals, which are not pertinent, based on hazards that will not be encountered and Seller's methods of accomplishments.
1. Corporate ES&H Program
  2. ES&H Plan
  3. AHA
  4. Lift Plan and supporting calculations for critical lifts
  5. Pre-lift Checklist for all lifts
  6. Crane Operator qualifications & training
  7. ES&H Representative's qualifications
  8. Asbestos Work Plan
  9. Lead Compliance Plan
  10. Waivers(s) not to use respirators
  11. Request(s) not to use engineering controls
  12. Confined Space Program
  13. Lockout/Tagout Program
  14. Hearing Conservation Program
  15. Thermal Stress Program
  16. Fall Protection Plan(s)

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17. Clean Water Compliance BMP Plan
  18. PCB Compliance Plan
  19. Abrasive Blasting Plan
  20. HEPA filter manufacturer's certification.
  21. HEPA filter DOP test results for HEPA vacuums and negative air machines.
- B. Submit the following to the Company, as applicable, for information:
1. *Subcontractor Hazardous Materials Inventory Report* before delivery of hazardous materials to Y-12, monthly while such materials are at Y-12, and submit a final (negative) report when work is complete and materials have been removed from Y-12.
  2. Material Safety Data Sheets (MSDS).
  3. Copy of Seller's license for Asbestos Abatement.
  4. *Notification of Asbestos Demolition or Renovation* (NoDR) information for abatement and demolition.
- 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. Testing laboratory proof of compliance with OSHA requirements regarding NIOSH training and testing methods.
  5. Air monitoring test results and analysis.
  6. Noise monitoring data and exposure assessment.
  7. List of all equipment that exceeds 85dBA noise exposure (either continuous or impulse/impact noise).
  8. Exposure assessment for dust producing concrete work when respiratory protection is not required.
  9. Documentation from licensed medical provider of suitability to perform confined space work.
- D. By the 3rd workday of each month, submit the following to the Company for the prior month (regardless of any accidents or incidents):
1. *Subcontractor Safety Performance Report*

12.8 ES&H Program

- A. Corporate ES&H Program shall include:
1. Seller's Corporate ES&H requirements.
  2. Activity Hazard Identification and Analysis process.
- B. ES&H Plan: Seller shall address subcontract-specific details as they relate to their Corporate ES&H Program.
1. Describe how the Seller's ES&H Program will be implemented to include:
    - a. ES&H requirements incorporated into management and work practices.
    - 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 for ensuring 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, 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.

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- f. Methods for ensuring 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, noncompliances, 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. Incorporate text that addresses policy, goals and objectives, ISMS, and employee involvement to incorporate general awareness of the subcontractor to basic environmental responsibility.
    - p. Implementing changes to the ES&H Plan.
    - 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 is provided in the *EXHIBITS* section of the subcontract. Seller shall use this documentation to assist in developing the AHA, as well as additional characterization data obtained by Seller.
  - 3. Identify hold points in the AHA for evaluating permit requirement with requirements listed in 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 the 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.

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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 site at all times when work is being performed. Unless Company approves otherwise, the Seller's ES&H Representative shall have no other job responsibilities.
- B. The ES&H Representative shall possess a combination of education, training, and experience sufficient to implement the Seller's ES&H Plan. The minimum qualifications are:
  - 1. Four-year technical degree in an ES&H Discipline plus a minimum of three (3) years experience in related construction work environment. Subject to the Company's approval, Seller may substitute work experience for the technical degree.
  - 2. Thirty-two (32) 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.
- C. The ES&H Representative shall have the following responsibilities:
  - 1. Meet with Company prior to start of on-site 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. Ensure stop or suspend work deficiencies are corrected and work start authorization received before resumption of work.
  - 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 the 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 the 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 and approve corrective actions.
  - 12. Ensure housekeeping is maintained and work and laydown areas are kept clean, free of tripping hazards, pathways remain open, and 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 corrective actions to deficiencies identified by self-assessments, inspections, investigations, or Company oversight.
  - 15. Review training records and ensure individual's 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, hazardous chemical and physical agents, as applicable.
  - 18. *Maintain Hazardous Material Inventory Report (HMIR) and Material Safety Data Sheets (MSDS) for products being stored or in use.*

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12.10 First Aid

- A. Maintain a minimum of one person certified to administer first aid and cardiopulmonary resuscitation (CPR) on-site when work is being performed. Maintain first aid log for purpose of injury trending and replenishing first aid supplies.
- B. Provide first aid supplies and fire extinguishing equipment in accordance with 29 CFR 1926.23 and 29 CFR 1926, Subpart F.

12.11 Reporting

- A. Notify the STR of employees that are "Declared Pregnant Workers" per 10 CFR 835.
- B. Notify the STR or approved Company representative immediately (within 15 minutes) after an event occurs involving OSHA recordable injuries and illnesses, releases or spills to the environment, potentially serious hazards to personnel, fires, or other abnormal events.
  1. The Company reserves the right to acquire Seller's personnel statements and conduct critiques when investigating accidents, recordable injuries, occurrences, and/or near misses. The Seller is responsible for all related Seller costs for participating in such critiques.
- C. Submit completed DOE F 5484.3 *Individual Accident/Incident Report* within two 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)

- A. Provide PPE in accordance with 29 CFR 1926, Subpart E and the following:
  1. 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.
  2. Safe and appropriate footwear is required for Seller's employees, lower-tier subcontractor, and visitors.
    - a. Safety-toe work boots in accordance with ANSI Z41.1 are required for persons involved in work activities or entering areas posted accordingly.
    - b. Appropriate footwear for non-work activities areas include shoes with:
      - Closed toes and heels or heel supports (sling backs)
      - Low heels that provide good ankle support and stability (heels 3" or less in height and heel base width 1" minimum and sole thickness less than 1")
      - Non-skid soles
      - Shower shoes are acceptable while showering, participating in lung counter monitoring, or when otherwise required. Molded /plastic "gummy shoes" and flip flops/beach shoes are otherwise inappropriate.
  3. Additional PPE shall be used as required by the AHA.

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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).
  - 1. 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, the Seller shall make MSDSs for hazardous substances present at the work or laydown areas available.
- B. Submit a copy of MSDS sheets to the Company prior to delivery of hazardous material to Y-12, maintain a copy of the MSDS sheets at the work area accessible to all workers, and submit the *Subcontractor Hazardous Materials Inventory Report* (UCN-21445) to the Company at the beginning of work, then monthly, and when work at Y-12 is complete.
  - 1. 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 to 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.
- C. The Company will provide the Seller MSDS for existing Y-12 hazardous substances upon request. The Seller can access an on-line database of hazardous substances at Y-12 to obtain MSDS.
- D. Hazardous material transferred or shipped to a 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 quantities within the *Facility Safety Basis* Maximum Anticipated Quantities (MAQ).
- E. Seller's employees shall attend Company Hazard Recognition Training.

12.15 Excavations

- A. Seller's competent person shall be on-site during excavation work inside trenches greater than 4 feet deep.
- B. Submit shoring calculations to the Company for information and perform excavations per 29 CFR 1926, Subpart P.
- C. Control dust emissions in accordance with TN 1200-3. Limit use of water to prevent erosion and run-off into storm drains.
- 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 the Y-12 Complex without approval of the Company.
- E. The generation of excess soil from excavation shall be minimized and managed to prevent migration from the work area.
- F. Seller shall notify RadCon two (2) workdays prior to any excavation activities at the Y-12 Complex.
- G. No excavations shall be performed greater than 12 inches without an *Excavation Permit*.

