MISSION SUPPORT AND TEST SERVICES LLC

06-541 NEW DAF OPERATIONS SUPPORT BUILDING

EXHIBIT E

ENVIRONMENTAL, SAFETY, & HEALTH REQUIREMENTS

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ENVIRONMENTAL, SAFETY, & HEALTH REQUIREMENTS

E-1 GENERAL REQUIREMENTS

1.1 For the purpose of this Exhibit, the term Safety encompasses Environmental, Safety, and Health (ES&H) protection, including radiological protection, pollution prevention, and waste minimization.

1.2 SUBCONTRACTOR shall have sole responsibility for implementing its safety program. Although CONTRACTOR will provide oversight, neither the CONTRACTOR nor U.S. Department of Energy (DOE), National Nuclear Security Administration Nevada Field Office (NNSA/NFO) shall be responsible for supervising the implementation of SUBCONTRACTOR's safety program.

1.3 When performing work at sites controlled/managed by CONTRACTOR or NNSA/NFO, the SUBCONTRACTOR shall comply with all applicable Federal, State, and Local laws and regulations, including those protecting workers, air, water, soil, and those governing land use, waste disposal, and chemical and pesticide usage. All recognized safety and health standards identified within this Exhibit apply to SUBCONTRACTOR. SUBCONTRACTOR shall also comply with NNSA/NFO or DOE documents identified in this Exhibit.

1.4 SUBCONTRACTOR shall comply, at a minimum, with the following regulations as they pertain to the subcontracted activity:

1.4.1 Title 10 CFR 835, Occupational Radiation Protection
1.4.2 Title 10 CFR 850, Chronic Beryllium Disease Program
1.4.3 Title 10 CFR 851, Worker Safety and Health Program
1.4.4 Title 29 CFR 1904, Recording and Reporting Occupational Injuries and Illnesses
1.4.5 Title 29 CFR 1910, Occupational Safety and Health Standards for General Industry
1.4.6 Title 29 CFR 1926, Occupational Safety and Health Standards for the Construction Industry
1.4.7 Title 36 CFR Part 800 Protection Of Historic Properties
1.4.8 Title 40 CFR (various), Environmental Protection Agency Regulations
1.4.9 Title 49 CFR (various), Department of Transportation Regulations
1.4.10 Title 50 CFR (various), Wildlife and Fisheries
1.4.11 American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices (Current Edition)"
1.4.12 OSHA/CDC Guidance for Coronavirus Disease 2019 (COVID-19) and current MSTS Attachment G, COVID – 19 Mitigation Measures for Protection of Workers.

1.5 CONTRACTOR reserves the right to perform both announced and unannounced inspections and assessments of SUBCONTRACTOR's operations and equipment to verify compliance with the requirements of this subcontract. SUBCONTRACTOR shall cooperate and accommodate oversight assessments, audits, and inspections performed by the CONTRACTOR. The CONTRACTOR may invoke Stop Work at any time for violations of applicable laws and regulations.

1.6 The CONTRACTOR shall conduct a post-award review with the SUBCONTRACTOR addressing the execution and implementation of ES&H requirements related to this subcontract. The post-award review and submission of required documents shall be completed before authorization of onsite work.

E-2 SUBCONTRACTOR AND SUB-TIER SUBCONTRACTORS

2.1 SUBCONTRACTOR shall ensure that sub-tier subcontractors that perform elements of the subcontracted Scope of Work adhere to SUBCONTRACTOR's ES&H Plan. SUBCONTRACTOR is responsible for ensuring that its sub-tier subcontractors are included in the SUBCONTRACTOR's work-specific ES&H Plan and that they work within the requirements of this Subcontract.

2.2 If, after award, SUBCONTRACTOR proposes to use any sub-tier subcontractors, SUBCONTRACTOR shall notify CONTRACTOR at least 10 business days before the proposed start date of the new sub-tier subcontractor, and submit the sub-tier's Exhibit A, "Safety and Health History," form and other required documents for ES&H evaluation and acceptance. Sub-tier subcontractors shall not perform any work prior to CONTRACTOR's approval.

2.3 For the purpose of this Exhibit, SUBCONTRACTOR includes the general subcontractor and sub-tier subcontractors.

E-3 SUBCONTRACTOR COMMITMENTS, EXPECTATIONS, & INTEGRATED SAFETY MANAGEMENT SYSTEM

3.1 CONTRACTOR is committed to implementing an Integrated Safety Management System (ISMS) that promotes the company's core values and the principles set forth by the DOE. The objective of ISMS is to systematically integrate ES&H protection into management and work practices at all levels so that workers, the public, and the environment are protected while assigned projects are accomplished.

3.2 SUBCONTRACTOR employees shall have the right and obligation to report unsafe conditions, at-risk behaviors, interrupt or cease work without fear of reprisal, request a potential hazard to be evaluated, or request additional training. No SUBCONTRACTOR employee shall be asked to complete a task that the employee reasonably believes is unsafe or that will endanger the environment.

3.3 In performing work under this subcontract, the SUBCONTRACTOR shall perform work safely, in a manner that ensures adequate protection for employees, the public, and the environment, and shall be accountable for the safe performance of work. The SUBCONTRACTOR shall exercise a degree of care commensurate with the work and the associated hazards. The SUBCONTRACTOR shall ensure that management of ES&H functions and activities becomes an integral but visible part of the SUBCONTRACTOR's work planning and execution processes. The SUBCONTRACTOR shall, in the performance of work, ensure that:

3.3.1 Line management is responsible for the protection of employees, the public, and the environment. Line management includes those SUBCONTRACTOR employees managing or supervising employees performing work.

3.3.2 Clear and unambiguous lines of authority and responsibility for ensuring ES&H functions are established and maintained at all organizational levels.

3.3.3 Personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.

3.3.4 Resources are effectively allocated to address ES&H programmatic and operational considerations. Protecting employees, the public, and the environment is a priority whenever activities are planned and performed.

3.3.5 Before work is performed, the associated hazards are evaluated and an agreed upon set of ES&H standards and requirements are established which, if properly implemented, provide adequate assurance that employees, the public, and the environment are protected from

adverse consequences.

3.3.6 Engineering and administrative controls to prevent and mitigate hazards are tailored to the work being performed and associated hazards. Emphasis should be on designing the work and/or controls to reduce or eliminate the hazards and to prevent accidents and unplanned releases and exposures.

3.3.7 The conditions and requirements to be satisfied prior to operations starting are established and agreed- upon by the CONTRACTOR and SUBCONTRACTOR. These agreed upon conditions and requirements are binding requirements upon the SUBCONTRACTOR. The extent of documentation and level of authority for agreement shall be tailored to the complexity and hazards associated with the work.

3.4 The SUBCONTRACTOR shall manage and perform work in accordance with a documented Safety Management Program that fulfills all conditions of this clause including ISMS requirements listed in 3.4.1 through 3.4.5 of this section. Documentation of the Program shall describe how the SUBCONTRACTOR will:

3.4.1 Define the scope of work

3.4.2 Identify and analyze hazards associated with the work

3.4.3 Develop and implement hazard controls

3.4.4 Perform work within controls

3.4.5 Provide feedback on adequacy of controls and continue to improve safety management

3.5 The SUBCONTRACTOR shall cooperate with Federal and nonfederal agencies having jurisdiction over ES&H matters under this subcontract.

3.6 The SUBCONTRACTOR shall promptly evaluate and resolve any noncompliance with applicable ES&H requirements and the System. If the SUBCONTRACTOR fails to provide resolution or if, at any time, the SUBCONTRACTOR's acts or failure to act causes substantial harm or an imminent danger to the environment or health and safety of employees or the public, the CONTRACTOR may issue an order stopping work in whole or in part. Any Stop Work Order issued by the CONTRACTOR under this clause (or issued by the SUBCONTRACTOR to a lower-tier SUBCONTRACTOR) shall be without prejudice to any other legal or contractual rights of the Government. In the event that the CONTRACTOR issues a Stop Work Order, an order authorizing the resumption of the work may be issued at the discretion of the CONTRACTOR. The SUBCONTRACTOR shall not be entitled to an extension of time or additional fee or damages by reason of, or in connection with, any work stoppage ordered in accordance with this clause.

E-4 SUBCONTRACTOR'S ENVIRONMENTAL, SAFETY & HEALTH PLAN

4.1 SUBCONTRACTOR's ES&H Plan shall specify how ES&H requirements will flow down to employees and sub-tier subcontractors including Section E-3, ISMS requirements.

4.1.1 A written company safety and health policy, which includes the Safety Management Program referenced in Section E-3
4.1.2 Assignment of program roles and responsibilities for all employees
4.1.3 Procedure for workers to report incidents and hazards without reprisal
4.1.4 Procedure to permit workers to stop work if they believe task poses an imminent risk
4.1.5 Procedures for hazard identification, hazard prevention, and abatement
4.1.6 Programs for employee training and safety communications
4.1.7 Procedures for accident investigation, reporting, and recording.
4.1.8 COVID-19 Mitigation Measures for Worker Protection.

4.2 The Plan shall describe the SUBCONTRACTOR's method on how to analyze and mitigate recognized hazards relative to each definable work activity. The plan shall also describe how feedback and lessons learned will occur.

