

**MICROSOFT’S GLOBAL CONSTRUCTION
ENVIRONMENTAL, HEALTH, AND SAFETY (EHS) POLICY**

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C-3.0 Microsoft's Global Construction Environmental, Health, and Safety (EHS) Policy

C-3.1 Introduction

- (a) Owner is committed to promoting a safe and compliant jobsite, given that unsafe conditions at the Site can jeopardize the health and safety of Owner's employees, contractors, customers, guests, and the environment. Therefore, Owner's Contractors and their employees, agents, vendors, suppliers, others associated with the Contract, and Subcontractors are expected to adhere to the minimum standards that comprise this Global Construction Environmental, Health, and Safety Contract Requirements, using resources from the Supplier Prequalification System and the supporting High-Risk Activity (HRA) Management Safety Performance Specifications (SPS). Owner expects the Contractor's leadership to be directly involved and engaged in EHS on the Project. These EHS Contract Requirements are part of the Master Construction Contract with Owner and is a resource for contractors to develop and manage jobsite safety while performing work for Owner. Defined terms used but not defined in this policy are as defined in the Master Construction Contract.
- (b) Contractor will develop and manage for each relevant PSR a Project-specific environmental, health, and safety plan ("**EHS Plan**") & Construction Environmental Management Plan ("CEMP") that meets or exceeds the standards stated in this policy and complies with either (a) for U.S. Projects, the national, state, and local environmental, health, and safety laws and regulations; or (b), for non-U.S. Projects, otherwise applicable and equivalent local environmental, health, and safety standards, laws, and regulations (e.g., approved codes of practice ("ACOPs")). U.S. Occupational Safety and Health Administration ("OSHA") and the Contract Requirements will be used in the absence of applicable and equivalent local environmental, health, and safety standards. The EHS Plan will include measurable leading and lagging environmental, health, and safety Key Performance Indicators (KPIs), as described in Appendix A, which the Contractor is expected to achieve. Any references to OSHA standards will be used as benchmarks with the expectation that at least an equivalent standard is achieved in any local jurisdictions. Contractor will submit the EHS Plan and CEMP to the Owner at least thirty (30) calendar days prior to mobilization for review and comment.
- (c) Contractor's EHS Plan and CEMP will account for the entirety of the Work, whether performed at the Site or offsite dedicated locations used to support the Work, including dedicated third-party locations where prefabrication, skidding, and/or commissioning services may be performed. Notwithstanding any rights and authority granted to Owner under the Contract or the relevant PSR, Contractor will be solely responsible for, and have control over, the means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the relevant PSR. Contractor is solely responsible for initiating, maintaining and supervising all EHS precautions and programs in connection with the performance of the Work. If Contractor receives specific instructions concerning construction means, methods, techniques, sequences or procedures, Contractor will evaluate the jobsite EHS of the same and will be fully and solely responsible for the jobsite EHS of such means, methods, techniques, sequences or procedures. Where construction means, methods, techniques, sequences and procedures are specified, either directly or indirectly, by reference to industry or local standards, or otherwise, Contractor will review the specified procedures and, if they will not produce intended results, cannot be warranted or otherwise are objectionable to Contractor, propose alternative procedures.
- (d) Prior to the start of any Work onsite associated with the relevant PSR, Contractor's home office and key field supervision personnel will meet with Owner's Project leaders and demonstrate that the contents of this section of the Contract are clearly understood, and to show how Contractor's EHS Plan and CEMP meets or exceeds these minimum standards.
- (e) Contractor will promptly inform its Owner contact (or a member of Owner management) when any situation develops that causes Contractor to operate in violation of this policy. While Contractor is expected to self-monitor and demonstrate its compliance with this policy, Owner may assess Contractor and/or inspect the Site and dedicated off-site locations where the Work is performed to confirm compliance. Contractor will notify the Owner if there is a violation of this Contract. For conditions that are considered a violation of this policy, the Contractor may submit a variance request to Owner. Owner may approve of the variance request, which approval may take up to thirty (30) calendar days depending on

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the complexity and circumstances of the variance. The variance request will follow the sequence indicated below. Please see considerations to include on the variance requests submitted on a company letterhead.

Variance request considerations:

- List the specific activity impacted (if multiple activities, submit a separate variance for each one).
 - List the policy that is considered infeasible
 - Indicate the technological or impractical reasons that the policy is infeasible.
 - List alternative measures equal to or greater than in protection to the infeasible policy.
 - List the communication plan, including signage, orientation, and barricading.
 - List the training efforts.
 - Indicate the expiration date of the variance.
 - Provide blocks for signatures or initials of the review process.
- (f) Owner may update this policy as needed and in its sole discretion in accordance with Section C-1.15 of the Master Construction Contract. All changes will be effective upon notice to Contractor, unless otherwise agreed in writing. Contractor will promptly notify Owner if Contractor determines that changes to a policy or procedure will cause a material change to the Schedule, the Contract Price or other costs for the Work. Upon Owner's receipt of Contractor's notice, the parties will discuss how to mitigate the impact of the change to enable Contractor to comply.
- (g) Based on Qualification Assessments or Performance reviews, Contractor may be placed on EHS Program Mitigation Strategies to facilitate continuous monitoring of program maturity.

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C-3.2 High Risk Activity (HRA) Management

Contractor's EHS Plan will include a dedicated section outlining prevention strategies for certain high-risk activities ("HRAs") that increase the likelihood for serious or potentially serious Incidents (also referred to worst potential severity (WPS)). Those HRAs include working from heights, electrical, energy isolation, mobile equipment, material handling, confined spaces, lifting operations, ground disturbance, hazardous materials, traffic management onsite and driving (including driving offsite in connection with the PSR). Other significant exposures include noise and thermal stress. Contractor may choose to add additional categories after completing a Project-specific risk assessment.

As part of the HRA program, Contractor will implement energy-based safety concepts. High energy hazards are sources of energy that exceed 1500 Joules (approximately 500 foot-pounds), which in a measurement of potential energy can cause serious incidents or fatalities when they come into contact with workers. These high energy hazards may include, but are not limited to, vehicle contact with an individual, personnel touching a hot cutting saw, tensioned guy-wires uncontrolled release, incompatible chemicals reacting with each other, and exposure to radiological sources during non-destructive testing.

Contractor's mitigation protocols for HRAs and significant exposures will be addressed in the Contractor provided EHS Plan. As part of Contractor's EHS Plan and HRA incident prevention strategies, Contractor will introduce energy-based safety concepts and control measures. Energy based safety concepts work in tandem with HRAs by providing additional layers of protection and control. For example, implementing barriers, lockout/tagout procedures, and fall arrest systems can reduce risks associated with HRAs. Contractor will incorporate energy-based safety concepts, processes, and documentation in pre-task planning tools, EHS observations, and EHS orientations/inductions. Contractor will ensure that personnel have completed all energy-based safety and regulatory training and verify that personnel are competent in risks associated with their environment and assigned tasks.