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12.16 Confined Space

- A. Perform work in accordance with 29 CFR 1910.146.
  - 1. For confined space entrants, attendants and air monitoring personnel, Seller shall provide medical surveillance documentation of their physicals and psychological suitability to do confined space work in accordance with ANSI Z117.1, *Safety Requirements for Confined Spaces*.
- B. Submit Seller *Confined Space Program* for Company approval or adopt Company program and complete Company training.
- C. Confined space entrants shall wear a rescue harness with lifeline, except when use increases the risk or does not contribute to the rescue.
- D. Excavations greater than 4 feet deep and welding in a confined space shall be evaluated by the Seller for risk classification.
- E. A Company-issued permit is required for existing Company confined spaces. The Seller shall implement a *Confined Space Program* for confined spaces created during their work. Submit requests for Company permits four (4) workdays in advance of need.

12.17 Lockout/Tagout

- A. A *Lockout/Tagout Permit* is required before performing work on energized equipment, near overhead lines, or excavating near underground utilities where an energized source exists.
- B. Submit Seller *Lockout/Tagout Program* for Company approval or adopt Company program and complete Company training.
- C. Hazardous energy sources may need to be de-energized and locked out before the Seller can begin certain work. Seller shall provide a procedure to perform work involving hazardous energy sources.
- D. Perform lockout/tagout in accordance with 29 CFR 1910.269, *Electric Power Generation, Transmission, and Distribution*, and 29 CFR 1910.333, *Working On Or Near Exposed Deenergized Parts*, and/or 29 CFR 1910.147, *The Control of Hazardous Energy (Lockout/Tagout)*.
- E. The Company will perform the initial lockout/tagout of existing Y-12 systems and equipment, or issue the permit for electrical distribution systems or equipment and will remove the final lock or tag, respectively. A four (4) workday notice is required for the Company to perform the initial lockout/tagout. The Seller shall implement its lockout/tagout procedure and install a secondary lock on Company (Construction set) lock box. Seller shall complete their work and remove all locks prior to the Company removing the final lock/tag.
  - 1. *Lockout/tagout permit* is not required where energy source has been air gapped. Seller shall verify condition.
  - 2. Seller shall confirm absence of energy on lockout/tagout system/components prior to commencing work.

12.18 Hoisting and Rigging

- A. Seller shall perform hoisting and rigging activities and certify that equipment meets minimum criteria in accordance with 29 CFR 1910 Subpart N, 29 CFR 1926 Subparts H and N, and ANSI B 30 Series and ANSI B56 Series.
- B. Before starting work involving critical lifts, submit a *Lift Plan* based on work activities for approval by Company eight (8) workdays in advance of need. Seller crane operator and personnel who perform rigging activities will be subject to Company monitoring while performing work.

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- C. Hoisting or rigging activities using powered industrial truck lifts, backhoes, and trackhoes are not permitted unless the manufacturer's documentation specifies the equipment is designed for that purpose and lifting limits are properly identified.
- D. SAE Grade 5, 8, or 8.2 fasteners or ASTM Grade A325 fasteners identified on the *DOE Suspect Bolt Headmark List* are prohibited at Y-12.
- E. Hoisting and rigging requirements listed in this subpart apply to powered equipment, (mobile cranes, overhead and gantry cranes, permanently installed powered overhead hoists) and portable equipment (electric or air powered portable hoists) and portable manual hoists (manual chain or level operated hoists).
  - 1. Seller shall describe how the work will be accomplished.
  - 2. Seller shall provide evidence that crane operators are qualified by one of the methods below to the type crane that will be operated:
    - a. Valid certification from the National Commission of Certification of Crane Operators (NCCCO).
    - b. Local Operating Engineers' (OE) union certification as evidenced by a card issued by Knoxville Building and Construction Trades Council (KBCTC) Operating Engineers' union that confirms the individual has met all requirements as established by the International Union of Operating Engineers.
    - c. In the absence of evidence of qualification of equipment operators, Seller equipment operators shall complete Company training (or an equivalent third party training) for the applicable type of equipment.
  - 3. Seller shall provide evidence that rigging personnel are qualified to perform work.
    - a. In the absence of evidence of rigger qualifications, Seller personnel performing rigging activities shall complete Company training (or an equivalent third party training) for the qualification.
  - 4. Seller shall provide a written detailed Lift Plan and supporting calculations for critical lifts as designated. Critical lift evaluations shall be performed on both power operated lift equipment and manual operated lift equipment to determine if a critical lift designation applies. Any of the following conditions will cause a lift to be designated as critical:
    - a. Lift exceeds 90% of lift equipment's capacity
    - b. Any multiple-crane lift
    - c. Lift presents a potentially unacceptable risk of personnel injury or property damage
    - d. Lift could result in significant release of radioactivity, hazardous material or other undesirable conditions
    - e. Lift could cause undetectable damage resulting in further operational or safety problems
    - f. Any lift involving a complex rigging arrangement or that requires specialty rigging
    - g. Any lift that requires close tolerance maneuvering
    - h. Company classifies lift as critical due to sensitive or costly equipment
  - 5. Lift Plan for critical lifts shall include:
    - a. Description of item to be lifted, to include:
      - 1) Tag No.
      - 2) Name
      - 3) Weight
      - 4) Dimensions
      - 5) Width x height x length
      - 6) Unit
      - 7) Other pertinent information or special handling

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- 8) Include a vendor drawing that shows the center of gravity and recommended lift points and/or attached lift devices.
- b. Sketches
  - 1) Sketch showing the position and travel path of hoisting equipment, lift crane, tailing crane, initial location of the item to be lifted, and the final “set” position of the lifted item.
  - 2) Layout of the work area, including the location of all obstacles and potential interferences.
  - 3) Locations of underground utilities that could affect the rigging work or that require special clearances or cribbing.
- c. Hoisting equipment to be used (e.g. cranes, poles, manual hoisting equipment), to include:
  - 1) Description of equipment
  - 2) Size or capacity
  - 3) Last inspected
- d. Rigging/below the hook equipment to be used (e.g. slings, spreader bars)
  - 1) Description of equipment
  - 2) Size or capacity
  - 3) Last inspected
- e. Lift characteristics
  - 1) Special soil preparations and crane mat requirements.
  - 2) Minimum clearances, turning radius, and clearance requirements from existing facilities, utilities, and overhead power lines.
  - 3) Communication method to be used by equipment operators and personnel performing rigging activities during the lift.
  - 4) Written instructions on any special precautions that the work crew must be aware of prior to making the lift, (e.g. removal of temporary shipping skids prior to lifting).
  - 5) Any special considerations such as the effect of wind on the ability of crews to complete the lift safely.
- f. Safety considerations
  - 1) List any special work permits required for the area
  - 2) Detail any required PPE
  - 3) Describe all flagging/barricading/signage required
  - 4) Key points to be covered in a safety briefing prior to the lift
  - 5) Obtain signatures from workers to verify reviewing the *Lift Plan*, attending a safety briefing and attending the pre-lift meeting.
- g. Soil conditions and site terrain to verify access for lift equipment and to ensure stability at the bottom of the lift.
- h. Underground utilities at the lift location to avoid damage to existing utilities and to ensure adequate ground support.
- i. The location of overhead power lines to ensure required clearances are maintained during lifting operations.
- j. Lift equipment and rigging hardware requirements including the method of removal following execution of the work.
- k. Access of lift equipment into and out of the lift area. In some cases, assembly and disassembly of cranes or other equipment must be included in the planning process.
- l. Whether spotters are required to ensure safe movements of the load
- m. Security considerations when lifts are to be performed in or near the Protected Area or sensitive process facilities.