4.3 Subcontractors Site Specific Plan due after award must be approved by CONTRACTOR prior to start of on-site activities.

4.3.1 SUBCONTRACTOR shall develop and conduct its services in accordance with the requirements of their written work-specific ES&H Plan, which will include the following applicable requirements of Code of Federal Regulations 10 CFR 851:

4.3.2 The Plan shall include the procedures used for onsite employees with respect to protection against hazardous site conditions, potentially hazardous work processes, and compliance with contractual ES&H requirements, including those in the following sections of this Exhibit. For Hazardous Material (HAZWOPER) sites, the Plan must meet 29 CFR 1910.120 requirements.

4.3.3 The ES&H Plan shall be submitted to the CONTRACTOR for review and acceptance prior to the start of work. Any changes to the work-specific ES&H Plan by the SUBCONTRACTOR must be agreed upon by the CONTRACTOR.

4.3.4 The Plan shall be communicated to each employee, signed by each employee including sub-tiers, and implemented by the SUBCONTRACTOR's management team.

E-5 SITE ORIENTATION/PRE- AND POST-JOB BRIEFINGS

5.1 Prior to commencement of work, all SUBCONTRACTOR personnel, either initially or as they are introduced to the site, will attend site orientation briefings conducted by CONTRACTOR's Subcontract Technical Representative (STR).

5.2 SUBCONTRACTOR will provide a Daily Pre-task Hazard Review/Job Hazard Analysis briefing for their personnel that specifically address the hazards and mitigating controls for work to be performed that day. Daily post- job briefings shall be conducted.

5.3 SUBCONTRACTOR shall document and maintain records of attendance and topics covered at the site orientation, Daily Pre-task Hazard Review/Job Hazard Analysis briefings. This documentation shall be maintained on the job site or in the work package for the duration of the subcontract.

E-6 SAFETY INSPECTIONS

6.1 SUBCONTRACTOR shall conduct and record daily inspections of the work areas and equipment to monitor compliance with safety standards.

6.2 SUBCONTRACTOR shall promptly initiate action to track and correct all identified hazards or deficiencies that SUBCONTRACTOR is responsible for. The original inspection document shall be maintained on the jobsite. Copies of the inspections with documented corrective actions will be forwarded to the STR.

6.3 SUBCONTRACTOR shall report all identified hazards or deficiencies not under the control of the SUBCONTRACTOR to the CONTRACTOR.

6.4 SUBCONTRACTOR shall take steps to ensure the safety of employees, the public, and the environment until the hazards are corrected.

E-7 WORK CONTROL

7.1 The SUBCONTRACTOR shall, in performance of work, participate in CONTRACTOR's Work Control Process. CONTRACTOR employees will provide orientations and assistance.

7.2 Prior to scheduled start of work, SUBCONTRACTOR shall provide an employee(s) knowledgeable of the proposed work to assist CONTRACTOR's employees in the preparation of a Work Package(s) to authorize the work. Alternatively, for long term activities, SUBCONTRACTOR may develop the capability of generating their own work packages following the CONTRACTOR'S Work Control Process including training and approval requirements.

7.3 The SUBCONTRACTOR's accepted ES&H Plan and specific procedures required in this Exhibit shall be used to identify administrative and engineering controls to prevent and mitigate hazards, inherent to the work being performed. Job Hazard Analyses (JHAs) shall be developed and accepted prior to commencement of work. CONTRACTOR's employees will assist in this documentation.

7.4 All SUBCONTRACTOR work packages will be reviewed and accepted by the appropriate CONTRACTOR's organizations, as determined by the scope and complexity of work, and known hazards associated with the subcontracted activity.

7.5 SUBCONTRACTOR shall maintain copies of the work package including written scope of work, SUBCONTRACTOR's hazard analyses (JHAs) that describe hazard controls, and pre-/post-job briefing documentation at the worksite for CONTRACTOR review.

E-8 RESPONSIBILITIES OF ONSITE SAFETY REPRESENTATIVE

8.1 The SUBCONTRACTOR shall have a trained and qualified Safety and Health Professional at the worksite whenever SUBCONTRACTOR personnel are performing work.

8.2 The SUBCONTRACTOR's Safety Representative will perform the following minimum activities:

8.2.1 Submit a "Daily Safety Field Report" to the CONTRACTOR's safety representative.

8.2.2 Cease work, remove SUBCONTRACTOR's personnel from the hazardous area if the safety or health of SUBCONTRACTOR's personnel, other site personnel, or third parties is jeopardized by SUBCONTRACTOR's work activities, and notify CONTRACTOR's.

8.2.3 Conduct or participate in daily pre/post job briefings and monthly (minimum) safety meetings for SUBCONTRACTOR's employees.

8.2.4 Provide work-specific training for new employees and orientations for visitors.

8.2.5 Ensure compliance with CONTRACTOR's work control process, as agreed.

8.2.6 Ensure compliance with CONTRACTOR's warning systems (including evacuation alarms, accountability rosters, assembly points, etc.).

8.2.7 Ensure that proper chemical and safety postings are in place, are legible, and are removed when the project is complete.

8.2.8 Ensure all operations are conducted so as to mitigate adverse environmental impacts (e.g., spill containment, erosion control).

8.2.9 Establish and maintain the hazard communication program (e.g. Material Safety Data Sheets (MSDS), training).

8.2.10 Continuously evaluate the site for any hazards not identified in the hazard assessment process(es) and initiate safety measures required to protect personnel, the public and the environment. Revise applicable documents, accordingly.

8.2.11 Ensure that all wastes generated are managed in compliance with applicable State,

Federal, or Local laws and Subcontract requirements.

8.2.12 Maintain first aid and Occupational Safety and Health Administration (OSHA) 300 logs, if required.

8.2.13 Report accidents and injuries to the STR, and conduct accident/incident investigations, as required, including the completion and submission of appropriate forms to the STR.

8.2.14 Ensure that the Site map, if required, includes safety information such as locations of fire extinguishers and eye wash stations, and ensure that the first-aid kits are kept current as appropriate.

8.2.15 Coordinate with CONTRACTOR's medical services, or local emergency responder organizations if off site, to establish provided services and verify that phone numbers, addresses, and contacts are current and accurate.

8.2.16 Interface with CONTRACTOR's safety and health personnel and the STR to resolve safety issues and conduct periodic inspections and program review.

8.2.17 Ensure safety requirements and goals have been set and communicated to workers.

8.2.18 Represent SUBCONTRACTOR in incident investigations and/or critiques as requested by CONTRACTOR.

8.3 If accepted by the CONTRACTOR, the SUBCONTRACTOR's assigned Safety Representative may have other duties as long as they will not interfere with or prevent the employee from performing the above-stated responsibilities.

E-9 INCIDENT REPORTING REQUIREMENTS

9.1 SUBCONTRACTOR must immediately notify CONTRACTOR's STR verbally, and then in writing, of an event or condition that adversely affects, or may adversely affect NNSA/NFO, or its mission, CONTRACTOR's or SUBCONTRACTOR's personnel, the public, property, or the environment. An event or condition could include: employee injury/illness and any accident, incident, near-miss (potential bodily injury/illness or damage to equipment and facilities), potential Price Anderson Amendment Act (PAAA) or 10 CFR 851 noncompliance, environmental release, or any other unplanned event that may be a violation of a regulatory requirement or that may be viewed negatively by the public, CONTRACTOR, or NNSA/NFO.

9.2 In situations where any of the conditions mentioned above occur, the scene shall not be disturbed without CONTRACTOR concurrence unless it is to mitigate an imminent hazard or stop a spill in progress. SUBCONTRACTOR and CONTRACTOR personnel may jointly investigate each injury/illness, accident, incident, near miss, or environmental noncompliance.

9.3 SUBCONTRACTOR shall provide a complete written accident/incident investigation report of any incident, outlining the causes, corrective actions, and measures taken to prevent recurrence of similar incidents to the CONTRACTOR's STR within two working days of its occurrence. If SUBCONTRACTOR's scope of work will not last beyond two days, the incident report shall be submitted to STR prior to leaving the worksite. SUBCONTRACTOR accident/incident investigation reports shall be submitted on CONTRACTOR's Form FRM-0018, "Injury/Illness/Incident Report.

9.4 SUBCONTRACTOR must immediately notify CONTRACTOR's STR verbally of all first aid cases and submit a documented report before the end of the shift.

9.5 SUBCONTRACTOR will assist CONTRACTOR in the preparation of all reports (including occurrences and offsite notifications) related to its operations. As part of assisting in the preparation of these reports, SUBCONTRACTOR will be responsible for, and is required to complete, the proposed corrective actions identified in the reports per the established due dates,

unless otherwise agreed upon with CONTRACTOR.

9.6 Property damage to government equipment, facilities, and motor vehicles shall be reported to CONTRACTOR's STR using CONTRACTOR's Form FRM-0018, "Injury/Illness/Incident Report."

9.7 Subcontractor Hours (FRM-1253): SUBCONTRACTOR shall submit copies of the Form FRM-1253, "Subcontractor Hours," to the CONTRACTOR's STR on or before the 28th of each month. The report will pertain to the onsite activities for the period from the 26th of the preceding month through the 25th of the current month as outlined on the form, and will be required throughout the duration of the subcontract, including periods of no work activity. If the duration of the onsite work does not exceed one month, the "Subcontractor Safety & Personnel Report" shall be submitted upon completion of the work, prior to leaving the worksite. SUBCONTRACTOR will include sub-tier subcontractors on the forms. The report forms will be provided to the SUBCONTRACTOR during the pre-performance conference or pre-job briefing/orientation.