The following topics will be included, at a minimum, in the dedicated HRA section of the Contractor's EHS Plan:

- Three (3) levels of risk assessments (Project, activity, task)
- Develop interventions using the Hierarchy of Controls order of efficiency and reliability



- Incorporation of HRAs into Project schedule
- Planning meetings – Level 2 planning meetings, Collaborative Planning look-ahead meetings, daily activity briefings (DABs) ("SIMOPs")
- Pre-task planning with employees and daily 'toolbox' talks
- Permits
- Communications and lessons learned sharing

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- Orientation, training and competency
- Audits and inspections
- Reporting
- Metrics and analysis
- Change Management (impacts related to changes in schedule, costs, design, personnel and scope)
- Use of BIM / VDC for HRA Management
- Verification of required exams and medical certification (as needed)

Owner will provide High-Risk Activity Management Safety Performance Specifications (HRA SPS) for Contractor's reference to develop and implement strategies consistent with Owner's HRA Management expectations regarding:

- SPS-100 HRA Management
- SPS-101 Working from Heights
- SPS-102 Lifting Operations
- SPS-103 Mobile Equipment
- SPS-104 Ground Disturbance
- SPS-105 Driving & Off-Road Vehicles
- SPS-106 Material Handling
- SPS-107 Energy Isolation
- SPS-108 Confined Spaces
- SPS-109 Electrical
- SPS-110 Noise
- SPS-111 Thermal Stress
- SPS-112 Hazardous Materials

Refer to DCX-SPS-100 High Risk Activity Management Safety Performance Specification for more guidance.

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C-3.3 General EHS Plan and CEMP Management Standards

(a) Access

Contractor is responsible for securely fencing and controlling access to the Site and ensuring that access gates (both pedestrian and vehicular) meet local regulations including engineering controls to minimize manual handling. Only those persons and vehicles with proper authorization may be permitted to enter the Site. Contractor is responsible for ensuring proper personal protective equipment (PPE) for all people entering construction zones, and ensuring signage is prominently displayed at all access points stating PPE requirements. Signage to indicate that no weapons, alcohol, or illegal drugs will be permitted on the Site. Cameras may be allowed with written permission from Owner. People entering the Site will be classified as permanent, phased-support, short-term, transient, or a visitor. Contractor to address how the hazards associated with the classification and scope of these people will be proactively managed to ensure risks are mitigated.

(b) Barricades

Contractor is responsible for furnishing, erecting, maintaining, and dismantling safety barricades required for their work, and coordinating all barricades belonging to any Subcontractors. Barriers for environmental purposes are covered in the environmental section in C-3.4. Each barricade to be tagged to identify owner, purpose, date erected, and date to be dismantled. Red barricades indicate "Danger – Do Not Enter" (i.e., no one permitted to enter without verbal permission from the barricade owner at the moment of entry). Magenta and yellow (or per regional barricade color requirements) barricades indicate presence of ionizing radiation and treated as "red/danger" barricades. Yellow barricades indicate warning to alert personnel to unusual work or conditions inside the barricade that could result in an injury. Entry is granted to a barricaded/secured/excluded area only if permitted.

Note: Tape of any type is not permitted as a barricade.

Rigid barricades are a preferred level of protection for work practice controls and hazard warning and capable of withstanding lateral forces (downward and outward) of 200 pounds (90.7kg) or greater. Barricade selection to be based on a risk assessment. Recommended use of protective rigid barricades:

- Any areas with human and machine interaction that poses a risk to pedestrians, examples include:
 - Impact resistant barricades, concrete barriers pinned together, water/sand filled barricades pinned together, dirt berms, or stop logs
- Around all work areas requiring respiratory protection, including silica control measures, examples include:
 - Temporary encapsulating systems including local exhaust or negative pressure systems.
- Around crane work areas, including swing or lift zones, for lifting materials or equipment using mobile equipment or cranes, examples include:
 - Rigid crowd control barricades
- Establish a zone around exposed energized electrical components., examples include but not limited to:
 - Rigid barricades or guardrails for worker protection
- Traffic management and control, examples include:
 - Traffic control systems that meet country or local standards for spacing/pinning, crash resistance based on posted speed limits, and reflectivity.
 - Impact resistant barricades, concrete barriers pinned together, water/sand filled barricades pinned together, dirt berms, or stop logs
- Excavations, examples include:
 - Rigid barricades or guardrails for worker protection
 - Impact resistant barricades, concrete barriers pinned together, water/sand filled barricades pinned together, dirt berms, or stop logs
- Dropped object prevention, examples include:
 - Rigid barricades or guardrails meeting impact requirements
 - Overhead canopies, netting, screening, paneling
- Around floor and roof openings, unless secure hole covers are in place, examples include:

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- Rigid barricades or guardrails for worker protection meet the 200lbs or 90.7kg strength requirements.
- Floor and roof opening covers that are capable of supporting two times the maximum intended load or two times maximum axle load of the largest vehicle/equipment to cross over them.
- As an engineering control for fall protection, examples include:
 - Rigid barricades or guardrails for worker protection meet the 200lbs or 90.7kg strength requirements.
- Other conditions deemed by the Contractor that poses a risk to other employees and trades.

(c) Blades

Contractor is responsible for implementing a knife safety policy with no fixed blades that controls the use of blades without automatic safety guard protection and that actively educates employees and promotes the use of leading industry cutting tools.

(d) Construction Laser

Contractor is responsible to ensure compliance with laser regulations and licensing requirements, as applicable. Contractor's construction laser safety program ensures: (i) only qualified and trained employees install, adjust, and/or operate laser equipment.; (ii) each operator carries evidence of his/her qualification at all times; (iii) all personnel exposed to direct or reflected laser light greater than 0.005 watts (5 milliwatts) are provided anti-laser eye protection devices consistent with OSHA 1926.54 (Subpart E) or equivalent local requirements; (iv) areas in which lasers are used are posted with standard laser warning placards; and (v) beam shutter caps are utilized, or the laser turned off, when laser transmission is not actually required.

(e) Demolition

Before permitting employees to start any demolition of existing structures, Contractor is responsible for developing a demolition plan and assure that a Competent/Appointed Person has conducted an engineering survey of the exact scope of work and the method to safely execute it. Provide access to the engineering surveys upon request at least five (5) working days prior to initiation of demolition activities.

(f) Ergonomics

Contractor is responsible for developing and implementing an industrial ergonomic program including the consideration of a start of shift stretching (stretch and flex) requirement.