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- n. The need for a contingency plan based on typical risk scenarios.
- 6. Seller shall submit a *Pre-lift Checklist*, for all lifts, to the Company for information that documents:
  - a. The Operator has completed a daily inspection and all equipment and systems are in a satisfactory condition to perform the lift.
  - b. Lift equipment is setup per the *Lift Plan*, as required.
  - c. Verification and inspection of payload lift points.
  - d. Inspection of lift equipment.
  - e. Inspection of payload for factors that may add to the total weight of the lift, such as ice or excess moisture.
  - f. Conduct a pre-lift briefing. Clear communications between the operator and the personnel performing rigging activities shall be emphasized.
  - g. Evaluation of weather conditions to ensure the lift can be made safely.
  - h. Inspection of attachments and rigging equipment including lugs, slings, shackles, and spreader beams.
  - i. Tag lines are attached and used to control the load.
  - j. Temporary barricades are placed around the work area and adjacent work crews are notified of the work operation.
  - k. Removal of all lift equipment after completion of the work.
- 7. Control of hoisting/rigging equipment requirements:
  - a. Submit a written procedure that describes how hoisting/rigging equipment is controlled.
  - b. Ensure hoisting/rigging equipment is clearly tagged with rated capacity and the date of the last inspection or inspection due date.
  - c. Have a program in place that requires:
    - 1) Inspection of all hoisting/rigging equipment prior to each use
    - 2) Hoisting/rigging equipment is maintained in safe working order

12.19 Lead

- A. Perform work on lead-containing materials in accordance with 29 CFR 1926.62.
- B. Before starting work involving lead materials, submit for Company approval, a Lead Compliance Plan.
- C. Engineering controls (e.g., wet methods, vacuum power tools, ventilation and containment structures) are mandatory regardless of PPE used.
- D. All painted surfaces at Y-12 are suspect for lead-containing paint.
- E. The Seller's Competent Person shall be on-site during work activities involving lead materials.
- F. Before generating a waste stream containing lead, ensure waste area is established.

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. When the Seller's work activities create a potential for exposure to mercury or PCB's the Seller's ES&H Plan shall describe how worker exposure monitoring for these constituents will be addressed, and how compliance with applicable PCB regulations will be achieved.
  - 1. Painted surfaces at Y-12 are suspect for Polychlorinated Biphenyl (PCB) containing paint.
- B. 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.

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D. Before generating a waste stream containing PCB's, ensure waste area is established.

12.21 Refrigerants

- A. The 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 record of training or certificate upon Company request.
- B. If equipment containing refrigerant is removed from Y-12 by the Seller for reuse, Seller shall follow the requirements of 40 CFR 82 and State regulations after removal. The Seller shall indicate in the *Work Plan, Waste Management Plan* or by letter the final disposition for the equipment. The Seller shall indicate in the document the equipment and the associated refrigerant is not intended for immediate disposal or resale. The 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, the Seller shall not remove equipment containing refrigerant from Y-12 for the sole purpose of the recovery of the refrigerant.
  - 1. The 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 the Seller dispositioning the equipment. The Company will attach a label indicating removal of refrigerant from the equipment.

12.22 Electrical

- A. Seller shall perform 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). Sellers qualified electrical inspector shall complete compliance inspections prior to requesting Company receipt 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 the 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 and maintenance operations in accordance with 29 CFR 1910, 29 CFR 1926, National Electrical Code, and (NFPA 70E).
  - 1. Clothing and PPE for confirmation of isolation (absence of voltage checks)
    - a. Less than 300 volts
      - 1) 100% long-sleeve cotton coveralls, 100% long-sleeve cotton shirt and pants,
      - 2) long-sleeve scrubs or RAD coveralls
      - 3) safety glasses with side shields
      - 4) leather shoes
      - 5) insulated gloves with protectors
      - 6) insulated tools
    - b. Greater than 300 volts but less than 600 volts
      - 1) 100% cotton coveralls worn under electrical flame-resistant (FR) coveralls (marked on back with ATPV 7), or
        - 1. electrical FR pants and shirt (marked on back with ATPV 11), or
        - 2. electrical RAD FR coveralls (marked on back with ATPV 11)

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

- 2) leather shoes
- 3) safety glasses with side shield
- 4) electrical rated FR face shield
- 5) insulated gloves with protectors
- 6) 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.
  1. Seller's individual supervising Hot Work activities shall complete Company-provided training for Issuing Authority/Service Supervisor (IA/SS) for Welding and Burning.
- B. Perform welding, burning, and hot work in accordance with 29 CFR 1926, Subpart J, and ANSI Z 49.1.
- C. 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. Spark or flame producing activities that requires fall protection (e.g., body harness) shall conform to ANSI Z359 and ASTM F887-04.
- D. Provide a dedicated, trained fire watch during, and for a minimum of 30 minutes after, spark/flame producing work. Fire watches 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.
- E. Determine the location of the nearest operating fire alarm pull station and Y-12 telephone or Y-12 communication radio.
- F. Use dust-reducing methods, such as vacuuming, wetting, or building an enclosure during cutting or grinding operations.
- G. Comply with the requirements of 29 CFR 1926.62 when drilling, cutting, grinding, or welding existing painted surfaces.
- H. Comply with the requirements of 29 CFR 1926, Subpart J and 29 CFR 1926.1126 when welding, cutting, grinding, or heating galvanized or stainless steel.
- I. Provide point source exhaust ventilation when welding stainless steel material and alloys.
- J. 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 PPE worn, such as heat stress, physical and psychological stress, impaired vision, mobility, and communications.
  5. Risk factors shall be identified and controlled or eliminated 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.

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- K. 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.

12.24 Asbestos Demolition or Renovation

- A. Seller shall possess a *Tennessee General License for Asbestos Abatement* to perform asbestos work. Workers and Competent Person shall be registered in Tennessee or a state recognized by Tennessee. Submit a copy of the license and training records to the Company. 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.
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.
  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 the Seller shall request a *Notification of Asbestos Demolition or Renovation (NoDR)* at least twenty (20) workdays in advance of work start.
  3. Seller shall submit an *Asbestos Work Plan (AWP)* and AHA for Company approval.
- B. The Company will notify the State of Tennessee of the required NoDR. The 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.
  7. Waste disposal site.
- C. The AWP shall identify specific work requirements, PPE, and training. The 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. Submit a copy of the log to the Company upon request.
- D. 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. 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 5-micrometer filter system before discharging to a Company-designated sewer.