9.8 Injury/Illness Medical Reports: The SUBCONTRACTOR is required to report all job-related injuries and illnesses, regardless of severity, immediately to CONTRACTOR's STR. SUBCONTRACTOR's employees must report to CONTRACTOR's Occupational Medicine Department after a work-related injury/illness, which requires medical attention, hospitalization, or an absence due to any injury/illness lasting five (5) or more consecutive workdays (or an equivalent time period for those individuals on an alternative work schedule) for a return-to-work evaluation focusing on the employee's physical and psychological capacity to perform their work and return to duty. Copies of the attending physician's report releasing the employee to full or limited duty and appropriate medical treatment forms (medical provider's diagnosis, restrictions, and treatment plan) shall be submitted to CONTRACTOR's Occupational Medicine Department during the return-to-work evaluation. SUBCONTRACTOR is required to submit the same required information for its sub-tier subcontractors. Subcontractor must comply with all work restrictions made by CONTRACTOR's Occupational Medicine Department.

9.9 SUBCONTRACTOR shall maintain reports and documentation required by Federal, State, and Local regulations and those required by its work-specific ES&H Plan. These reports and documentation shall be submitted to CONTRACTOR upon request or at completion of the work.

E-10 OCCUPATIONAL MEDICINE REQUIREMENTS

10.1 SUBCONTRACTOR shall complete the Form FRM-2062, "Subcontractor Medical Release," for each employee planned to work on a CONTRACTOR-managed site. SUBCONTRACTOR is responsible for obtaining all required signatures from employees and applicable medical providers on the form. The forms will be provided to the SUBCONTRACTOR by the STR after award.

10.2 Medical surveillance/qualification requirements apply to work involving exposure to asbestos, beryllium, biological hazards, chromium (VI), formaldehyde, hazardous materials, hazardous waste, hazardous noise, lasers, lead, mercury, OSHA toxic substances, PCBs (polychlorinated biphenyl), respirator wear, silica, crane operation, radiological work, and driving vehicles requiring commercial drivers license (CDL)/commercial motor vehicle (CMV) licenses. Medical qualification requirements apply to safety sensitive activities such as tower climbing, explosive handling, confined space entry, hazardous waste remediation, or other activities identified by the CONTRACTOR. When medical surveillance/qualification is required for the work to be performed SUBCONTRACTOR shall identify the applicable exposures or tasks for personnel conducting these work activities on FRM-2062.

10.3 SUBCONTRACTOR shall obtain the signature of a licensed medical provider certifying the medical surveillance/qualification and assurance of good general medical health of the employee on FRM-2062. SUBCONTRACTOR may elect to receive the medical surveillance/qualification/health review through CONTRACTOR's Occupational Medicine Department.

10.4 SUBCONTRACTOR shall provide completed FRM-2062s for itself and its sub-tier subcontractors to CONTRACTOR's STR for approval prior to beginning work. When working within Beryllium Legacy sites, SUBCONTRACTOR shall provide employees with the option to participate in the medical surveillance program. The individual employee shall accept or decline participation in this program when completing FRM-2062. The SUBCONTRACTOR cannot decline for all employees.

E-11 EMPLOYEE TRAINING/ORIENTATIONS

11.1 SUBCONTRACTOR shall ensure that employees are properly trained and qualified in accordance with regulatory requirements to safely perform all assigned tasks.

11.2 SUBCONTRACTOR shall conduct training and maintain records of other specific training identified in the SUBCONTRACTOR's ES&H Plan. Training records will be retained onsite for the duration of the contract and made available to the CONTRACTOR, upon request.

11.2.1 CONTRACTOR will provide the necessary training/orientations as they pertain to the work to be performed by the SUBCONTRACTOR. The training/orientations identified will be completed prior to start of work. SUBCONTRACTOR shall allow for three (3) hours to complete the training and orientations identified here and in the badging process defined in Exhibit F.

11.2.2 Training:

11.2.2.1 General Employee Radiological Training (GERT) 1E00W585

11.2.2.2 Integrated Work Control Process (WBT) 1G00W552

11.2.3 Orientations:

11.2.3.1 NNSS Site Access Safety Orientation

11.2.3.2 General Site Orientation/Emergency Reporting

11.2.3.3 Work Location Emergency Response Plan, Including Evacuation Alarms and Accountability

11.2.3.4 CONTRACTOR's Lockout/Tagout/Tagging Authority Process

11.2.3.5 Contractors Excavation Penetration Process

11.2.3.6 Work Package Orientation

11.2.3.7 Site Corona Virus Guidance (COVID-19)

E-12 EMERGENCY PREPAREDNESS REQUIREMENTS

12.1 SUBCONTRACTOR must comply with CONTRACTOR's Emergency Response Procedures. CONTRACTOR's STR will be responsible for the initial indoctrination to the SUBCONTRACTOR's employees during the general worksite orientation. As a minimum, this indoctrination will include the following information:

12.1.1 Protective actions
12.1.2 Shelter-in-place
12.1.3 Evacuation of personnel
12.1.4 Notifications
12.1.5 Emergency signals
12.1.6 Evacuation routes
12.1.7 Assembly areas

12.1.8 Personnel accountability

12.2 Indoctrination of subsequent SUBCONTRACTOR's employees must be performed by the SUBCONTRACTOR and formally documented. This documentation must be available for review by CONTRACTOR representatives.

E-13 RADIOLOGICAL REQUIREMENTS

13.1 SUBCONTRACTOR shall abide by the requirements of the current version of the Nevada National Security Site Radiation Protection Program (NNSS RPP) as implemented with the Nevada National Security Site Radiological Control Manual (NNSS RCM).

13.1.1 The NNSS RPP can be downloaded from the following web address: https://www.osti.gov/biblio/1435448-nevada-national-security-site-radiation-protection-program

13.1.2 The NNSS RCM can be downloaded from the following : https://www.osti.gov/biblio/1473982-nevada-national-security-site-radiological-control-manual

13.2 SUBCONTRACTOR shall make arrangements with the CONTRACTOR's Radiological Control Department to develop adequate controls, prescribe protective measures, and generate required Radiological Work Permit (RWP) or other Activity Level Work Document (ALWD) necessary to demonstrate compliance with the NNSS RPP.

13.3 SUBCONTRACTOR shall comply with all RWPs/ALWDs approved by the CONTRACTOR controlling the work performed by the SUBCONTRACTOR.

13.4 SUBCONTRACTOR shall disclose all equipment and materials expected to be utilized in areas controlled for radiological purposes, to the CONTRACTOR's STR (to be provided to the Radiological Control Department), prior to arrival on NNSA/NFO property.

13.5 All SUBCONTRACTOR-owned/rented equipment and vehicles brought onto NNSA/NFO property are subject to radiological survey at any time during the contract period and are required to undergo radiological evaluation prior to removal from the work site and/or NNSA/NFO property.

13.6 All SUBCONTRACTOR-owned/rented equipment and vehicles brought onto NNSA/NFO property that cannot meet established radiological release requirements shall not be removed from NNSA/NFO property.

13.7 SUBCONTRACTOR shall abide by the CONTRACTOR's radiological postings.

13.8 SUBCONTRACTOR shall ensure thermoluminescent dosimeters (TLDs), if used at the worksite, are exchanged by CONTRACTOR, as required, by the CONTRACTOR's Radiological Control Department.

13.9 SUBCONTRACTOR shall ensure TLDs, provided by the CONTRACTOR, are returned to the CONTRACTOR.

13.10 SUBCONTRACTOR shall ensure radio-bioassay samples from SUBCONTRACTOR employees are submitted, as required, by the CONTRACTOR's Radiological Control Department.

13.11 If SUBCONTRACTOR is expecting to bring radioactive sources/radioactive material or radiation generating devices (RGD) onto NNSA/NFO property:

13.11.1 SUBCONTRACTOR shall maintain radioactive sources/radioactive material per CONTRACTOR's direction.

13.11.2 SUBCONTRACTOR shall provide a planned schedule of moves or advise

CONTRACTOR's STR (to be provided to the Radiological Control Department), in writing, prior to moving any radioactive source to, around, or away from the CONTRACTOR-managed property. Prior approval to move such radioactive sources onto or from CONTRACTOR-managed property must be received from the CONTRACTOR's Radiological Control Department.

13.11.2.1 SUBCONTRACTOR shall notify the CONTRACTOR's Radiological Control Department immediately after they bring radioactive sources/radioactive material onto CONTRACTOR managed property so a pre-use radiological survey can be performed by the CONTRACTOR.

13.11.2.2 SUBCONTRACTOR shall notify the CONTRACTOR's Radiological Control Department prior to removing radioactive sources/radioactive material from CONTRACTOR managed property so a post-use radiological survey can be performed by the CONTRACTOR.

13.11.3 SUBCONTRACTOR shall provide a copy of the applicable radioactive material license (NRC or applicable state reciprocity) or other approval to the CONTRACTOR's STR (to be provided to the Radiological Control Department) that gives the SUBCONTRACTOR authority to possess and operate the radioactive source/radioactive material or RGD (copy of current License for Industrial Radiography per 10 CFR 34) along with procedures for operating the device.