(g) Fire Prevention

(1) Burning, Welding, Cutting, Grinding, and Heat Treating

Any work that produces a spark or flame capable of initiating a fire or explosion is considered "Hot Work". One ABC non-expired portable fire extinguisher is kept at each location where the work is to be performed, and one non-expired portable fire extinguisher attached to or readily accessible for all portable welding machines and burning carts.

(A) Contractor is responsible to ensure hot work is properly performed and permitted. An ABC fire extinguisher (rated no less than 10B) will be available within 20 ft. (6.1 m) and a designated fire watch present during the hot work activity. Prior to commencing with the activity, the fire watch ensures that all combustibles have either been cleared from the area or have protection from sparks. The Hot Work Fire Watch remains in the work area throughout the duration of work and for an adequate period of time, consistent with NFPA 51B or equivalent local requirements, after hot work operations end to detect and extinguish possible smoldering fires.

(B) Compressed gas cylinders will be secured properly and brought into buildings only as needed and removed as soon as work is completed daily or as tanks are emptied. Secure the safety caps on the cylinders when not in use. Attach cylinders with a three-part identification tag. Store oxygen and fuel gas cylinders, when not in use, 20 ft. (6.1m) apart or separate with a 5ft. (1.5m) fire resistant barrier. Equip all oxyfuel burning or welding units with one combination check valve flashback arrester installed between the regulator and the hoses, and a second arrester between the hoses and torch.

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- (C) Contractor is responsible for addressing roofing operations in the EHS Plan using a corresponding risk assessment. The EHS Plan considers, but not limited to transporting materials/equipment such as tar kettles, tar kettle operations, fire prevention, weather management, lifting operations, conveyors, pumps, mechanized spreading devices, the use of roofing sealants, storage of chemicals/materials, and fire stop compounds including the appropriate mitigations, etc. Tar kettles remain on the ground level and always attended. Tar kettles are not lifted or transported while a fire potential exists.
- (D) Contractor is responsible for implementing measures to prevent and minimize the release of dust, fumes, mists, and vapors during burning, welding, cutting, grinding, and heat-treating activities. Controls, including local exhaust ventilation, vacuum attachments, or respiratory protection will be implemented to minimize the generation of hazardous metals, chemicals, and dusts (e.g., hexavalent chromium, manganese, lead, cadmium, and other nuisance materials).

(2) Fire Extinguishers

Contractor is responsible for providing a sufficient number of appropriately rated fire extinguishers per phase of construction and floor area for proper coverage. Extinguishers are located, maintained, and inspected according to National Fire Protection Association 10 or equivalent local requirements. The fire extinguisher size and type are appropriate for the fire risks associated with each phase of construction. Fire extinguishers will not be left in mobile elevated work platforms (MEWPs) after electrical and sensitive equipment is installed to prevent discharge and damage to the equipment. In addition, Contractor is responsible to ensure adequate and fit-for-purpose fire extinguishers are provided (e.g., remove all dry chemical or water-based fire extinguishers after electrical and sensitive equipment is installed, task-specific extinguishers for hot work) and training employees on the use of fire extinguishers.

(3) Smoking

Smoking and the use of smokeless tobacco, including the use of e-cigarettes, is not permitted inside or within 60 feet (20 meters) of any buildings, temporary trailers, or near flammable liquid storage areas and is allowed only in designated and isolated areas clearly marked with approved cigarette butt/ash containers capable of self-extinguishing. The designated smoking areas will be demarcated on the Site map and equipped with the appropriate fire extinguisher(s) mounted. The designated smoking areas will be reviewed in line with the logistics plan to ensure they are consistent with Site schedule.

(h) Housekeeping and Waste Management

Contractor is responsible for implementing measures that ensure proper housekeeping during the course of construction. Such measures will include keeping walking and working areas clear from debris and obstacles, ensuring means for proper waste collection and removal, preventing trip hazards, protecting against impalement hazards, and providing for snow and ice removal and mitigation (e.g., sand, salt). Housekeeping will include but is not limited to the following:

- (1) Keep the work area clean, tidy, and free of refuse.
- (2) Materials kept from touching the floor where practical, all debris will be kept cleared from the work area, passageways, stairs, and in/around buildings or other structures.
- (3) Provide adequate waste receptacles, continuous cleanup of the work areas, and remove all scrap and waste materials that accumulate from its operations as they go or daily.
- (4) String cables, cords, leads, and hoses in a building with nonconductive means at least 7 feet (2.1m) overhead, keep to the perimeter of the building, or otherwise protect to prevent tripping hazards.
- (5) Remove snow and ice from its work, office, storage areas, and other construction facilities in its use, and walkways between these areas. When weather conditions are favorable for the presence of snow or ice, enhance walkway traction with salt, sand, or other means.
- (6) Provide impalement protection for both horizontal and vertical exposures.

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- (7) Ensure scrap lumber and other materials are kept free from nails, screws, and other impalement/puncture/laceration hazards.
- (8) Ensure that non-hazardous solid waste produced by Work activities are appropriately disposed of in designated waste bins/containers.
- (9) Cover solid waste dumpsters and roll-offs to prevent exposure to rainfall.
- (10) Ensure waste management aligns with regulations and permit requirements.
- (11) Proper off-site hauling and disposal of non-hazardous solid waste produced by Work activities.

(i) Dedicated Off-Site Pre-Fabrication, Skidding, and Commissioning Services

A portion of Contractor's EHS Plan will address work that will be performed at dedicated off-site locations for the purposes of pre-fabrication, skidding, modular construction, off-site material storage, and commissioning services, etc. The EHS Plan will clearly set expectations that align with Owner's culture and vision for safety and include focus around HRAs. Contractor provides oversight and performs periodic EHS inspections at all dedicated off-site locations.

(j) Portable Tools

Contractor is responsible for inspecting and maintaining all portable electrical tools and portable lifting equipment (chain falls, come-alongs, etc.) prior to use, manufacturer frequency, and on a quarterly basis. Secure/lock up all tools and equipment stored/kept onsite after shift ends with all appropriate safety devices attached. Ensure tool and equipment cabinets are secured and operable to prevent tip-over, collapse, failure, and other means of movement during access.

Contractor will provide ground fault circuit interrupter or residual current device (GFCI/RCD) protection for all cord sets, receptacles, and electrical tools and equipment connected by cord and plug which are used or available for use. Establish a formal inspection and testing program to include, at a minimum, weekly inspection and testing by a qualified electrician. Test GFCIs/RCDs prior to each use by the employee using the equipment or tools.

Contractor will consider safe means of cutting by providing two-hand trigger tools, hydraulic snips or other safe cutting means, and cutting stations. Contractor provides means of securing objects that are cut or otherwise provide cutting stations for portable tool use. Sound controls, including sound muffling, reduced noise tools, or sound walls, will be implemented where feasible at cutting stations or cut areas to reduce exposure to less than 85 dBA.