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9. Provide a two-foot square viewing window (plexiglas) in enclosures approximately five feet above ground level at a location designated by the STR.
  10. Provide a negative pressure air-filter system with a minimum of one air change every fifteen minutes (4 per hour) at a minimum of 0.02 column inches of water pressure differential relative to outside pressure. System shall operate continuously (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 decon unit with shower contiguous to the work area. Use of a remote decon 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 25 linear feet requires a decon 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.
- E. 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 days with a reduction to one day per week if results remain below the Permissible Exposure Limit (PEL).
  3. Submit test results to Company for information.
- F. 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 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 samples inside the regulated area and three 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 samples inside the regulated area and if located outside of a building one sample upwind and two 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.
- G. Engineering controls are mandatory, regardless of PPE used.
- H. Material used for abatement shall equal:
1. Poly used for enclosures shall have a flame spread index of five 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 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 *Supplemental Conditions, 12.32, Equipment, and Tools*.
- I. 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.

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1. Medical evaluation and enrollment in a surveillance program is mandatory before granting access to regulated areas.
  - a. 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.
- J. Seller shall employ an independent testing laboratory to perform monitoring and testing which complies with OSHA requirements regarding NIOSH training.
  1. Personnel performing air monitoring shall complete the NIOSH 582 course or provide information validating equivalent training or certification.
- K. Personnel performing analysis of airborne asbestos samples shall be included in the AIHA or the NIOSH/AIHA Proficiency Analytical Testing Program and have completed the NIOSH 582 course.
- L. Seller shall post sampling results at the work area immediately after obtaining the results but no later than 48 hours after samples were taken. The 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 hours of receipt of results exceeding the background level, provide the Company a report describing the problem and the corrective actions taken.

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. The Seller shall ensure that unprotected noise exposure shall not exceed an 8-hour time-weighted average of 85 dBA using a 3dB exchange rate. This applies to the total duration of exposure per workday (8 hours) regardless of whether it is one 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 the Seller and used to reduce sound levels below these TLVs.
- D. The Seller shall determine the boundaries where continuous or intermittent noise is expected to exceed the ACGIH TLVs for noise. The Seller shall enforce the use of hearing protection within those identified boundaries.
- E. The Seller shall maintain current documented exposure assessments for employees performing tasks where sound levels exceed 85dBA and hearing protection is not required.
- F. The Seller shall maintain a list of equipment that exceeds 85dBA noise exposure (either continuous or impulse/impact noise).

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12.26 Fall Protection

- A. Seller shall perform all work activities requiring fall protection in accordance with 29 CFR Part 1926 Subpart M. The Seller shall submit a *Fall Protection Plan(s)* for Company approval, which provides for roof work activities, leading edge work, safety net systems, warning line systems and controlled access zones as applicable.
- B. All manufactured equipment utilized for fall protection shall be rated, inspected, and properly implemented in practice.

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. Sellers *Thermal Stress Program* shall be submitted for Company approval.
- B. Seller shall maintain documented assessments for employees performing tasks. Assessments shall be available to the Company upon request.

12.28 Explosives

- A. Use of explosives is prohibited at Y-12.

12.29 Cranes And High Profile Equipment

- A. In addition to the requirements identified in 29 CFR 1926, the following is required:
  - 1. 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.
  - 2. When moving equipment, the booms or masts shall be in a retracted traveling position, and a flagman donned in contrasting color vest that is reflective shall be assigned to direct movement and prevent contact with objects on the ground or overhead.
  - 3. 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.
  - 4. Seller's ES&H Representative shall be present when equipment is moved from one location to another, and when equipment is near energized electrical conductors or equipment.

12.30 Transportation

- A. Flammable liquid tank trucks, refueling vehicles, and other vehicles transporting flammable liquids or gases shall comply with 49 CFR 382.399.
- 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:
  - 1. Commercial vehicle operators are properly licensed, medically certified, and participate in *Workplace Substance Abuse Program*.
  - 2. Commercial vehicles have a current annual inspection and are in compliance with the *Federal Motor Carrier Safety Regulations (FMCSR)*.
  - 3. Seller has sufficient liability insurance as outlined in the FMCSR.
  - 4. Seller employees engaged in hazardous materials transportation activities receive the requisite training.

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5. Loads being transported do not exceed transport vehicle manufacturer's rated capacity and properly secured.

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. The Seller must account for all personnel on-site 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 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 to ensure repairs and maintenance are completed 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. Any deficiencies noted on an inspection record (e.g., small leaks, worn parts) shall be evaluated to ensure its safe 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.
- B. Modifications, replacement parts, or repairs of equipment shall maintain at least the same factor of safety as the original equipment. The manufacturer shall authorize modifications in writing.
- C. Submit for information, upon Company request, and maintain a comprehensive log of each power tool and piece of equipment at Y-12.
- D. The Seller's ES&H Program shall require that each employee and all lower-tier subcontract employees 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.
- E. Maintain an on-site file of the operation and instruction manuals for each power tool and equipment. Manuals shall be available for review by the Seller's workforce.
- F. Equipment having a HEPA filter requires DOP testing in accordance with ASTM D-2986 and ASME N510 or an 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.
- G. 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 no damage to unit, which would compromise the equipment's function.
  1. Negative-air machines are to be DOP tested when they are set into place.

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2. Seller to arrange for the Company's Asbestos Coordinator or their designee 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 translucent 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 29 CFR 1926, Subpart L.

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 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.
  1. 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.

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12.35 Respiratory Protection

- A. Perform work in accordance with ANSI Z88.2-1992, *Practices for Respiratory Protection*, and 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, which ever is more protective.
- C. Provide respirators and cartridges that are NIOSH approved.
  - 1. Seller's shall maintain manufacturer's approved respirator configuration. Cartridges, air line-hoses, regulators, and other parts are specifically listed as elements that constitute manufacturer's approved configuration.
  - 2. Modifications to respirators or their parts are prohibited.
- D. Provide compressed breathing air when required to provide adequate protection factor. Submit data to the Company demonstrating the air quality meets the ANSI/CGA G7.1 requirements 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. Required records:
  - 1. Maintain respirator protection records in accordance with ANSI Z88.2, ANSI Z 88.6, ANSI Z88.10, and 29 CFR 1910.134 to include:
    - a. Inspection – Inspection dates, findings, and remedial actions for respirators.
    - b. Training – Type of training received, type of respirator equipment, manufacturer of respirator, names and dates of persons trained.
    - c. Fit Testing
    - d. Medical Surveillance
    - e. Program Appraisal – Annual Respiratory Protection Program evaluation, findings, outcomes, and actions.
    - f. Program Surveillance – Spot checks of operations where respirators are in use and findings, outcomes, and actions.
- H. Company-furnished respirators
  - 1. For work in radiological areas, Company will furnish respirators, cartridges, fit testing, and appropriate training for Company-furnished respirators (e.g. Mine Safety Appliance (MSA) Ultra Twin Hycar Rubber respirators, 3M-APR only, or equivalent.) Seller shall bear all other costs associated with its employee's use of Company-furnished respirators (e.g., time for training, medicals, fit-test, checkout, returns).
  - 2. Work-specific respirator training (may be accomplished through toolbox meeting) will be provided on storing, controlling, and preparing respirators for laundry 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.
- I. Inspection
  - 1. Inspect respirator before use to ensure integrity and function.
  - 2. Inspect respirators stored for emergency or rescue use monthly.
- J. Pre-requisites

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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.
  - j. Regulatory requirements for respirator use.

NOTE: Update training annually, except where a particular substance requires training that is more frequent.