13.11.3.1 SUBCONTRACTOR shall have adequate controls, protective measures, and work control documents/procedures/permits as required under their approved radioactive material license (NRC or applicable state reciprocity) or other approval for all operations associated with SUBCONTRACTOR-owned radioactive sources/radioactive material or RGDs.

13.11.4 SUBCONTRACTOR shall provide current leak test results, training records for RGD Operations, and source certificate/nominal activity sheets to the CONTRACTOR's STR (to be provided to the Radiological Control Department) prior to the radioactive source arriving on site.

13.11.5 SUBCONTRACTOR shall provide special form certificates, Department of Transportation shipping papers, and radioactive source container certifications, to the CONTRACTOR's STR (to be provided to the Radiological Control Department) upon entry to the Site.

13.11.6 SUBCONTRACTOR shall provide or make arrangements for transportation of radioactive source/radioactive materials in compliance with Department of Transportation regulations.

13.11.7 SUBCONTRACTOR shall have a worker radiation safety plan as specified in 10 CFR 39, including Operating and Emergency procedures and Incident Reporting procedures.

E-14 ENVIRONMENTAL REQUIREMENTS

14.1 Waste Management

14.1.1 The SUBCONTRACTOR shall manage all wastes generated at sites controlled by NNSA/NFO or CONTRACTOR in compliance with Federal, State and Local regulations.

14.1.2 The SUBCONTRACTOR shall coordinate with the CONTRACTOR to maximize the recycling of waste that is generated during this work.

14.1.3 Unless identified elsewhere in this subcontract, disposal arrangements and disposal costs of wastes and excess materials are the responsibility of the SUBCONTRACTOR and in accordance with the following protocol:

14.1.3.1 Construction and general office waste is considered municipal solid waste and must be disposed of in an approved solid waste landfill. These wastes may be added to the existing solid waste stream by use of the CONTRACTOR's waste receptacles. Waste wood generated at the Nevada National Security Site (NNSS) must be deposited in the on-site waste landfill by the CONTRACTOR.

14.1.3.2 Waste that can be reasonably recycled should be separated from the waste stream destined for disposal.

14.1.3.3 The SUBCONTRACTOR may, with approval from the CONTRACTOR, utilize CONTRACTOR maintained solid waste receptacles but must abide by the following list of PROHIBITED ITEMS:

- Radioactive Waste
- Hazardous Waste
- Free Liquids
- Medical Waste
- PCBs above 50 ppm
- Tires
- Hydrocarbon Waste
- Non-empty Aerosol Cans
- Freon-Containing Items

14.1.4 PCB, Hazardous and radioactive waste must be disposed of through the CONTRACTOR's Waste Management Section.

14.2 Waste Water:

14.2.1 SUBCONTRACTOR shall utilize Best Management Practices to control stormwater runoff and sedimentation for the protection of NNSS property and existing infrastructure.

NOTE: SUBCONTRACTOR shall not obtain a SWPP (Stormwater Pollution Prevention Plan) or State Stormwater Discharge permit unless directed to do so by the CONTRACTOR.

14.3 Air Quality:

14.3.1 SUBCONTRACTOR must minimize the degradation of air quality by complying with Federal, State, and Local air quality regulations.

14.3.2 The SUBCONTRACTOR shall minimize/suppress the release of fugitive dust emissions during construction or related activities by using water spray. Water spray must be managed by SUBCONTRACTOR in a manner which takes into consideration water conservation, as well as effective/adequate dust suppression.

14.3.3 The SUBCONTRACTOR shall be responsible for air quality operating permits for equipment brought onto CONTRACTOR-managed facilities and shall provide copies of all permits to CONTRACTOR. The SUBCONTRACTOR should consult the Nevada Administrative Code (NAC 445B.288) for a list of exemptions from requirements and insignificant activities to

determine whether permits are required. NOTE: Fuel-burning equipment such as generators, compressors and pumps that are brought onto the NNSS or Clark County facilities, for less than a 12-month period may not require permits under the Non-Road Engine definition (See 40 CFR 89.2)

14.3.4 The CONTRACTOR may perform oversight to ensure that emissions from construction and fuel-burning equipment are kept to a minimum within regulated opacity limits.

14.3.5 The SUBCONTRACTOR shall present documentation to the CONTRACTOR that technicians who service, maintain, or repair refrigeration equipment have the proper certification according to 40 CFR 82.161.

14.3.6 The SUBCONTRACTOR shall provide to the CONTRACTOR documentation when a refrigerant is added or removed from refrigeration equipment.

14.3.7 The SUBCONTRACTOR shall provide copies of service records for all work done to HVAC units, chillers, or commercial or industrial type process refrigeration equipment.

14.4 Industrial Chemical Use

14.4.1 The SUBCONTRACTOR shall provide the CONTRACTOR the steps that will be taken to prevent releases of chemical products while onsite.

14.4.2 The SUBCONTRACTOR must notify the CONTRACTOR immediately of all spills of chemicals (including fuel, lubricants and hydraulic fluid) and wastes (including waste water) to the environment, regardless of quantity spilled.

14.4.3 The SUBCONTRACTOR shall not apply or release any chemical substance including fuel to the air, ground, or any drain unless that is the intended and approved use of the chemical substance.

14.4.4 The SUBCONTRACTOR shall maintain an inventory of spill mitigation equipment appropriate to the type and volume of stored material at the site of material storage.

14.4.5 The SUBCONTRACTOR should consider storing liquids stored in 55-gallon containers or in larger sized containers in secondary containment. However, spill basins must be kept clear of debris and storm water.

14.4.6 The SUBCONTRACTOR will bear the cost of any clean-up caused by actions/inactions or mishaps.

14.5 Drinking Water Quality

14.5.1 The SUBCONTRACTOR shall follow the State and Local regulations regarding construction, maintenance, or repair of a drinking water system.

14.5.2 SUBCONTRACTOR shall comply NAC 445A.67215 which requires that an appropriate backflow prevention device be installed at each service connection between the public water system and a fire sprinkler system. The device must be tested upon installation by a certified backflow tester.

14.6 Biological Resource Protection

14.6.1 SUBCONTRACTOR operations shall be evaluated prior to the start of operations by the CONTRACTOR for the potential to not impact endangered protected species or cultural resources. CONTRACTOR will inform SUBCONTRACTOR personnel prior to the start of operations of the presence of endangered protected species or protected cultural resources in the vicinity of operation and required mitigation. Any accidental impact shall be reported immediately to CONTRACTOR.

14.7 Cultural Resource Protection

14.7.1 SUBCONTRACTOR operations shall ensure that cultural resources are not impacted. CONTRACTOR will inform SUBCONTRACTOR personnel prior to the start of operations of the presence of protected cultural resources in the vicinity of operation. Any accidental impact or discovery of cultural resources shall be reported immediately to the STR.

14.7.2 SUBCONTRACTOR shall remain within the areas surveyed and approved for surface disturbance and shall request authorization from the STR if additional surface disturbance is necessary.

14.8 Pollution Prevention/Waste Minimization – The SUBCONTRACTOR shall practice pollution prevention and waste minimization techniques, including proper storage of chemicals to prevent spills, separation of waste streams to expedite waste management and prevent cross-contamination, prompt clean-up and reporting of spills, use of less hazardous substitutes in place of hazardous chemical, and energy conservation.

E-15 HAZARD COMMUNICATION

15.1 When any amount of chemicals will be used for the work, SUBCONTRACTOR shall develop a written Hazard Communication Plan and, as required, implementing procedures describing the method that will be used to communicate the hazards associated with chemical handling, usage, storage, and disposal. The plan shall be submitted to and accepted by CONTRACTOR prior to commencement of work. The Plan shall be submitted as part of the work-specific ES&H Plan.

15.2 SUBCONTRACTOR must have prior approval from CONTRACTOR for chemicals to be brought onto the work site. MSDSs for each hazardous material purchased and/or carried onto a worksite shall be submitted to CONTRACTOR for acceptance. Hazardous material that arrives without an MSDS shall be quarantined and not released until the MSDS is received onsite and the material is accepted for use by CONTRACTOR. SUBCONTRACTOR shall maintain a list of hazardous materials, their location, the quantities of each, and the MSDS for each at the work site.

15.3 SUBCONTRACTOR shall ensure that employees are trained in the recognition, proper handling, and use of hazardous substances. Specific hazardous material training shall be provided by the SUBCONTRACTOR for its employees whose work involves the use of any hazardous material under its control. Such training shall be properly documented, filed, and made available to CONTRACTOR.

15.4 SUBCONTRACTOR shall properly label all hazardous substances and/or chemicals that have been transferred from the manufacturer's container into another container. Inspections shall be made and documented by the SUBCONTRACTOR to ensure that adequate labeling occurs.

E-16 RESPIRATORY PROTECTION

16.1 SUBCONTRACTOR shall provide and require the use of appropriate respiratory protective equipment, manufactured to a recognized standard, whenever a respiratory system hazard exists.