Manual Post Driver are prohibited to be used onsite.

Assess the use of battery powered tools to reduce the risks associated with electric tools and cords. This also supports Owner's energy conservation and reduced carbon footprint initiatives.

Contractor is responsible for controls to minimize the generation of hazardous dusts and fibers, including local exhaust ventilation, vacuum attachments, or respiratory protection.

(k) Powder Actuated Devices

Powder actuated devices are prohibited without a variance. The variance will consider, but not limited to, the purpose of use, training/certification requirements, maintenance, and storage/security of the tool.

(l) Sanitation and Employee Welfare

Contractor is responsible for providing a designated break area away from the main construction area. Keep break areas clean and protected from weather exposures. Provide potable water, hand washing stations, trash receptacles for the collection of rubbish, ready access to clean toilet facilities at all times. Contractor will provide restroom facilities (portable toilets etc.) and hand washing facilities according to country and local regulations. At Sites where the temperature can be extreme for sustained periods (hot or cold), Contractor will assess the need for temperature-controlled restroom facilities and running water for hand washing, which the mitigations will be included in the Contractor's EHS Plan. Contractor's EHS

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Plan will specify Site specific sanitation and employee welfare provisions, including timing and implementation procedures.

(m) Steel Erection

Contractor is responsible to ensure the steel erection Subcontractor provides a Steel Erection Plan completed by qualified personnel. The Contractor will coordinate a pre-erection meeting, including the Owner, to discuss and consider the laydown/shakeout area, lifting procedures, load custody, fall protection custody, erection sequence and securing of temporary steel, loading requirements, and final turnover.

(n) Loading/Unloading

Contractor is responsible for developing procedures to ensure safe coordination of all deliveries through a designated area.

(o) Temporary Works

Contractor is responsible for developing a temporary works program overseen by qualified persons that includes engineering of systems through manufacturers or qualified engineers.

(p) Pressurized Testing

Contractor is responsible for developing a pressurized testing program and ensure adequate controls are in place for pressurized testing activities. The program will include training, planning, signage and barricading, supporting pressure systems with bracing, blocking, etc., lockout and tagout, and mitigating procedures for other impacted items.

(q) Stormwater Management, Erosion & Sediment Control

Contractor is responsible for performing the Work in accordance with all regulatory / permitting requirements and in a manner that minimizes the impact to the environment. Contractor will control surface drainage from the Site during performance of the Work in accordance with the Storm Water Pollution Prevention Plan (SWPPP) or equivalent, as applicable. Contractor will install, maintain & inspect sediment and erosion control countermeasures to manage Site storm and groundwater impacts, as depicted in the Contract Documents and as required by permits and regulations. Regulatory required inspection reports will be provided to Owner. Contractor will comply with applicable Project Leadership in Energy and Environmental Design ("LEED") requirements for erosion and sediment control for Sites pursuing LEED certification.

(r) Pollution Control

Contractor is responsible for performing the Work in accordance with all regulatory / permitting requirements and in a manner that prevents contamination of soil, water, vegetation, and atmosphere from the discharge of pollutants. Contractor will develop a construction Spill Prevention Control and Countermeasure Plan (SPCC) or equivalent where required by regulations. Contractor will control, monitor and mitigate environmental nuisance associated with the Work (including but not limited to nighttime lighting, noise, dust, vapor, road debris, mud) on and offsite. Contractor will ensure no vehicular maintenance or repairs, other than emergency, will be undertaken on the Site unless 1.) there is a dedicated and suitable surface to capture spills and 2.) the emergency repairs are authorized by Owner. Contractor will ensure all equipment and tankage storing petroleum products (i.e., gasoline, diesel, biodiesel, renewable diesel, hydraulic fluid) will be kept in appropriate secondary containment consistent with the Contractor's construction Spill Prevention, Control, and Countermeasure (SPCC) Plan (if applicable). Contractor will adopt a "no-idling" policy for all vehicles, machinery, and equipment at Site. Contractor will ensure there is no burning or incineration of any material on the Site. Contractor will not use Glyphosate, or any other biocide or persistent pollutant.

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C-3.4 EHS Plan and CEMP Administration

(a) Safety Culture

The Contractor's EHS Plan will include a strategy to create and maintain a positive safety culture and inclusive environment. Contractor will implement programs to address at-risk behaviors and conditions in the workplace as a means to influence the workplace safety culture. All personnel will have the right to stop work when a perceived at-risk condition, behavior, or hazard arises until the risks are mitigated.

(b) Accountability

Owner expects the Contractor's leadership to be directly involved and engaged in EHS onsite. Assure supervision is held accountable for EHS performance of their personnel. The role of Contractor's EHS Site Leader is to support and provide technical guidance to the field supervision.

(c) Incident/Injury Reporting and Investigation

Refer to Appendix B for Incident responding, reporting, investigating, and remediation timeline expectations and Incident definitions.

- (1) Respond and Report: Contractor will provide initial notification verbally or electronically, to Owner EHS and DCD Project Manager immediately from knowledge of any potential recordable Incident, environmental release/Incidents, any serious or potentially serious Incidents, and regulatory inspections/visits/audits. All other Events/Incidents including near misses, injuries, illnesses, property damage, learning events, etc. will be reported per the descriptions below and those outlined in Appendix B (initial report written within 2 hours).
- (2) Contractor will (a) respond to an Incident, taking steps to mitigate and control any risk to the health and safety of persons and the environment at the Property and (b) record and report to Owner using the quickest available means and thereafter confirm using agreed communication and reporting procedures. Contractor will report as soon as possible after the Incident conditions have been made safe and stabilized, and no more than 2 hours after Contractor gains knowledge of the Incident. Contractor will provide an update on the Incident within 24 hours of the initial notification. The initial and immediate notification will include what happened and status of injured personnel.
- (3) Investigation: Contractor will investigate within 3 working days of the Incident and complete root cause analysis (RCA) report, for potential recordable incidents, serious injuries, environmental incidents, serious near misses, any other potentially serious incidents, or regulatory inspections/visits/audits, identifying underlying or contributory causes and corrective action plan and share the report with Owner. Contractor will provide the RCA within 7 working days after Contractor gains knowledge of the Incident.
- (4) Remediation: Contractor will remediate all issues and mitigation steps recommended in the root cause analysis report within 30 working days of Contractor gaining knowledge of the Incident. Any corrective action not completed within the 7-day period will require a follow-up report within 30 working days of the Incident indicating all corrections have been implemented.
- (5) Lessons Learned: Contractor will issue and implement lessons learned for incidents requiring an RCA.
- (6) EHS Notifications: Contractor will respond to EHS risk mitigation notifications received from the Owner, in the Owner's electronic system, including the risk mitigations planned/taken to address possible identified risks. Contractor will provide "medium" and "high" risk responses within 8 hours of notification. Contractor will provide "possible" risk responses within 24 hours of notification. If the appropriate response is not received, the system will automatically send an escalation email to the EHS Project Manager for follow-up.