3. Seller employee 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 the following Table 1, *Respirator Assigned Protection Factors*.

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**TABLE 1**

**RESPIRATOR ASSIGNED PROTECTION FACTORS**

<u>RESPIRATOR TYPE</u>	<u>ASSIGNED PROTECTION FACTOR</u>
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 Hood or helmet (including abrasive blasting helmets)	25 / 1000 **
PAPR with tight-fitting full-face mask (4 CFM Minimum)	1000
Air line, tight-fitting half-face mask, continuous flow	50
Air line, tight-fitting half-face mask, pressure demand	50
Air line, tight-fitting full-face mask, continuous flow	1000
Air line, tight-fitting full-face mask, pressure demand	1,000 ***
Air line 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.

\*\* The 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 facepiece respirators and receive an APF of 25.

\*\*\* Self-contained breathing apparatus, pressure demand mode, or air line, 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..

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K. Application

1. Single-use of respirators (one don and doff cycle) is required in radiological areas when prescribed by Company RADCON due to expected levels of airborne radioactivity during the work.
2. The Seller may obtain a waiver from the single-use of respirators from the Company. The Seller may then approve the reuse of respirators for workers provided good work practices are followed to ensure the unit remains serviceable and uncontaminated. Upon removal, the respirator wearer shall place the respirator in a clean plastic bag and store it in a secure location accessible only to the wearer. The Seller shall provide materials for cleaning and disinfecting the respirator to the wearer.
3. Seller shall monitor proper use of respirators.

12.36 Abrasive Blasting/Sand Blasting

- A. Seller shall submit an *Abrasive/Sand Blasting Plan* for Company approval 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.

**13. SECURITY**

13.1 General

- 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);
  5. United States passport, active or expired (provided the expired passport photo still represents current likeness of individual).

NOTE: Access to Y-12 will be denied or delayed until proof of citizenship is provided. Access for foreign nationals shall be approved through the Y-12 Foreign National Visit and Assignment Process.

- 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. The Seller is required to have Foreign Ownership, Control, or Influence (FOCI) approval.
- E. Two-way pagers, cameras, recording devices, personal data assistants, firearms, explosives/ explosive devices, and alcohol/drugs are prohibited.

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- F. Use of Business Class Radios (Not issued by Company) requires completion of a Telecommunication Proposal (UCN-16020A) and Company and DOE approval before use at Y-12.
  - 1. Seller shall assign a qualified individual to monitor the business class radios during work activity and notify the PSS in case of an emergency.
  - 2. Seller shall submit a valid Federal Communication Commission license to operate in this geographical area to the Company for information.
- G. Non-DOE issued and unapproved Seller cell phones within the boundaries of Y-12 shall be turned-off and left in the private vehicle parked in General Plant areas or placed in Company-designated temporary storage.
- H. Cell phones with camera or web enabled recording capabilities are prohibited. Cell phones are only allowed in the General Plant and Property Protection Area and require completion of a Telecommunications Proposal and Company and DOE approval before use at Y-12. Cordless phones are prohibited.
- I. Wireless laptops, desktop computers, recordable media, portable electronic devices, any device with infrared or wireless capability, and any other wireless device require Company approval for use before brought to Y-12.
- J. Request Company approval two (2) workdays prior to needing Portal access during off-shift hours.
- K. All Seller vehicles and personnel are subject to a 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).

13.2 Site Access

- A. General Plant Area Access
  - 1. General Plant Area – Areas and buildings located outside the Property Protected Area but inside the Y-12 security portals manned by Security Police Officers. The General Plant Area is between Portals 20 (West) and 23 (East) and between the north and south 229 Boundary lines. Workers accessing the General Plant Area do not require a security clearance.
  - 2. Company STR office buildings are off Bear Creek Road onto Old Bear Creek Road.
  - 3. For access, the Seller shall complete and submit a *Homeland Security Presidential Directive (HSPD-12) Badge Request* form to the STR to obtain photo badge for Seller's employees and lower-tier subcontractors. Request for visitor badge, Bear Creek Road and vehicle passes shall be submitted to the STR using the *Subcontractor Request for Y-12 National Security Complex Temporary Access and Vehicle Pass* form. Seller shall allow two (2) workdays notice for badge request processing. Sellers's photo badges require validation quarterly. The Seller is to provide the STR a list of names with badge numbers for validation. Failure to submit may result in restricted access.
  - 4. The Seller can pick up photo badges and temporary passes or visitor badges at the East End Visitors Center on Scarboro Road in Oak Ridge, Monday – Thursday, 6:30AM – 4:30PM. An optional location for visitor badge and temporary pass pickup is the West End Visitors Center on Bear Creek Road, east of Tennessee Highway 95. Operating hours for the West End Visitor Center vary or may be closed. The Seller shall coordinate through STR the pick-up location. Photo identification (e.g. driver license) and original proof of US Citizenship must be presented to pick-up badge.
  - 5. General Employee Training (GET) and a Security Briefing provided by the Company are required for all Seller personnel requesting a photo badge. No specific training is required for a temporary Bear Creek Road pass.

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6. Seller personnel shall present their badge or temporary pass to Security when entering Y-12. Badges shall be prominently displayed above the waist on outermost clothing 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 the Seller are government property. The 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 30-minute debriefing. Debriefings shall be scheduled through the STR three (3) workdays in advance of requirement.
  8. Seller shall brief their personnel, vendors, suppliers, and delivery transporters on the presence of vehicle height restrictors at both entrances to Y-12 on Bear Creek Road. Seller is responsible for damages resulting from their personnel or their lower tier subcontractor personnel accidentally striking the vehicle height restrictors.
- B. Limited Security Area (LSA) Access
1. Limited Security Area (LSA) – Security areas in which an individual’s mere presence may result in access to classified matter.
  2. Seller personnel requiring entry to the LSA shall submit their personal information (name, badge number, and date of birth) to the STR a minimum of two (2) workdays prior to requirement.
  3. All personal items shall be placed in a clear plastic bag, which allows a thorough inspection of the items. Lunch bags and enclosed containers will require opening for inspection.
  4. Uncleared drivers will require a 1:1 Q-cleared escort 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.
  5. Lock all vehicles, equipment, and toolboxes when unattended and at the end of each workday.
  6. Do not leave keys in the ignition of unattended vehicles and equipment. Keys may be confiscated by Security resulting in work delays. Such delays are at the expense of the Seller.
  7. Coordinate access to all LSAs with the Company STR.
- C. Exclusion Area (EA) Access
1. Exclusion Area (EA) – Security areas designated for the protection of classified matter and special nuclear materials.
  2. Seller’s Q-cleared personnel requiring entry to the EA shall submit their personal information (name, badge number, and date of birth) to the STR a minimum of two (2) workdays prior to need to enter. An Escort Agreement is required for personnel without a Q-clearance.
  3. All personal items shall be placed in a clear plastic bag, which allows a thorough inspection of the items. Lunch bags and enclosed containers will require opening for inspection.
  4. Entry prior to 7:00 a.m. by escorted uncleared workers is not authorized unless the Company grants prior approval.
  5. All vehicles and their contents are subject to a comprehensive search by Security.
  6. Allow up to one hour for processing of deliveries into the EA.
  7. Seller delivery trucks and other service trucks shall enter the EA through Portal 13. Supplies must 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 will be off-loaded for inspection at the Seller’s expense.