16.2 If the scope of work under this subcontract will require the use of respirators, SUBCONTRACTOR shall comply with the OSHA Respiratory Protection Standard at 29 CFR 1910.134. A copy of the SUBCONTRACTOR's respiratory protection program shall be submitted as part of the work-specific ES&H Plan for acceptance by CONTRACTOR.

16.3 SUBCONTRACTOR shall provide training on the inspection, use, sanitary care, and limitations of respiratory equipment. The records of such training shall be maintained by SUBCONTRACTOR and made available to CONTRACTOR.

16.4 The name of the competent person trained and designated by SUBCONTRACTOR to store,

maintain, inspect, and clean respiratory equipment shall be provided to the CONTRACTOR.

E-17 SILICA

17.1 The SUBCONTRACTOR shall submit a plan, for CONTRACTOR's acceptance, of the methods that will be used to contain silica identified in the Scope of Work.

17.2 The SUBCONTRACTOR's plan will include provisions for maintaining nuisance dust levels below the ACGIH threshold limit values and airborne levels below the OSHA permissible exposure limits.

17.3 SUBCONTRACTOR shall be responsible for conducting personal and biological exposure monitoring per the OSHA standards and for verifying that employees are not exposed above the action level. If exposures are at/above the action level, provisions of the OSHA standards (exposure and biological monitoring, posting, hygiene facilities, etc.) must be met.

17.4 Results of airborne and biological monitoring must be made available to the CONTRACTOR, upon request.

17.5 A trained competent person shall be designated by the SUBCONTRACTOR. This person's credentials shall be reviewed and accepted by the CONTRACTOR prior to the start of work.

17.6 The SUBCONTRACTOR shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician.

17.7 All SUBCONTRACTOR employees working under the accepted plan shall have been trained for the applicable toxic metal or silica removal. Training records shall be submitted to CONTRACTOR prior to the start of work.

E-18 LASERS

18.1 The SUBCONTRACTOR planning to bring a Class IIIb or IV laser onsite shall submit an American National Standards Institute ANSI Z136.1 compliant laser safe operating procedure for acceptance by the CONTRACTOR prior to start of work.

18.2 Employees who work with Class IIIb and IV lasers shall be enrolled in a laser medical surveillance program.

E-19 HEARING CONSERVATION PROGRAM

19.1 If noise due to activity is expected to equal or exceed the exposure levels identified by ACGIH (Section 1.4.9) SUBCONTRACTOR shall have a written Hearing Conservation Procedure. The procedure shall include noise surveys, engineering controls, the procurement and use of low noise-producing equipment when possible, posting of warning signs for areas found to require hearing protection, and training on hearing protection devices used at the work location. The procedure shall be submitted as part of the work-specific ES&H Plan.

19.2 Unless otherwise specified or provided by CONTRACTOR, SUBCONTRACTOR shall provide equipment for sampling and monitoring noise levels. This equipment shall be calibrated before and after use and all measurements documented and made available to CONTRACTOR.

E-20 HEAT AND COLD STRESS PREVENTION; INCLEMENT WEATHER

20.1 SUBCONTRACTOR shall have operating and emergency procedures for heat and/or cold stress.

20.2 SUBCONTRACTOR shall ensure that all field employees, especially front-line supervisors, are trained on the warning signs/symptoms of early heat or cold related disorders, and instructed on the clothing and work methods best suited to avoid heat and/or cold stress. Stay/work times shall

be developed to reduce the possibility of heat or cold related disorders, if necessary. Such times shall be communicated to the workers.

20.3 SUBCONTRACTOR shall provide an immediately accessible, adequate, and potable water supply during all periods of the day.

20.4 SUBCONTRACTOR shall initiate protective actions when a lightning threat is within 10 miles of the work activity. Actions may include work stoppage and sheltering, if deemed necessary. CONTRACTOR's STR will provide lightning activity information to SUBCONTRACTOR unless other communication measures have been provided.

E-21 CONFINED SPACES

21.1 If SUBCONTRACTOR employees will be required to enter a confined space (manhole, tank, pit, vault, vessel, etc.), SUBCONTRACTOR shall have a written Confined Space Procedure acceptable to CONTRACTOR. The procedure shall be submitted as part of the work-specific ES&H Plan.

21.2 The SUBCONTRACTOR'S Confined Space Procedure shall follow the requirements of 29 CFR 1910.146 and accepted by the Contractor.

21.3 SUBCONTRACTOR must provide the CONTRACTOR a list of name(s) of the competent person(s) responsible for the confined space program and the list shall be maintained onsite.

21.4 SUBCONTRACTOR employees who will be attendants, entrants, and/or entry supervisors shall be trained in accordance with the requirements of 29 CFR 1910.146 for Permit-Required and Non-Permit Required Confined Spaces.

21.5 Atmosphere monitoring of the confined space shall be in accordance with 29 CFR 1910.146 by SUBCONTRACTOR or CONTRACTOR, as specified elsewhere in the subcontract. Both parties shall have the ability to verify atmosphere monitoring performed by the other.

21.6 Prior to each entry into a confined space SUBCONTRACTOR shall ensure, as required:

21.6.1 Proper ventilation equipment is used to purge or supply air to the confined space
21.6.2 All electrical service is low voltage or GFCI protected
21.6.3 Adequate access/egress to/from the confined space is provided
21.6.4 A task specific rescue plan has been developed and reviewed with all involved employees,
21.6.5 All external sources of atmospheric hazards have been isolated
21.6.6 Space has been evaluated for heat stress concerns
21.6.7 Space has been evaluated for high noise concerns

21.7 SUBCONTRACTOR shall provide for a rescue team, when required.

21.8 SUBCONTRACTOR shall use CONTRACTOR-provided Confined Space Entry Permit to document confined spaces work or submit its Confined Space Entry Permit for acceptance.

21.9 SUBCONTRACTOR shall forward the completed permit to CONTRACTOR's Confined Space Program Coordinator upon completion of the work.

21.10 All SUBCONTRACTOR records of confined spaces training and air monitoring instrument calibration shall be provided to CONTRACTOR.

21.11 SUBCONTRACTOR shall consider all elevator pits as permit-required confined spaces until otherwise determined to be non-permit required confined spaces and accepted as such by CONTRACTOR's Confined Space Program Coordinator.

E-22 INFECTIOUS DISEASES & BLOODBORNE PATHOGENS

22.1 SUBCONTRACTOR employees who may be exposed to infectious diseases and/or bloodborne pathogens shall be properly trained regarding their responsibilities, required control measures, and personal safety. Appropriate personal protective equipment shall be used when exposure hazards exist. Each SUBCONTRACTOR employee whose job duties puts them at risk of exposure (e.g., medic, nurse, first aid person) shall be offered vaccinations and documentation of the vaccination or declination shall be maintained and made available to CONTRACTOR.

22.1 SUBCONTRACTOR shall inform the CONTRACTOR their method for reducing employees risks for COVID-19 Safety Protocols

22.2 SUBCONTRACTOR shall classify which jobs are considered high, medium, and low hazard and their mitigation methods for each classification.

22.3 SUBCONTRACTOR shall provide all its employees with a general overview on the hazards associated with COVID-19 and/or bloodborne pathogens, possible means of exposure, and proper control methods.

22.4 Provisions shall be made for proper disposal of hazardous medical wastes and a sign posted in the treatment area warning of biohazards. A "sharps" container acceptable to CONTRACTOR shall be maintained in the first aid area for the secure disposal of used needles and similar medical waste.

E-23 PERSONAL PROTECTIVE EQUIPMENT

23.1 SUBCONTRACTOR shall require employees to wear eye protection equipped with hard side shields (safety glasses) manufactured to ANSI Z87. This applies to prescription eyewear as well. SUBCONTRACTOR shall monitor the eye protection worn by its employees and take immediate corrective actions when non-compliance is noted. Employees performing grinding and buffing operations shall wear face shields and safety glasses or mono goggles.

23.2 Welders shall wear hardhat/welding hood combinations manufactured to the recognized ANSI Z87 standard and safety glasses while welding.

23.3 SUBCONTRACTOR employees shall wear safety toed shoes or boots manufactured to the ASTM 2413-05 standard when required by the work being performed.

23.4 SUBCONTRACTOR shall provide its employees with life jackets when working over or near open water and shall require their use. SUBCONTRACTOR-supplied life rings, rope, and a rescue vessel acceptable to CONTRACTOR shall be in place when a drowning threat exists.

23.5 SUBCONTRACTOR employees who handle chemicals or harmful substances shall be trained and shall wear appropriate personal protective equipment per the chemical manufacturer’s recommendations.

23.6 Hardhats manufactured to the recognized ANSI Z89 standard shall be worn with the brim forward at all times when required by the work being performed.

23.7 Qualified Electrical Workers performing lockout activities shall wear electrical protective gloves and other required arc-flash protection meeting the requirements of National Fire Protection Association (NFPA) 70E while verifying absence of energy or when exposed to electrical energy.

23.8 Appropriate gloves shall be worn when the work being performed presents potential for hand and finger injuries.

23.9 SUBCONTRACTOR shall require all employees to wear long pants and a suitable shirt, with no less than 4-inch sleeves, as the minimum work clothing to be worn at the worksite.