(d) Pre-task Planning

Contractor is responsible to ensure employees only perform tasks they are fully trained to perform. Contractor is expected to analyze/plan every task prior to initiation of the work and assess the related

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hazards to develop protective measures. Provide written task planning discuss with personnel assigned to conduct the work before the task begins. Employees are expected to sign the plan indicating they have received and understood the information. Contractor will incorporate energy-based safety concepts, processes, and documentation in all pre-task planning tools. Re-write pre-task plans any time the task changes, even multiple times during the same day. Describe the step-by-step approach to performing the work safely and include, but not be limited to, hazard identification, analysis of appropriate control hierarchy, line of fire, energy potential, selection and use of correct tools and mobile equipment, barricading, coordination with other crafts in the area, emergencies, and any permits required for the work. As work on the task continues on subsequent days, appropriate parts of the task risk assessment be reviewed as part of the daily pre-task analysis. Contractor may use its own form for the analysis. Contractor will maintain completed analyses in a file for the duration of the work and make them available to Owner's Project Manager or designee on request.

(e) Competent (Appointed) Persons

Contractor is responsible to ensure all Subcontractors provide, a "Competent/Appointed Person" for all work requiring such competency per regulatory agencies/authorities. For all High-Risk Activities (refer to DCX-SPS-100 High Risk Activity Management Safety Performance Specification).

(f) Emergency Planning

Contractor's EHS Plan will include a Project specific emergency action plan for emergencies such as extreme weather, medical, power failures, fires, civil unrest, etc. that includes a means of notifying and accounting for all personnel onsite, assembly points, and a list of phone numbers for key Site leaders and Owner, and a communication plan. Update phone list any time new vendor or Subcontractor companies arrive onsite including their Site leaders. Ensure the emergency plan is reviewed by Site personnel upon arrival at the Project Site, every three months, and after any emergency event. A relevant to phase of construction tabletop drill will be conducted at least every six months per calendar year. In addition, a relevant phase of construction deployment drill will be conducted for extreme weather, fire evacuation, trench collapse, or other significant activity every six months. As part of the emergency planning, Contractor will also develop and maintain a Project-specific crisis management plan which outlines details in the event of major catastrophes or fatalities. Contractor will monitor for weather activities that have a direct effect on employee safety and shelter-in-place, lightning monitoring using the 30/30 rule (30 seconds or less between strikes - seek shelter and wait 30 minutes of no strikes after seeking shelter before all clear), response and preparations of storm and other natural disasters. Contractor will also coordinate for baseline fire inspections, responsibilities of responders and action, including securing critical operations, and PPE.

Type of Review/Drill	Frequency	Number	Topics
Emergency Response Plan	Upon arrival to the Site, every 3 months, and after any emergency	As applicable	Emergency Response plan (location-specific extreme weather, active shooter, etc.)
Tabletop drill	Bi-annual	Two per calendar year	Fire, medical, security, etc. (will be relevant to phase of construction)
Deployment drill	Bi-Annual	Two per calendar year	Extreme weather, fire evacuation, trench collapse, confined space rescue, etc. (will be relevant to phase of construction)

(g) Fatigue Management

Contractor is responsible for developing a fatigue management plan to protect employees from the effects of working excessive hours. The plan will consider schedule escalation, when work hours exceed country or local labor requirements, when employees are scheduled to work more than six days consecutively, and

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if cumulative hours in a week exceed 60 hours, and consider factors such as environmental conditions, level of risk associated with job task, evaluation of HRAs during extended hours, fit for duty of employees, acclimation of employees to the shift changes and extended work hours, potential emergency response situations, and commute times.

(h) Medical Plan for Medical Care, Fitness for Duty, Regulatory Requirements, and Wellbeing

Contractor will provide a copy of the Medical Plan to Owner prior to the commencement of the Work. Any update to the plan will be provided to Owner prior to effective date of updated plan. Submit a variance where Site conditions assure that appropriate alternative care can be provided or where these requirements are considered infeasible based on Project duration, scope of work, Project size, or other factors.

(1) The Medical plan will include:

(A) Onsite Resources

Scope: will address the provision of first aid, response to medical emergencies, and initial care for all work-related illnesses and injuries and emergency response procedures.

- Emergency response procedures will include:
 - Process to identify name/s of first responders onsite for every shift
 - Contact information (e.g., telephone, radio) of First Responder(s)/Mental Health First Aiders onsite
 - Location of First Responder(s) onsite
 - Process to notify key personnel of the names, contact information, and location of first responders
- A First Aid Station
 - Space: dedicated building space appropriate to provide medical and employee wellbeing care at each Project Site.
 - Additional facility requirements: privacy, adequate lighting, climate control, adequate toilet facilities, hot and cold water, drainage, and electrical outlets.
 - Availability: onsite medical care will be provided while work is being performed
 - Staffing: Contractor will provide onsite healthcare capable of delivering Advanced Life Support and have country or local equivalency and certification as an Advanced - Emergency Medical Technician, Paramedic, Nurse, or Physician, and will be available onsite for all shifts.
 - ✦ Skill Level and Certification: the healthcare providers will be trained and certified to provide standard of care for the initial response to work-related injuries and illnesses as well as other emergency medical conditions. This will include First Aid, CPR, AED, substance overdose, venom, animal, allergic, and other forms of poisoning response (as required).
 - ✦ Facilitate off-site care: the healthcare providers will be able to identify appropriate off-site care facilities and facilitate the arrangement for initial off-site medical services.
- Healthcare provider/first aider will be aware of and trained in Bloodborne Pathogen response and will implement and follow exposure control procedures when responding to a scene.
- Onsite Equipment
 - Necessary Exam equipment to provide Advanced Life Support (e.g., table, thermometer, etc.)
 - First aid supplies to include a portable first aid kits adequately located throughout the Site.
 - Automated External Defibrillator (AED) adequately located throughout the Site.