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8. Uncleared drivers will require a 1:1 Q-cleared escort 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.
  9. Lock all vehicles, equipment, and toolboxes when unattended and at the end of each workday.
  10. Do not leave keys in the ignition of unattended vehicles and equipment. Keys may be confiscated by Security resulting in work delays. Such delays are at the expense of the Seller.
  11. Uncleared heavy equipment operators shall be under continual surveillance of a Q-cleared escort. Heavy equipment shall not be staged or used within 50 feet of the security fence without prior Company approval. Special procedures must be followed when using boom type equipment within 50 feet of the security fence.
  12. While in the EA, breaks and lunches shall be held at the work area. Seller shall provide a suitable area for breaks and lunch and portable restroom facilities.
- D. Property Protection Area (PPA) Access
1. Property Protection Area (PPA) – Area established to protect government property against damage, destruction, or theft.
  2. Access to the PPA requires a photo badge or a temporary visitor badge.
  3. For access, the Seller shall complete and submit a *Subcontractor Request for Y-12 National Security Complex Access and Badge* form to STR for badges and/or passes. Seller shall allow two (2) workdays notice for badge request processing.
  4. Vehicle access to the PPA requires a vehicle pass. The Seller shall complete and submit a *Subcontractor Request for Y-12 National Security Complex Vehicle Pass* form to STR a minimum of two (2) workdays prior to the requirement.
  5. Insurance certificates for vehicles shall be provided to the Company upon request.
  6. Other Vehicle Requirements:
    - a. Seller's vehicles shall prominently display two Seller identification signs (one on each front door).
    - b. 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. Expect 20 minutes on average for inspection.
    - c. 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.
    - d. The Company will designate Seller vehicle parking. Seller shall furnish on-site transportation of their personnel within the PPA.
  7. A K-9 security checkpoint is located at the east entrance lot north of Portal 13. All deliveries are required to enter the K-9 inspection area. Arrange cargo so that K-9s and Security personnel can access the loads for inspection. Expect 30 minutes on average for inspection. Large loads may require unloading and reloading for inspection. After inspection, delivery vehicles will enter Y-12 along routes designated by the Company. Deliveries through the West End on Bear Creek Road must be scheduled through the STR a minimum of 1 workday in advance.
  8. Maintain a 20-foot wide clear zone along security fences. If work is to be performed within the 20-foot clear zone, provide two (2) workdays advance notice and receive approval from the Company.
- E. Protected Area (PA) Access
1. Protected Area (PA) – Area within the PPA that protects special material requiring Q-clearance for entry or Q-cleared escorts for uncleared workers.

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2. Seller's Q-cleared personnel requiring entry to the PA shall submit their personal information (name, badge number, and date of birth) to the STR a minimum of two (2) workdays prior to requirement. An Escort Agreement is required for personnel without a Q-clearance. All personnel entering the PA must have set up a PIN and biometrics at the Visitor's Center prior to entry.
3. Allow 30 minutes on average per person or escorted group (up to five uncleared) for each entry into the PA and 30 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 will clear the metal detector or that can be visually inspected are allowed. Seller shall require that personnel minimize personal items carried into the PA. Items such as coins, keys, bi-folds, and foil wrappers can cause delays at the entry portal. All personal items shall be placed in a clear plastic bag, which allows a thorough inspection of the items. Lunch bags and enclosed containers will require opening for inspection. Items that cannot clear the metal detector and/or sealed (not allowing internal inspection) are not authorized through the entrance Portal. Personnel will be allowed up to three 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 unable to clear the metal detector.
5. Entry prior to 7:00 a.m. by escorted uncleared workers is not authorized unless the Company grants prior approval.
6. All vehicle entries require a vehicle pass (ticket). The STR will provide tickets. Seller and its lower-tier Subcontractors will be limited on the number of vehicle entries. To minimize the number of vehicle entries the Seller shall arrange transportation (shuttle van) to remain within the PA as required for its workers. Deliveries shall be combined at the Seller lay-down yard or other suitable area outside the PA to minimize entries. Emergency entries must be arranged through the STR. The Company does not guarantee Seller entries in excess of one entry per workday.
7. All vehicles and their contents are subject to a comprehensive search by Security.
8. Allow up to one hours for processing of deliveries into the PA.
9. Seller delivery trucks and other service trucks shall enter the PA through Portal 33. Supplies must 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 would be off-loaded for inspection at the Seller's expense.
10. Uncleared drivers will require a 1:1 Q-cleared escort 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 dump trucks hauling debris out of the PA, special requirements may be necessary due to the presence of radiation monitors. 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 two (2) workdays prior to required date. Vehicle entry tickets will be issued by the STR.
12. Water trucks shall enter empty and be filled at the designated fill point within the PA. Provide a (3) three day notice prior to required entry.
13. Bed-mounted fuel tanks are prohibited in the PA.

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14. Seller shall allow for eight 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 a controlled work area, shall cease and await instruction from Security. Workers in transit should stop and obey all instructions from Security.
15. Lock all vehicles, equipment, and toolboxes when unattended and at the end of each workday.
16. Do not leave keys in the ignition of unattended vehicles and equipment. Keys may be confiscated by Security resulting in work delays. Such delays are at the expense of the Seller.
17. Uncleared heavy equipment operators shall be under continual surveillance of a Q-cleared escort. Heavy equipment shall not be staged or used within 50 feet of the security fence without prior Company approval. Special procedures must be followed when using boom type equipment within 50 feet of the security fence.
18. Minimize deliveries into and out of the PA. Special arrangements can be made to expedite entry of time sensitive or other special materials if the Seller makes the required arrangement through the STR a minimum of two (2) workdays prior to need.
19. 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.
20. Any Seller-provided trailer in the PA shall be setup and ready for use (including power) four (4) workdays prior to use.
21. Maintain a 50-foot wide clear zone along security fences. If work is to be performed within the 50-foot clear zone, provide three (3) workdays advance notice and receive approval from the Company.

13.3 Escort Requirements

- A. This section includes specific requirements for Seller-furnished escorts to accompany uncleared construction workers in the PA, EA, and Limited Areas.
- B. All escorts shall hold a current DOE Q-clearance and be badged at Y-12. Clearances held at other DOE sites may be extended to Y-12.
- C. Copies of the handbook entitled “*Handbook for Escorting Uncleared Construction Workers*” will be provided to the Seller. Each escort shall be provided a copy of the Handbook and return a receipt acknowledgement to the STR. The Handbook is stamped “Official Use Only” and shall be kept in a secure location when not in use.
- D. Perform periodic checks of escort program and solicit feedback from the Company to incorporate lessons learned. Incorporate escort operations into *Work Plan*, *AHA*, and project-specific *ES&H Plan*, as required, to integrate the escort as a part of the overall work.
- E. Provide sufficient escorts for the performance of the work. Seller-provided escorts shall have no other job responsibilities. Unless otherwise specified in the *Escort Package (EP)* or *Security Plan*, provide one Q-cleared escort for a maximum of five uncleared workers. The escort shall maintain eyesight on the uncleared workers. Splitting the crew (five) of uncleared workers into visually separated areas would require additional escorts or specific Company approval. Examples of crew escort requirements are:
  1. If any uncleared worker in the group 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 supervision moving around the work area shall be in visible proximity to their assigned escort. If working and moving about individually, each requires an assigned escort.