23.10 SUBCONTRACTOR shall provide and require the use of hearing protection whenever a hearing hazard exists.

23.11 SUBCONTRACTOR shall ensure employees wear personal protective equipment (PPE) specified by OSHA and the work-specific ES&H Plan. All required PPE (hardhats, safety glasses with side-shields, safety-toed boots or shoes, harnesses, lanyards, gloves, etc.) shall be provided by the SUBCONTRACTOR.

E-24 HOUSEKEEPING, FIRE PREVENTION AND PROTECTION

24.1 All eating and sanitary facilities (either shared or SUBCONTRACTOR-controlled) shall be maintained in a clean and sanitary condition at all times. SUBCONTRACTOR must provide the necessary resources to accomplish this, including adequate washing facilities with soap and disposable towels and whatever labor is required to clean and maintain a high level of sanitation.

24.2 If work activities will present the possibility of a fire, SUBCONTRACTOR shall develop and submit to CONTRACTOR for review and acceptance, a Fire Protection and Prevention Plan specific to the work under this subcontract prior to starting any work. The plan shall be submitted as part of the work-specific ES&H Plan.

24.3 SUBCONTRACTOR shall provide all fire protection and prevention equipment necessary for its operations, including, but not limited to fire hose, nozzles, extinguishers, etc. SUBCONTRACTOR shall provide an adequate number of fire extinguishers of the correct size and type for its work activities. Extinguishers shall be maintained per manufacturers' recommendations, inspected monthly, and tested annually. SUBCONTRACTOR shall train employees in the proper use of fire extinguishers.

24.4 When required, SUBCONTRACTOR shall include in its Fire Protection and Prevention Plan a plan to ensure that fire protection equipment is placed and maintained as work progresses.

24.5 When working in or around facilities, SUBCONTRACTOR shall monitor work areas to ensure that all doors, stairwells, aisles, and means of egress are kept clear and unobstructed at all times.

24.6 If SUBCONTRACTOR furnishes portable field offices, SUBCONTRACTOR shall ensure they have appropriate separations, are secured, all exits are clearly marked and adequately lighted, and that all emergency lights remain functional.

24.7 If large quantities of flammables or combustibles will be brought to the worksite, SUBCONTRACTOR shall develop a specific written Flammable and Combustible Material Storage Procedure setting out the requirements for the handling, storage, and use of flammable and combustible liquids. SUBCONTRACTOR shall ensure they are stored properly, dispensed in safety cans manufactured to a recognized standard acceptable to CONTRACTOR, and areas designated for these activities are maintained in an orderly fashion. All storage areas containing hazardous materials shall be posted with appropriate signs and access shall be controlled.

24.8 SUBCONTRACTOR shall instruct its employees that smoking or other open flame producing articles can only be done in designed areas.

24.9 SUBCONTRACTOR office areas shall be monitored to reduce and control storage and loading of combustible materials. Material shall be well arranged, and aisles shall be maintained open and clear of obstructions. Stored material shall be kept away from heaters, lamps, hot pipes, equipment, and machinery and the use of extension cords minimized.

24.10 When SUBCONTRACTOR's work tasks are in the vicinity of fire cabinets and equipment, fire hydrants, and fire lanes, SUBCONTRACTOR shall ensure they are kept clear and unobstructed.

24.11 SUBCONTRACTOR shall maintain a minimum of 18-inches of free space below sprinkler heads when working in facilities having sprinkler systems.

24.12 SUBCONTRACTOR shall ensure that combustible waste containers at the worksite, including oily rag containers, are kept covered and emptied regularly.

24.13 SUBCONTRACTOR shall not allow use of open flame equipment on the jobsite outside of designated areas covered by a Hot Work Permit.

E-25 TOOLS AND EQUIPMENT

25.1 SUBCONTRACTOR shall provide all tools and ensure they are used by employees properly trained in their use in accordance with the manufacturers' recommendations, have required guards in place, and are maintained in good working order.

25.2 SUBCONTRACTOR will ensure that excess flow valves are installed on air manifolds and compressors supplying air to >1/2-inch inside diameter hoses.

25.3 SUBCONTRACTOR will not use job-made tools of any kind at the jobsite (e.g., tools made of rebar, rigging equipment). All tools and equipment shall be used and maintained in accordance with manufacturers' recommendations. If exceptions to this rule are needed (i.e., spreader beams), they must be brought to CONTRACTOR's attention for review and acceptance prior to use.

25.4 SUBCONTRACTOR shall only permit properly trained and certified employees to use powder-actuated tools. Certifications of employees' training will be maintained onsite for immediate availability to the CONTRACTOR. Control shall be kept of the powder-actuated charges. Each cartridge shall be accounted for and kept in a secured storage cabinet/box. No live or spent cartridges shall be left on the ground or disposed of in trashcans or other unauthorized on or offsite container.

25.5 SUBCONTRACTOR shall ensure that work is performed only in areas and at times where adequate illumination exists. SUBCONTRACTOR shall provide lighting required to safely perform work. Artificial lighting equipment shall be manufactured to a recognized standard acceptable to CONTRACTOR.

25.6 SUBCONTRACTOR shall ensure that all major equipment and tools, including hand tools, are inspected, operated, and maintained by qualified personnel.

25.7 Equipment inspection certifications will be available at the job site for the duration of work and made available to CONTRACTOR, upon request. Equipment requiring certifications includes, but is not limited to, cranes and slings.

25.8 SUBCONTRACTOR shall ensure that equipment brought onsite is free of suspect/counterfeit parts.

E-26 WELDING, CUTTING, BRAZING, AND GRINDING

26.1 SUBCONTRACTOR shall protect its employees against welding, cutting, brazing, and grinding hazards. SUBCONTRACTOR shall develop a written Cutting, Welding, Grinding and Brazing Procedure, which contains the applicable parts of ANSI Z49.1 and addresses fire concerns including fire watches, welding fumes, preservative coatings, respiratory protection, eye/head/body protection, etc. The procedure shall also provide for the maintenance and inspection of welding, grinding, brazing, or cutting equipment. The SUBCONTRACTOR shall ensure that the procedure is implemented and maintained. The procedure shall be submitted as part of the work-specific ES&H Plan.

26.2 Welding, cutting, grinding, and brazing apparatus and tools shall be inspected before each use. Cutting torch assemblies shall be equipped with pressure relief valves, back flow prevention devices, and flash arrestors.

26.3 SUBCONTRACTOR shall ensure employees performing welding, cutting, grinding, or other spark-producing activities wear fire-retardant clothing as well as other applicable body protection (leather gloves, sleeves, aprons, etc.)

26.4 SUBCONTRACTOR shall ensure that employees are trained in, and comply with, the requirements for proper fire prevention and equipment use when welding, cutting, grinding, or brazing.

26.5 Where temporary welding enclosures are required, SUBCONTRACTOR shall ensure that these enclosures are constructed with flame resistant materials (such as fire blanket).

26.6 SUBCONTRACTOR shall effectively ground the frame of arc-welding and cutting machines that incorporate a power outlet.

26.7 A Hot Work Permit system, acceptable to the CONTRACTOR, shall be utilized for all cutting, welding, and grinding. The system must include a fire watch. CONTRACTOR's Form FRM-0024, "Hot Work Permit," may be used.

E-27 FALL PREVENTION/PROTECTION

27.1 The SUBCONTRACTOR's work-specific ES&H Plan shall include a written Fall Prevention/Protection Procedure, acceptable to CONTRACTOR that makes maximum use of fall protection systems, such as standard railings on scaffolds and use of full body harnesses on aerial lifts.

27.2 SUBCONTRACTOR shall require the inspection of fall protection equipment prior to each use.

27.3 SUBCONTRACTOR shall adopt a 100% fall protection policy that makes provision for secondary fall protection (full-body harness) for all employees who are working or traveling more than six (6) feet above ground. All fall protection devices shall be manufactured and used in accordance with a recognized standard.

27.4 When personnel are required to work on unprotected roofs or near unprotected edges (work platforms, skylights, etc) at heights greater than six (6) feet, the SUBCONTRACTOR shall identify the hazards and develop methods to achieve 100% fall protection. The SUBCONTRACTOR shall submit a Roof Access/Elevated Work Plan (drafted by fall protection competent person) or an engineered Fall Protection Plan (drafted by fall protection qualified person) to CONTRACTOR for acceptance prior to start of such work.

27.5 Where lifeline systems are used, anchor points shall be capable of supporting at least 5,000 pounds per attached person. Lifelines shall be designed, installed, and maintained by qualified persons who are competent and possess the knowledge necessary to ensure the integrity and safety factors necessary for lifeline system installation. Lanyards, when attached to vertical lifelines, shall be attached by approved rope grab devices only. Knots, painters-hitches, or loops are not acceptable.

27.6 All fall protection devices and equipment attached to lifeline systems shall be used and maintained in accordance with manufacturer's recommendations.

27.7 SUBCONTRACTORS using retractable lifeline devices shall secure them by means acceptable to CONTRACTOR and in all cases by a means capable of supporting at least 5,000 pounds per person.

27.8 A list of SUBCONTRACTOR fall protection qualified persons shall be maintained onsite, on company letterhead, and approved by an officer of the SUBCONTRACTOR.

E-28 FLOOR AND WALL OPENINGS

28.1 SUBCONTRACTOR shall review the fall hazards involved in its scope of work and construct standard handrail systems, where required.

