Subcontractor Name:       Project Title and Subcontract Number:

Description of planned activities/tasks for the scope-of-work for the entire project.

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| Hazard / Regulatory Requirements | ES&H Clause | Worker Information and Requirements |
| Lockout/Tagout  (LO/TO)  10 CFR 851.23,  29 CFR 1910.147,  29 CFR1910.269, 29 CFR1910.333  and NFPA 70E | Control of hazardous energy sources that require lockout/tagout will be managed (i.e., identified, assessed, and controlled) by the Company. The Seller is required to follow OSHA (as applicable through 10 CFR 851.23) and NFPA 70E requirements for hazardous energy control which require the Seller to establish a written hazardous energy control process and train employees. These requirements also apply to a single source of hazardous energy. Seller shall comply with the requirements of 29 CFR 1910.147 for servicing and maintenance when the unexpected energization or release of stored energy could cause injury. Work requiring the control of sources of hazardous energy shall follow the applicable OSHA and NFPA requirements, e.g. 29 CFR 1910.147, 1910.269, 1910.333 and NFPA 70E. Planned work involving forms/sources of hazardous energy, e.g. electrical, pneumatic, hydraulic, mechanical, etc. shall be addressed by a procedure that specifies how those forms of hazardous energy will be properly controlled by lockout/tagout (LO/TO). Prior to beginning work, the following requirement(s) shall be observed by Seller (as applicable to the task): 1) Lockout/Tagout required by an outage of a portion of the [external] electrical distribution system shall be coordinated by ORNL Utilities 2) Lockout of any permanently wired component, equipment, or system served by a facility's internal distribution system must be coordinated with the Technical Project Officer or their designated representative. The need to de-energize a disconnect switch or circuit breaker is a typical example of this. Note: This requirement does not apply to equipment that is supplied exclusively by flexible cord and plug that is under the exclusive control of the employee performing work. 3) Method for verifying zero energy isolation of electrical circuits must be performed in accordance with applicable NFPA 70E requirements (see Electrical section). | Workers shall ensure they are LOTO trained. The Workers shall analyze work for hazards, authorize work to proceed, and ensure that work is performed within established controls. If requested, the Workers shall provide a copy of their energy control procedure to the Technical Project Officer (TPO) prior to starting work.  The Workers shall comply with the requirements for servicing and maintenance when the unexpected energization or release of stored energy could cause or result in an injury.  Planned work involving forms/sources of hazardous energy, e.g. electrical, pneumatic, hydraulic, mechanical, etc. shall be addressed by a procedure that specifies how those forms of hazardous energy will be properly controlled by lockout/tagout (LO/TO).  The Company’s issuing authority will ensure documented pre-job briefing is held with the Seller covering the following:  • Scope and location of work to be performed  • Status of facility/equipment including systems under lockout/tagout protection  • Hazards associated with job  • Work procedures involved  • Energy source controls  • Personal protective equipment (PPE) requirements  • Key elements of each party’s respective procedures for performing lockout/tagout, including any significant restrictions of respective hazardous energy control programs that may impact control of hazardous energy.  • Additional job briefings must be held if changes in the hazards or scope of work occur. |

**Subcontractor Activity Hazard Analysis (AHA)**

| Activity | Hazard | Controls |
| --- | --- | --- |
|  |  | **Elimination, substitution, engineering controls**:  HEPA-Filtered vacuum cleaner  Laboratory hood or glove box  Air Handler, HEPA filtered  Shrouded tool with HEPA filter  Continuous wetting (dust control)  Containment  Isolation  General Ventilation  Other Local Exhaust System:  Other: Specify below |
| **Administrative controls** (work methods, training, medical, etc.): |
| **Personal protective equipment** - specify the exact type of PPE (e.g. hearing protection device with minimum NRR of 20 dBA, Ansell Nitrile SOL-VEX gloves, etc.): |

AHA Author:       Date:

ES&H/QHSP Representative Concurrence signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_

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| Technical Procurement Officer (TPO) signature indicates approval of activity-specific hazard controls identified in the subcontractor AHA.  Printed Name/Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_ |