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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 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 to retrieve tools or equipment requires escorting by another assigned escort if he leaves visual proximity of the crew escort.
  6. Crews with both Q-cleared and uncleared workers can be used but the uncleared workers shall be escorted by an assigned escort who has no other duties.
- F. In addition to the training requirements for Seller personnel, Seller escorts shall complete *Y-12 Plant Escort Training*.
- G. Seller escorts shall comply with Subcontract requirements including, but not limited to, ES&H, RadCon, and respiratory protection. Escorts shall have completed all training as required by the AHA, work permits, and other instructions.
- H. Seller escorts shall read, understand, and comply with the *Handbook for Escorting Uncleared Construction Workers*. Each escort shall maintain a copy of the Handbook and Escort Agreement on their person at all times while performing escort duties.
- I. Immediately after award, Seller shall participate in planning activities and provide a proposed *Escort Package (EP)* to the STR for review. Such activities could include a walk-down of the work area access route, meeting(s) with Company Physical Security Officials (PSO) and Facility Operation Manager (FOM) (if applicable), initiation of a draft EP and a work-specific *Security Plan* (if applicable) for review by the STR, FOM and PSO. Allow twelve (12) workdays for approval of the EP upon submission to the STR.
- J. Seller shall ensure the accuracy and the completeness of information on the EA. Information about the work area, route of ingress and egress, and all other information must be complete in specific detail. The STR will assist the Seller in the completion of the EA, but the Seller retains responsibility for the information provided. Q-cleared workers shall only be listed on the EP if they are serving as an escort. Delays resulting from the Seller providing inaccurate information are the responsibility of the Seller.
- K. Review accuracy of the EPs on a daily basis. Immediately submit to the STR any required changes to a standing escort agreement, including all personnel changes. Allow up to eight (8) workdays for approval of a revised EP.
- L. In the event information in the *Handbook for Escorting Uncleared Construction Workers* conflicts with information in the EP and/or Security Plan, the information in the EP or *Security Plan* takes precedence.
- M. Unless otherwise authorized in the EP or *Security Plan*, Seller escort(s) shall maintain visible observation of their uncleared personnel at all times.
- N. Seller shall develop a *Security Plan*, when required, with detailed directions for escort operations. *Security Plan* shall be approved by the Company and attached to the EP.
- O. Escort Operations
1. Upon receipt of an approved EP, Seller shall perform the following:
    - a. Verify all information is accurate.
    - b. Provide each escort a copy of the EP and a handbook (*Handbook for Escorting Uncleared Construction Workers*). The EP must include the Escort Agreement Organization (EAO) approval cover sheet (e-mail).
    - c. Hold a pre-job brief to include a walk down of the ingress and egress route.
    - d. Ensure each escort understands their responsibilities.
    - e. Seller 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.

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- f. Request through the STR a Company “green card” for each uncleared worker listed on the EP. Green cards are required unless waived by the Company.
- 2. For LSA, EA, and PA access comply with the following:
  - a. Escort shall brief uncleared workers on prohibited items and ensure they do not take such items to the entry portal. Cell Phones, two-way pagers, Seller radios, recording devices, and Personal Data Assistants (PDA) are prohibited in the PA. Recordable media is not permitted in the PA. This would include writeable CDs, music CDs, floppy disc, computer drives of any type, etc.
  - b. When escorting with a one Q-cleared to five uncleared ratio, escort will pick up a security radio at a location designated by the Company.
  - c. Entry prior to 7:00AM is not authorized unless coordinated in advance by the STR.
- P. At work completion, Seller shall complete the disposition of all matters related to Seller escort personnel including return of photo badges and “green cards,” return of dosimeters, radios and other Company-furnished items.
- Q. Failure of the Seller’s escorts to comply with escorting requirements could result in a security infraction issued to an escort. Depending on the security infraction, the escort could be barred from Y-12 while clearance status is evaluated, and could result in the permanent loss of their Q-clearance.

13.4 Information Security

- A. Personnel issued Unclassified Controlled Nuclear Information (UCNI) and Official Use Only (OUO) 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 Seller. The 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.
- C. Seller is responsible for:
  - 1. Protect UCNI and OUO information to which they have access or custody.
  - 2. No UCNI or OUO information is released without review for release restrictions.
  - 3. Provisions of these requirements flow down to lower-tier subcontractors and suppliers.
  - 4. Access to UCNI and OUO information is granted only to persons with a need-to-know.
  - 5. Owners of data are responsible for recognizing the sensitivity of information before it is used, processed, or stored on an information system and for ensuring the system is certified for the information.
  - 6. Notifications of security breaches or deviations from expectations shall be reported to the STR. The Seller shall cooperate with the Construction Division Security Officer (DSO) investigation. The Seller is responsible for costs incurred because of Incidents of Security Concerns (IOSC).
- 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.

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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 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 AIS systems to convey or store information.
  7. Computer Security Officer (CSO)—Seller person(s) responsible for the implementation of their *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, OOU).
  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 (OUO)—Unclassified sensitive, but otherwise uncontrolled, information which may be exempt from public release under the Freedom of Information Act (FOIA).
  14. Security plan—A document that describes the protection of the facility and its assets.
  15. Unclassified—The designation for information, a document, or material that has been determined not to be classified or that has been declassified by proper authority.
  16. Unclassified Controlled Nuclear Information (UCNI)—Certain unclassified government information prohibited from unauthorized dissemination.
- E. Regulatory requirements
1. The following regulatory requirements are incorporated by reference:
    - a. Atomic Energy Act (Sects. 142 & 148)
    - b. Freedom of Information Act
    - c. 10 CFR 1017, *Identifications and Protection of Unclassified Controlled Nuclear Information*.
    - d. DOE O 470.1, *Safeguards and Security Program*
    - e. DOE O 471.1, *Identification and Protection of Unclassified Controlled Nuclear Information*.
- F. Training requirements
1. Seller personnel responsible for safeguarding UCNI information shall be briefed by the Company on proper handling and storage requirements.
  2. The Seller shall be responsible for briefing additional personnel who will have access to UCNI and OOU information on the proper handling and storage.
- G. Document & Media Requirements
1. All communications between the Seller and the Company, or between the Seller and its lower-tier subcontractors/suppliers conveying UCNI labeled information, shall be 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 information will be allowed unless formally pre-approved by the Company

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3. Fax transmissions of OUO 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 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 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. The 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 the Seller of this responsibility.
  7. If required, the Seller shall install encryption software in compliance with Company instructions.
  8. Computer systems and media containing UCNI information at the Seller's facility and at lower-tier subcontractors' facilities shall be dedicated to this work unless otherwise approved by the Company. UCNI information requires removable media.
  9. The Company will certify the AIS equipment and its' physical location at the Seller facility and at associated lower-tier subcontractors' facilities. Seller shall schedule certification visit 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 the 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 the Seller implements the modification.
  12. The Seller shall return all UCNI and OUO electronic data and data media to the Company. Seller may elect to provide written notification that OUO electronic data and data media has been erased or destroyed. When lower-tier subcontractors and suppliers have completed their work, the associated data media and materials shall be forwarded to the Seller.
  13. The computers associated with UCNI work will be sanitized by the Company and will no longer be considered germane to the security concern.
- H. Seller Information Security Officer (ISO) responsibilities:
1. Representing the Seller/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.