28.2 SUBCONTRACTOR shall install vertical support posts for handrails at intervals of not more than eight (8) feet.

28.3 SUBCONTRACTOR shall barricade all floor openings, or install properly labeled and substantial covers (3/4 inch), exterior grade plywood able to withstand at least twice the anticipated load). All floor-opening covers shall be secured against movement and stenciled or painted with this statement: "OPEN HOLE - DANGER, DO NOT REMOVE."

E-29 SCAFFOLDING

29.1 When scaffolds will be used to perform work, SUBCONTRACTOR shall have a written Scaffolding Procedure and use scaffold material acceptable to CONTRACTOR. The procedure shall be submitted as part of the work-specific ES&H Plan.

29.2 Use of any engineered scaffold will require SUBCONTRACTOR to provide to the CONTRACTOR the records with appropriate professional engineer (PE) certifications prior to using the scaffold.

29.3 Scaffold platforms shall be fully planked or decked out, capable of supporting four (4) times the maximum intended load to be imposed upon them, and all sides protected by standard guardrail system. The top rail shall be approximately 42 inches from the platform. A mid-rail and 4-inch toe-board shall be installed.

29.4 SUBCONTRACTOR-erected scaffolds, where employees are working/passing below, shall have planking or netting installed from the platform to the top rail.

29.5 SUBCONTRACTOR shall develop a scaffold tagging system compatible with the CONTRACTOR's three-tag system. SUBCONTRACTOR shall notify the STR and CONTRACTOR's safety representative as to the system they intend to use. CONTRACTOR uses a red tag to indicate scaffolds under construction or demolition, yellow to indicate scaffolds that are complete but have hazards associated with them, and green to indicate scaffolds erected to a complete, safe standard. SUBCONTRACTOR may duplicate the CONTRACTOR's system.

29.6 SUBCONTRACTOR shall erect or modify scaffolds under the direction of a trained, competent scaffold builder whose qualifications have been submitted to and accepted by CONTRACTOR. The competent person shall sign all scaffold tags and perform and document inspections before initial use, including initial use following alteration, and daily thereafter.

29.7 SUBCONTRACTOR shall provide safe access/egress to all levels of scaffolds. Scaffold platform accesses shall be protected to prevent the possibility of accidental fall-through, utilizing secured access gates.

29.8 Special scaffolds (hanging scaffolds, 2-point suspension scaffolds, etc.) shall be designed by a competent engineer and erected with all necessary personnel safety equipment installed, such as rope grabs and lifelines.

29.9 All scaffolds erected by SUBCONTRACTOR shall have casters, jackscrews, or base plates installed. Mudsills shall be used where required. Scaffolds shall be level and plumb, capable of supporting at least four times the anticipated load, and secured to a solid structure, whenever possible.

29.10 When scaffolds will be secured to a facility, a CONTRACTOR's Excavation-Penetration Permit will be required.

29.11 SUBCONTRACTOR shall provide scaffold user training to all employees. Training records will be maintained onsite and made available to CONTRACTOR upon request. A list of SUBCONTRACTOR scaffold competent person(s) shall be maintained onsite, on company letterhead, and approved by an officer of the SUBCONTRACTOR.

E-30 BARRICADES AND TRAFFIC CONTROL PLANS

30.1 SUBCONTRACTOR is responsible for properly erecting and maintaining barricades and barriers in such a manner that they provide adequate protection and do not impede the work of other

workers unless CONTRACTOR accepts such placement.

30.2 Barricades left after dark on or in close proximity to roadways shall be properly equipped with flashing amber lights.

30.3 SUBCONTRACTOR shall provide and use appropriate barrier devices to identify the nature of the job hazard involved (i.e., yellow and black for "CAUTION" or red and black for "DANGER"). Barrier devices, including barrier tape, shall not be used as a substitute for a barricade as they do not offer adequate protection from falls. Barrier devices shall be used only in those applications where temporary identification of a hazard is needed; but not as a primary means of protecting employees from exposure.

30.4 If applicable to the worksite, SUBCONTRACTOR shall develop a Traffic Control Plan for the worksite, including placement of traffic control devices, and a schedule if the plan will be changed as the work progresses. The plan(s) will be submitted to and accepted by CONTRACTOR prior to the start of work.

30.5 SUBCONTRACTOR shall ensure that employees understand and comply with barricade and barrier procedures (i.e., prohibited entry into red barrier taped areas).

E-31 EXCAVATIONS, TRENCHING, AND SURFACE PENETRATIONS

31.1 SUBCONTRACTOR shall not commence any excavation, trenching, or surface penetration work, until they have obtained permission from CONTRACTOR and complied with the conditions required by the permit authority. The permit authority for this subcontract is the CONTRACTOR, who will issue the Excavation-Penetration Permit to the SUBCONTRACTOR. Permits shall be kept at the jobsite and made available to CONTRACTOR.

31.2 SUBCONTRACTOR shall provide at the jobsite a competent person, who will classify all soils and perform daily inspections of all excavations/trenches. These inspections shall be documented, kept on file, and made available to CONTRACTOR.

31.3 A list of SUBCONTRACTOR excavation competent person(s) shall be maintained onsite, on company letterhead, and approved by an officer of the SUBCONTRACTOR.

31.4 SUBCONTRACTOR shall have an engineered drawing for reference showing the location of all underground services and/or utilities. Such drawing will be provided by the CONTRACTOR. Unless otherwise agreed upon, CONTRACTOR will perform detection activity (goldaking, metro-teching, etc.) to identify and mark the location of underground services and/or utilities.

31.5 Where trenches or excavations will exceed five (5) feet in depth, the SUBCONTRACTOR shall use protective systems acceptable to CONTRACTOR. No more than 25 feet of lateral travel shall be required in any trench to reach a ladder. Warning signs and barricades shall be installed at least six (6) feet from edge in a manner that prevents accidental entry into the trenched or excavated area.

31.6 When a sidewalk, asphalt paving, or natural surfaces must be penetrated by drilling, saw cutting, inserting metal stakes, or other like activities, a CONTRACTOR's Excavation-Penetration Permit may be issued by the CONTRACTOR. SUBCONTRACTOR is responsible for assisting CONTRACTOR in identifying the work areas and activities subject to the issuance of the permit.

31.7 SUBCONTRACTOR shall provide to the CONTRACTOR all engineering specification for any protective devices (shoring, jacks, etc.) to be use within an excavation to protect workers.

31.8 When a wall, ceiling, partition, roof, or floor must be penetrated by drilling, inserting nails or screws beyond wallboard depth, or other like activities, a CONTRACTOR's Excavation-Penetration Permit shall be issued by the CONTRACTOR. This permit is in addition to any other lockout/tagout permits or forms issued by the CONTRACTOR. SUBCONTRACTOR is

responsible for assisting CONTRACTOR in identifying the work areas and activities subject to the issuance of the permit.

E-32 LOCKOUT/TAGOUT PROCEDURES

32.1 SUBCONTRACTOR performing lockout/tagout (LOTO) activities in or on any CONTRACTOR-managed facility shall formally submit their LOTO program, which meets the requirements of 29 CFR 1910.147, 29 CFR 1926.417, and NFPA 70E, to CONTRACTOR for review and acceptance by the appropriate CONTRACTOR Tagging Authority (TA), CONTRACTOR Safety Professional, and STR. The Program shall be submitted as part of the work-specific ES&H Plan. LOTO program acceptance shall be obtained before performing work requiring LOTO. Use of SUBCONTRACTOR's program shall be augmented by an orientation on CONTRACTOR's LOTO and TA program. The STR and TA shall conduct this orientation and inform SUBCONTRACTOR employees exposed to CONTRACTOR work involving LOTO of the size, type, and color of CONTRACTOR's system and personal LOTO locks.

32.2 The CONTRACTOR TA has overall control of the LOTO. SUBCONTRACTOR shall follow their (29 CFR 1910.147, 29 CFR 1926.417, and NFPA 70E compliant/CONTRACTOR accepted) LOTO procedure within the LOTO boundaries established by CONTRACTOR. CONTRACTOR's LOTO procedure is always used, except when a SUBCONTRACTOR has exclusive control of a system or area. When SUBCONTRACTOR has exclusive control, the boundary of the exclusive control area shall be clearly specified. CONTRACTOR TAs are not involved in LOTO inside this boundary.

32.3 For permitted LOTO, the CONTRACTOR TA shall install a System LOTO per CONTRACTOR procedures. The SUBCONTRACTOR shall follow its LOTO program within the boundaries of the CONTRACTOR LOTO. At no time in this process is a SUBCONTRACTOR allowed to install a LOTO device on a piece of equipment/energy-isolating device that does not already have a system LOTO lock on it.

32.4 For single point single source (SPSS) LOTO, the CONTRACTOR TA will issue the completed SPSS checklist to the SUBCONTRACTOR, who shall conduct the single point lock out following its approved procedure. A walkdown will be conducted with the SUBCONTRACTOR to ensure SUBCONTRACTOR understands the exact location and proper position of the energy-isolating device.

32.5 SUBCONTRACTOR shall ensure that all employees applying locks and tags have been trained on the specific lockout/ tagout procedure. Records of training and/or qualification shall be made available to CONTRACTOR, upon request.

32.6 SUBCONTRACTOR's tagging procedures will include a requirement to clearly identify the SUBCONTRACTOR's name and the name of the authorized employee affixing the lock and tag.