(B) Fitness for Duty

Contractor is responsible to ensure that all employees are fit for duty and can safely perform their tasks. Contractor will develop a case management plan which will include at a minimum:

- Initial Summary: Data gathering of event and level of care needed (i.e., first aid, emergency medical, transport)
- Investigation: Manages the case from the beginning through close

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- Remediation and resolution: Works with Site to ensure injury/illness does not occur again (i.e., provides data for education or provides education on injury/illness prevention)
 - Reporting, analytics, and metrics: Provides detailed reports of types of injuries/illness, number of cases seen, number of cases resolved, and level of care provided
- (C) Regulatory Requirements
- Contractor will follow all regulatory requirements for work-related injury and illness reporting.
 - Contractor will maintain an injury/illness log for the duration of the work showing all recordables, lost time, and first-aid illness/injuries.
 - Contractor will make available the reporting log will to Owner on written request or during onsite audit.
- (D) Wellbeing
- Contractor is responsible for creating and implementing a plan that will raise awareness and standards for employee wellbeing. Wellbeing initiatives will be included in overall care of employees onsite. Wellbeing initiatives can be inclusive of, but not limited to, the following examples:
- Annual walking challenge
 - Healthy eating education
 - Maintain don't gain challenge
 - Mental health awareness
 - Blood pressure checks and counseling
 - Health fair

(i) Permits

Contractor's EHS Plan will include procedures requiring written safety permits for the following work:

- (1) Hot work (burning, welding, grinding, etc.)
- (2) Confined space spaces as applicable
- (3) Ground disturbance
- (4) Lifts
- (5) Energized electrical work
- (6) Work from height
- (7) Ladders
- (8) Energy Isolation
- (9) Drones

None of the above work commences without a properly filled out permit, authorized by Contractor's qualified personnel who is the single approver/signer/authorizer for all permits issued. Qualified personnel will be assigned by the Contractor to fulfill the administrative duty of understanding the need for the permit, reviewing the permit and requiring any modifications, and authorizing the permit implementation. Qualified personnel will be either a person in an existing role designated by the Contractor, Authorizing Authority, Competent Person, or Qualified Person for the HRA requiring a permit. Contractor issues and/or performs written authorization for every permit issued onsite. Contractor can fulfill this by either (a) directly issuing permits or (b) signing/approving each permit issued onsite. The qualified personnel reviews with the appropriate personnel and/or crew the details of every permit to ensure safe completion of the work. All permits will be on file in Contractor's EHS office and made available to Owner upon request.

(j) Personal Protective Equipment

Contractor is responsible to ensure employees wear the following minimum PPE while in construction zones at the Site at all times:

- (1) Industrial Helmets with chinstraps secured and with appropriate protection for side and top impact, or that comply with country and local equivalents, including traumatic brain injury impact protection.
- (2) High visibility reflective vests, shirt that is the top layer, jacket as the top layer, trousers as the top layer, conforming to country and local reflective and color requirements, equivalent to a minimum ANSI Class II values or country and local equivalent. ANSI Class III or country equivalent will be used

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for Contractor employees engaged in traffic control activities or exposure to public vehicular traffic, or leg gaiters where appropriate meeting country and local reflective requirements.

- (3) A minimum of cut level four (4) for basic entry and higher cut rating based on the task using a risk assessment. Cut ratings will comply with country or local equivalent but at a minimum ANSI/ISEA 105, ISO 13997, or EN388/420
- (4) Boots with country and locally rated hard-toe and mid-sole protection, where feasible, work boots. Footwear covers the ankle.
- (5) Safety glasses, including all components i.e., frames, lenses, and side shields conforming to country and local impact/chemical/dust/splash requirements or ANSI Z87.
- (6) Long pants; and
- (7) Long sleeve shirts worn as the basic layer of clothing, provide cut rated sleeves as necessary to be worn over the long sleeve shirt.

In addition to the above PPE requirements:

- (1) Welders and assisting employees will wear ANSI recommended or equivalent local requirements, welder's helmets and/or eyewear appropriately rated for the light intensity generated from the activity.
- (2) Welders and those using cutting torches and assisting employees will wear ANSI recommended, or equivalent local requirements, eyewear appropriately rated for the light intensity generated from the activity.
- (3) Contractor complies with OSHA's occupational noise exposure standard and/or other applicable local hearing conservation standards. In addition, hearing protection will be required whenever noise levels exceed 85 dBA. If Contractor's work causes noise levels which exceed 85 dBA, Contractor will post warning barricades at the limits of the high noise zone. If the 85 dBA threshold is inconsistent with local regulations, the more stringent guideline will apply.
- (4) Contractor ensures face shields are worn with safety glasses as double eye protection when there is flying debris, splashing chemicals, or other types of potential face contact. These include chipping, grinding, operating concrete hoses and vibrators during concrete pours, and drilling.
- (5) Contractors ensures that persons performing work that may be exposed to an electrical flash wear appropriate Flame-Retardant or Arc Flash Clothing and follow guidelines in latest version of NFPA 70E, or equivalent local requirements.
- (6) Ensure leg protection/chaps are used for cutting activities near the legs when using tools like chainsaws, target saws, or activities based on a risk assessment.
- (7) Respiratory protection, as necessary, minimum N95 or FFP2 rating, or per risk assessment.

Contractor agrees to furnish all PPE to its employees at no cost to the employees. All PPE will be furnished by the Contractor, Subcontractors, OFCI vendors, CxAs, consultants to their employees at no cost to the employees.

(k) EHS Inspections and Audits

- (1) Contractor and Subcontractors will conduct regular (as described and/or in the table below) EHS inspections and program audits of the work and document the findings, corrective actions, track to closure in the Owner's reporting tool, and provide report to Owner.
- (2) All work areas, including HRAs, will be inspected at least weekly by a Contractor (GC and Subcontractor) team consisting of one EHS resource, one manager, at least one supervisor, and one employee. Owner will be made aware of weekly EHS walk/inspection schedules so a representative may participate, if available.

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- (3) Inspection and audit findings, both positive and negative, will be documented, corrective actions noted where necessary and actions tracked to closure. Findings will be ranked according to risk with corresponding timelines for correction. Interim abatement will be established for those items not immediately corrected. High-risk deficiencies will be corrected immediately. Contractor will provide copies of all completed inspection and audit reports to the Owner each week. Contractor will record inspections and audit results in a designated Owner database.
- (4) Contractor will develop and conduct HRA audits utilizing the HRA SPS Management document. Contractor will record findings, corrective actions, and track to closure in the Owner's database.
- (5) In addition to team audits, Contractor will employ its own EHS observation system where all supervisory personnel are required to conduct one individually documented EHS observation each week. The closed observation findings will be bulk uploaded by the 7th day of every month into the Owner-designated database to identify trends needing attention. Any such trends will be addressed with specific remedial actions. Contractor will establish trending associated with HRA observations.
- (6) Owner will conduct periodic Qualification evaluations and onsite assessments of Contractor's EHS programs. Contractor will provide evidence of requested programs for review and qualification.