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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.
- I. UCNI Access
1. 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 (b.) below are met.
    - a. *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 b 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.
    - b. *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 information or media.
    - c. *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 initial briefing to Seller personnel in the handling of UCNI documents and the Seller shall brief lower tier subcontractors and suppliers in the handling of UCNI documents.
- J. 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, the Seller shall obtain approval from the Company before supplying this information.
- K. 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 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 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. Copy machine malfunctions shall be cleared with all paper paths checked for UCNI/OUO material. Completion of reproduction shall be followed by processing three blank sheets through equipment. Reproduction of UCNI and OUO shall not be performed on digital equipment, including digital copiers, without prior approval of the Company. The Company shall approve reproduction of UCNI material by a commercial reproduction provider not wholly owned by the 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.

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- 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.
- L. Destruction
  - 1. At a minimum, UCNI and OUO matter shall be destroyed by using shredders or cross cut shredders that result in particles of no more than ¼-inch wide strips. Strips shall be randomly mixed prior to disposal UCNI and OUO matter may also be returned to the Company for destruction.

NOTE: Provide written notification to the STR stating what documents the Seller destroyed.

- M. Infractions and Incidents
  - 1. Failure to comply with requirements specified herein may result in 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.
- N. Computer Security - If the 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 the 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 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.
- O. Important Information
  - 1. Only locations that meet the security requirements will be permitted to process UCNI information 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 information.
  - 3. A risk assessment shall be performed by the Seller to document any threats, concerns, and vulnerabilities that may exist related to their 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.
- P. UCNI/OUO AIS Resources and Information
  - 1. It is the responsibility of the Seller to know and provide the degree of protection required for a 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.

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- 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 protect data files properly).
  - g. Hackers/crackers or other unauthorized access attempts.
- 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 central processing units (CPUs), video display units, printers, disk drives, and any other input/output devices except keyboards, speakers, and mouse(s).
  - 4. AIS equipment shall be sanitized 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 Internet is not permitted unless through encryption (i.e., Entrust) 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.
- Q. Physical Security
- 1. AIS processing UCNI 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.
- R. Personal Workstations
- 1. 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:
    - a. 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.
    - b. In open offices and where there is not a common need-to-know of all information, appropriate protective measures (e.g., UCNI workstations require chassis locks, keyboard locks, or approved hardware password devices) are required as directed by the Company.
- S. Output Devices
- 1. 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.

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**Attachment 1**

**TRAINING REQUIREMENTS**

<b>MODULE TITLE</b>	<b>DURATION</b>	<b>FREQUENCY</b>	<b>PROVIDED BY</b>
<b>GENERAL EMPLOYEE TRAINING (GET)</b>			
Basic General Employee Training	4 hours	Every 2 years	Company
Oak Ridge Reservation (ORR) Employee Emergency Plan	½ hour	Once	Company
Storm Water Pollution Prevention	½ hour	Once	Company
Fire Extinguisher Required Read	½ hour	Every Year	Company
Y-12 Fundamentals	2 hour	Once	Company
Hazard Recognition Training	½ hour	Once	Company
<b>INDUSTRIAL HYGIENE AND HEALTH</b>			
Initial Hearing Conservation Program			Seller
Hearing Conservation Program Refresher			Seller
American Red Cross – Cardio Pulmonary Resuscitation (CPR)			Seller
American Red Cross – Standard First Aid			Seller
Hazard Communication			Seller
Lead Worker Protection			Seller
Asbestos Worker and Competent Person Training			Seller
<b>INDUSTRIAL SAFETY</b>			
Authorized Entrant/Attendant for Confined Space Entry (When using Company approved Seller program)			Seller
Authorized Entrant/Attendant for Confined Space Entry (When using Company program)	3 hours	Once	Company
Lockout/Tag-out Initial Training (when working under Company approved Seller's Program)			Seller
Lockout/Tag-out Training (when working under Company's Program)	8 hours	Once	Company
Lockout/Tag-out Training Refresher (when working under Company's Program)	2 hours	Every year	Company
Fall Protection & Prevention Safety Awareness Training Note: Seller may arrange training through Knoxville Building and Construction Trades Council (KBCTC).	2 hours	Once	Company or Seller
Fire Watch Training Note: Seller may arrange training through KBCTC.	3 hours	Every year	Company or Seller
Issuing Authority/Service Supervisor (IA/SS) for Welding & Burning	2 hours	Once	Company
<b>MOBILE EQUIPMENT/HOISTING AND RIGGING</b>			
Basic Hoisting and Lifting Safe Operations			Seller
Mobile Crane Training			Seller
Aerial Lift Safety Qualification/Re-qualification			Seller
<b>PERSONAL PROTECTIVE EQUIPMENT</b>			
PPE Awareness and Proper Use (Prior to use)			Seller
<b>RAD WORKER</b>			
Rad Worker II (if applicable to specific task) Note: Seller may arrange training through KBCTC. (Only with Company Approved Program) Test and practical is only with the Company	20 hours	Every 2 years	Company or Seller
<b>RESPIRATORY PROTECTION (PPE)</b>			
Basic Respirator Training (when wearing Company-furnished Respirator)	2-1/2 hr-Class 2-hour Fit Test	Every year	Company
Basic Respirator Training and Fit Test (only required if wearing Seller-furnished Respirator)			Seller
Respirator Fit-Test (when wearing Company-furnished Respirator)	1 hour	Every year	Company
Supplied Air Respirator Training	3 hours	Once	Company

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<b>TRAINING REQUIREMENTS (Continued)</b>			
<b>MODULE TITLE</b>	<b>DURATION</b>	<b>FREQUENCY</b>	<b>PROVIDED BY</b>
<b><i>SECURITY</i></b>			
Comprehensive Security Briefing (only required for L or Q cleared)	1 hour	Once	Company
Annual Security Refresher Briefing	½ hour	Every year	Company
UCNI/OUO Information Training	1-1/2 hour	Once	Company/Seller
Y-12 Plant Escort Training	1 hour	Once	Company
Security Escort Training (when escorting uncleared personnel into an area with Classified Systems)	1 hour	Once	Company
Overview for Escorting of Delivery, Service, or Vendor personnel	¼ hour	Each occurrence	Company
<b><i>CONDUCT OF OPERATIONS (CONOPS)</i></b>			
Facility Specific CONOPS Training	4 hours	Once	Company
Safety Basis 202 (work inside Protected Area)	2 hours	Every Two Years	Company
<b><i>TRANSPORTATION SAFETY</i></b>			
Federal Motor Carrier Safety Regulations			Seller
FMCSR Refresher			Seller
DOT Regulations for Material of Trade			Seller
Secure Load and Tie Down			Seller
<b><i>MEDICAL ENROLLMENTS</i></b>			
Confined Space			Seller
Asbestos			Seller
Hearing Conservation			Seller
Mobile Equipment Operator			Seller
Respirator Wearer			Seller
Thermal Stress			Seller
DOT			Seller
<b><i>SELLER-SPECIFIC TRAINING</i></b>			
Environmental, Safety and Health (ES&H) Program		As Required	Seller
ES&H Plan		As Required	Seller
Work Plan and other Plans		As Required	Seller
Activity Hazards Analysis (AHA)		As Required	Seller
Workplace Substance Abuse Program		As Required	Seller