32.7 If SUBCONTRACTOR's LOTO program does not fully comply with OSHA and NFPA 70E requirements and is therefore not accepted, SUBCONTRACTOR employees must be fully trained and comply with CONTRACTOR's LOTO Program.

E-33 ELECTRICAL SAFETY PROGRAM/PROCEDURES

33.1 If SUBCONTRACTOR's employees will be working on or near exposed energized electrical conductors or circuit parts or installing new electrical circuits, SUBCONTRACTOR shall have a written Electrical Safety Program that includes the applicable sections of 29 CFR 1910, 29 CFR 1926, and NFPA 70E 2015. The program shall specify the required training, controls, procedures, hazard evaluation and analysis processes, and pre-job briefings. This shall include the proper use of Limited/Restricted/Prohibited approach boundaries and Arc Flash Boundaries. The program shall also address the use of energized electrical work permits, flash hazard analyses, and the use of arc flash PPE. The program and training records of personnel permitted

to work on exposed energized electrical equipment shall be made available to CONTRACTOR for acceptance. The program shall be submitted as part of the work-specific ES&H Plan.

33.2 SUBCONTRACTOR shall have a General Electrical Safety Procedure and shall train all employees regarding general electrical safety and inspection of electrical equipment used by employees. Training records shall be maintained at the worksite and made available to CONTRACTOR, upon request. The procedure shall be submitted as part of the work-specific ES&H Plan.

33.3 Shock and arc flash PPE requirements shall be specified and comply with NFPA 70E, most recent version. Compliance with the CONTRACTOR's PPE requirements meets this standard.

33.4 Employees shall use ground fault circuit interrupters (GFCIs) on all temporary electrical applications.

33.5 SUBCONTRACTOR shall maintain records of all tool inspections and make these records available to CONTRACTOR, upon request. Only equipment with Nationally Recognized Testing Laboratory Listing/Labeling shall be used.

33.6 Electrical PPE shall be rated for the work and inspected prior to use.

33.7 SUBCONTRACTOR shall ensure all tools are checked for electrical continuity after repairs are made.

33.8 CONTRACTOR's Electrical Authority Having Jurisdiction (AHJ) shall have final authority for electrical code interpretations involving electrical installations. Use of temporary surface laid cables must be approved by the AHJ.

E-34 PORTABLE LADDERS

34.1 SUBCONTRACTOR shall monitor ladders to ensure all ladders used are constructed of wood or fiberglass (not metal) and have non-slip feet.

34.2 SUBCONTRACTOR will erect ladders so that access/egress areas are unobstructed.

34.3 SUBCONTRACTOR will use ladders for egress and/or to conduct low level work of short duration and will not use ladders in lieu of scaffolds as a primary means of conducting work of longer duration.

E-35 CRANES AND MATERIAL HANDLING EQUIPMENT

35.1 SUBCONTRACTOR shall provide the resources necessary for inspection and maintenance of rigging and lifting equipment and shall monitor all lifts to ensure that acceptable lifting practices are followed.

35.2 SUBCONTRACTOR shall submit their 29 CFR 1926.1400, Subpart CC, "Cranes and Derricks in Construction" compliant program as part of the ES&H program.

35.3 Where practical, tag lines shall be used to control load swing and positioning on lifts.

35.4 SUBCONTRACTORS who are performing lifts in excess of five (5) tons shall submit a lifting plan to CONTRACTOR for review and acceptance prior to performing the lift. If the lift is over 50-tons or classified as critical (exceeding 80% of the crane capacity chart, any two-crane lift or any lift over operating or occupied facilities, process pipe racks or near power lines), the SUBCONTRACTOR shall submit a detailed rigging plan with all applicable supporting calculations to CONTRACTOR for review and acceptance prior to the lift.

35.5 SUBCONTRACTOR shall designate a qualified supervisor to determine the methods and develop plans for rigging operations to ensure safe lifts.

35.6 All cranes supplied by SUBCONTRACTOR shall have current, annual, documented inspections,

and required certifications. Documentation shall be made available to CONTRACTOR prior to initial jobsite use.

35.7 SUBCONTRACTOR shall ensure that chain-falls, inertia reels, etc., have a documented inspection annually (including initial load tests). All rigging equipment shall undergo a visual inspection prior to each use. All capacities shall be clearly indicated on lifting devices.

35.8 All rigging shall be stored properly (i.e., on racks or in protected areas).

35.9 SUBCONTRACTOR shall ensure all crane operations maintain minimum safe distances from all high voltage lines, as determined by CONTRACTOR. Up to 350 KV, that distance shall be 20 feet.

35.10 SUBCONTRACTOR shall ensure that the counter weight and housing swing radius of all cranes is properly barricaded whenever it is possible personnel may come into contact with or be struck by them.

35.11 SUBCONTRACTOR shall ensure the fall zone is controlled and only essential personnel for the lifting activities are allowed access.

35.12 SUBCONTRACTOR shall ensure that any mobile crane assembly/disassembly activities are controlled by a competent and qualified supervisor.

35.13 SUBCONTRACTOR shall ensure that the ground conditions for the crane are adequate. SUBCONTRACTOR shall ensure that its equipment operators are adequately trained and informed of their responsibility to operate their equipment within design limits. Mobile crane operators are required to show proof that they meet the requirements of the State of Nevada to operate the mobile crane they are operating. This proof may be a

National Commission for the Certification of Crane Operators license or other certificate recognized by the State of Nevada.

35.14 SUBCONTRACTOR shall ensure that equipment operators do not leave their positions at the equipment controls whenever loads are suspended or raised.

35.15 SUBCONTRACTOR shall ensure only approved attachments are used on powered industrial trucks. If those attachments constitute a crane, only certified crane operators can operate the equipment.

35.16 SUBCONTRACTOR shall provide and ensure that operators keep daily inspection logs for all equipment. No equipment shall be operated if hazardous conditions are identified.

E-36 SUSPENDED PERSONNEL PLATFORMS

36.1 SUBCONTRACTOR shall notify CONTRACTOR prior to using any suspended personnel platform and develop a Lift Procedure to be reviewed and accepted by CONTRACTOR prior to their use. The procedure shall include, but not be limited to, employee training, pre-lift meetings, trial lifts, and platform inspection. The plan shall meet all the requirements of American Society of Mechanical Engineers B30.2 and the requirements of 29 CFR 1926.1400, Subpart CC, “Cranes and Derricks in Construction.”

36.2 Personnel platforms (baskets) provided by SUBCONTRACTOR shall be designed by a qualified engineer and manufactured by competent personnel. They shall have permanent markings indicating maximum weight. A copy of the original (initial) proof test and inspection shall be provided to CONTRACTOR for review.

36.3 If CONTRACTOR accepts the use of crane suspended personnel platforms, SUBCONTRACTOR shall thoroughly inspect the crane/derrick and ensure it has an operational anti-two-block device and locking devices on the hook. Free fall capacity, if present, shall be positively locked out or disabled. The area under the lift shall be isolated by barrier tape and signs.

36.4 SUBCONTRACTOR shall provide a positive means of communication between the crane operator and employees in a crane suspended personnel platform. Employees in the platform shall wear full body harnesses attached to a designated anchor point.

E-37 ARTICULATING BOOM PLATFORMS

37.1 Machines manufactured and used for elevated personnel platform work (JLG, Hi-lift, etc.) shall be operated and maintained in accordance with manufacturers' recommendations and only by trained and qualified individuals. Training records shall be available to CONTRACTOR on site.

37.2 All persons inside work platforms shall wear a full body harness attached to a designated anchor point. Equipment used to hoist personnel shall not be used for material if this constitutes a hazard.

E-38 COMPRESSED GAS CYLINDERS

38.1 SUBCONTRACTOR shall provide cradles and/or cages for lifting compressed gas cylinders and ensure that cylinders being transported are secured and in the upright position.

38.2 If compressed gases will be used to perform work, SUBCONTRACTOR shall have a Gas Cylinder Use and Storage Procedure that allows for proper use and storage of compressed gas cylinders. The procedure shall include segregation by type, proper signage, protective isolation of fuel gases from oxygen, provisions to keep cylinder caps in place when provided by the supplier, positive upright securing of bottles, and maintenance of safe distances from ignition sources. The procedure shall be submitted as part of the work-specific ES&H Plan.

38.3 SUBCONTRACTOR shall ensure that each individual cylinder turned off by a key wrench is provided with a key wrench whenever in use.

E-39 VEHICLE OPERATIONS

39.1 SUBCONTRACTOR shall ensure all vehicles operated on CONTRACTOR-managed facilities are registered/licensed, maintained in a roadworthy condition, and operated in a safe manner.

39.2 SUBCONTRACTOR shall ensure all persons operating vehicles on CONTRACTOR-managed facilities are healthy and unimpaired, have appropriate and required operators' licenses including CDLs when required, and observe established road regulations and/or jobsite regulations.

39.3 SUBCONTRACTOR shall enforce the wearing of seat belts any time a company-provided vehicle is in motion.

39.4 SUBCONTRACTOR shall emphasize in periodic safety meetings the necessity to operate all vehicles, whether company-provided or privately-owned, in a safe manner and according to driving regulations and worksite rules.