Type of Audit/Inspection	Frequency	Performed by
EHS Qualification Assessments	Initial Prequalification and Based on Periodic Tier Evaluations	MSFT EHS Assessment Team or Third-Party Subscription Provider
EHS Program Audits	Annual	Contractor
HRA Program Audits <ul style="list-style-type: none"> • Contractor is responsible to conduct HRA program audits that are in alignment with the phase of construction to ensure the SPS requirements are met 	Monthly	Contractor
Work Area (all) Inspections (including HRAs)	Weekly	Contractor and Subcontract Team including one EHS resource, one manager, one supervisor, and one employee
EHS Observations	Weekly: One individually documented	Contractor's Supervisory personnel
ESC / Stormwater Inspections	Weekly (or as required by the AHJ)	Contractor
Environmental Site Walk	Daily	Contractor

(I) EHS Meetings

Prior to beginning each shift, all Contractor personnel and Subcontractors will meet to discuss EHS requirements of the job(s) to be performed that day (for example, toolbox talks). Daily meeting material and attendance is documented and furnished to Owner's Project Manager on request. Contractor will hold a weekly EHS meeting for all employees assigned to the Site. This meeting will be used to provide EHS feedback and to expand the employees' EHS awareness, using prepared EHS topics. Meeting attendance will be documented and furnished to Owner upon request.

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- (1) Contractor's Project manager will hold a weekly supervisory EHS meeting to show leadership for the EHS program, and to discuss EHS Incidents, rule changes, educational material, and continuous improvement. Meeting attendees includes Site Manager's direct reports, Subcontractor superintendents, safety personnel onsite, and Owner (if available).
- (2) Contractor is responsible for implementing a Project-specific EHS committee. The committee will be comprised of representatives and agents of Owner, Contractor and Project labor, union, or EHS workforce representatives selected by the employees, as applicable.

Type of Meeting	Frequency	Topic(s)	Participants
Pre-shift EHS planning meeting	Daily, beginning of every shift	EHS requirements of the daily work	All Contractor and Subcontractor personnel (by respective trades)
HRA Lookahead Meeting	At least one day prior to scheduled HRA work	HRA work conditions, hazards, and controls.	All relevant Contractor and Subcontractor personnel.
All personnel EHS meeting	Weekly	EHS feedback and EHS relevant awareness information	All Site personnel
Contractor's Site Manager's EHS meeting	Weekly	Leadership engagement, Incidents, policy changes, educational material, and continuous improvement	All supervisors onsite
EHS Committee	Monthly	Current EHS trends, awareness information, upcoming EHS focused activities, etc.	Owner representative, Contractor, and Project labor, union, or EHS workforce representative (as applicable)
Contractor and Subcontractor (meeting and Site Walk)	Quarterly	EHS performance, recognition, escalations, etc.	Contractor and their Subcontractor's executive leadership

(m) EHS Orientation/Induction

Contractor is responsible to ensure each new hire is aware that EHS is a top value for the Project. Contractor will prepare a formal EHS orientation/induction to be delivered to each employee before their first day of work, the Contractor EHS orientation/induction will include energy-based safety concepts. At a minimum, the orientation/induction will cover Contractor's EHS Plan and CEMP, including energy-based safety concepts and expectations. In addition to the orientation/induction requirements, Contractor Project team members will receive orientation/induction on energy-based hazard recognition. All Subcontractors will receive the same orientation/induction. Orientations/inductions will be communicated in a manner which is understood by all attendees. A written outline of the orientation/induction will be made available to Owner before commencement of the Work. Contractor will keep records, including passing knowledge checks, of all employees who receive the orientation/induction.

(n) EHS Personnel

Contractor will provide the appropriate number of full-time dedicated and competent EHS professional and EHS administrative staff to ensure proper administration of Contractor's EHS Plan and CEMP.

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Contractor will provide sufficient EHS coverage onsite at all time during Work. Owner provides for additional requirements on coverage expectations and qualifications for the Contractor EHS personnel in the SPS document. The Contractor's Construction Site EHS Leader is expected to attend Owner-facilitated EHS calls, participate in quarterly progress calls, in person meetings, and job walks or when performance warrants more frequent interaction and visits to the Site.

(o) EHS Management Reports

Contractor will submit a monthly written report to Owner providing feedback on the EHS process. Workhours will be entered into a designated Owner database no later than the 5th of every month.

(p) Subcontractors

Contractor is responsible to ensure that all Subcontractors comply with Contractor's EHS Plan and CEMP. Owner may request on one or more occasions that Contractor provide certain EHS-relevant information about each prospective subcontractor, in accordance with Section 5.2(b) of the Contract. Owner recommends that Contractor follows the Owner's EHS Prequalification criteria for Subcontractors. Contractor evaluates every company performing work on the Site monthly and score their EHS performance in the Owner's database by the 5th of every month.

(q) Substance Abuse

As applicable and permitted by Country or local regulations/authorities, Contractor's EHS Plan will include a drug testing program that includes a drug and alcohol use policy, training, Employee Assistance Services, pre-employment drug testing as well as for cause (i.e., showing signs and symptoms of alcohol or drug use while on duty) and post Incident drug and alcohol testing Incident. Contractor will ensure that the program complies with all applicable laws and regulations. Contractor will not assign any employee to the Project who has not passed the pre-employment drug test, as applicable per country laws/regulations.

(r) Training

Contractor will ensure that all energy-based safety concepts and regulatory training is carried out before employees (including leadership) commence work and that employees are competent in risks associated with their environment and assigned tasks. In addition to such required regulatory, industry or role related training, onsite supervisors and all grades above assigned to the Site are expected to complete (course completion certificate provided) at least thirty (30) hours of safety training in the past three years in advance of commencement onsite. Contractor is responsible for maintaining written proof of employee qualifications and training and will make records available to Owner as requested.

(s) Environmental

(1) Contractor(s), its Subcontractors and third-party affiliates and subsidiaries will fully comply to all Country, State, and local applicable, relevant, and appropriate environmental regulations and requirements, including those in permits obtained by the Owner. The requirements listed below will be considered general requirements for Contractor's information and example. They are not in lieu of any regulatory requirements. These regulatory requirements with supportive documentation, attestations, and records will be available upon request by Owner for review and approval. Contractor will review Site due diligence report and all permits and approval to ensure understanding of applicable environmental requirements and of potential environmental risks and requirements associated with Site and construction activities.

Contractor will:

- Incorporate environmental topics into daily EHS meetings as well as in recurring team meetings.
- Perform daily inspections of all Work activities, materials, and equipment for any conditions which might be hazardous to the environment and immediately rectify any such conditions.
- Provide environmental training to employees and Subcontractors. This training can be included as part of the EHS orientation.
- Ensure all statutory safety tests or inspections are appropriately done on equipment related to environmental monitoring. Records and maintenance registers will be kept onsite and made available to Owner upon request.

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- Ensure equipment and vehicles are properly registered and comply with local environmental requirements.
 - Use and handle Hazardous Substances in the manner approved by the manufacturer and in accordance with the Contract Documents.
 - Use appropriate seed mixes for temporary and permanent seeding upland and/or wetlands seeding throughout the Site (i.e., regulator approved local wetland seed mix in designated wetland areas).
 - Perform Work in accordance with the sequence or restrictions established in the applicable permits, regulations, and associated IFC plan sets.
 - Protect environmentally sensitive areas of the Site such as wetlands, streams, ditches, riparian zones, watercourses or other waterbodies, protected habitats, or culturally sensitive areas with high visibility or physical barriers (as specified by region or regulator).
 - Prevent discharge of any substance into the drainage system, water resource or land unless Contractor has formal written approval from the relevant authorities.
- (2) Global Environmental regulations are very complex and specific to each jurisdiction, and vary from country to country, and as such, Contractor will exercise diligence and employ appropriately skilled staff and craft to ensure no direct or indirect impacts to the environment during performance of the Work.
- (3) Contractor's CEMP will at a minimum include the following:
- (A) All environmental risks, procedures, protocols, mitigations, control measures and processes to perform the Work in accordance with all regulatory and permitting requirements.
 - (B) How Contractor plans to address Pollution Control, Waste Management, Stormwater Management, and Erosion and Sediment Control set forth in the sections above.
 - (C) Environmental monitoring protocols and frequency including water, soil and air quality, noise, and dust monitoring.
 - (D) Indicate on the Site logistics plan locations of sensitive receptors (i.e., wetlands, streams, archaeological, endangered species, and/or habitat), fueling areas, construction laydown yards, parking, hygiene stations.
 - (E) Identification of any invasive species onsite and comprehensive management plans for each, including acquisition and implementation of necessary permits associated therewith.
 - (F) Detailed list of all the relevant regulations and permits and a timeline and assigned responsibility to comply and procedure to track compliance throughout construction and hand-over to Operations. This includes all permits, license, bonds, inspections and/or notices required which are furnished by the Contractor
 - (G) Periodic environmental audits (site phase, compliance status, record keeping, methods, etc.) and provide results and action plan for continuous improvement.
- (4) Include environmental incident reporting and investigation
- An environmental incident is an event, either accidental or deliberate, which may result in adverse impact to human health and the environment and/or an issuance of a Notice of Violation (NOV) by a regulatory agency. The following events are considered environmental incidents:
- (A) Spills and Releases: Accidental or deliberate spills of substances that could contaminate nearby areas, affecting workers, landscapes, communities, waterways, and local flora and fauna.
 - (B) Unauthorized Vegetation Removal: Instances where vegetation is removed without proper authorization, potentially impacting local ecosystems and habitats.
 - (C) Injured or Dead Wildlife: Any incidents involving harm to wildlife within the Site premises.
 - (D) Community Complaints: Complaints from the community related to noise, odors, hazardous substances and sediment releases, air emissions, and other environmental issues.
 - (E) Heritage Damage: Damage, disturbance, or destruction to heritage sites, buildings, or artifacts.
 - (F) Non-Compliance: Instances where the Site fails to comply with permits or regulatory requirements.
- The abovementioned examples are not exhaustive, and each datacenter may face unique environmental challenges based on its environmental sensitivities, location, design, and operational practices. Proper risk assessment, preventive measures, and emergency response plans are crucial to mitigate environmental incidents and protect human health.

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- (5) Contractor will also provide a clear process on how a non-conformance/compliance issue is identified, escalated, addressed, and fully remediated/rectified. Contractor will clearly state what Root Cause Analysis/Investigation and Corrective Action (CA) process is in place. Contractor will prepare and submit remedial action plans, using Owner's selected software, within five (5) working days to track resolution of corrective actions associated with Owner audits. Third party inspections and/or agency/regulator inspections.

Appendix A
EHS KEY PERFORMANCE INDICATORS (KPIs)

Metric	Abbreviation	Calculation/Description	Threshold Values		
			Green	Yellow/Amber	Red
(Total) Recordable Incident Rate	(T)RIR	<p>Total Number of Recordable Injuries/Illnesses x *200,000 divided by total work hours</p> $\frac{\text{Total Recordables} \times 200,000}{\text{Total Work Hours}}$ <p>*Standardized estimate of hours worked in a year</p>	TRIR ≤	< TRIR ≤ 25%	TRIR ≥ 50%
Worst Potential Severity	WPS	<p>Total number of Serious and Potentially Serious Incidents (SPSIs) x 200,000 divided by total work hours</p> $\frac{\text{Total SPSIs} \times 200,000}{\text{Total Work Hours}}$	WPS ≤	< WPS ≤ 25%	WPS ≥ 50%
Safety Observation Rate	SOR (Leading/Lagging)	Work hours divided by EHS Observations	SOR ≤ 40 hours	41 hours < SOR ≤ 99 hours	SOR ≥ 100 hours
HRA Lookahead Meetings	HRAL	Input of HRA activities into the Owner's tool.	All relevant HRAs are added into the tool.	<75% of all HRAs are added to the tool	<50% of all HRAs are added to the tool
Monthly HRA Program Audits	HRA (Alignment with the phase of construction)	<p>Once per active Project month Metrics</p> <p>100% of HRA audits conducted per active Project month in a rolling year</p>	Conducted	<75% are completed by the Contractor	<50% are completed by the Contractor
AI-based Safety Incident Alerting	AISIA/Safety ML	<p>Medium and High risk responses within eight (8) hours of notification</p> <p>Possible risk responses within 24 hours of notification.</p>	Meeting response timing	<75% timely responses	<50% timely responses
Notice of Violation	NOV	Regulatory agency issued citation with financial or legal penalties for a violation of regulatory requirements.	0	N/A	N/A

APPENDIX B
EHS REPORTING, RESPONDING, INVESTIGATING & REMEDIATION PARAMETERS

Contractor will respond to, report, investigate and remediate all Incidents to Owner EHS and DCD Project Manager.

Table 1: Incident Response, Investigate and Remediation

Action	Response Period
<p>Respond and Report: Contractor will (a) respond to an Incident, taking steps to mitigate and control any risk to the health and safety of persons at the Property and (b) record and report to Owner using the quickest available means and thereafter confirm using agreed communication and reporting procedures.</p> <p>1) Any potential recordable Incident, environmental release/Incidents, or any potentially serious Incidents.</p> <p>2) All other Incidents: Minor injuries or Incidents that do not require medical treatment or first aid and near misses. A near miss is defined as: An unplanned event that has the potential to cause, but does not actually result in human injury, environmental or equipment damage, or an interruption to normal operation. It is an incident in which no property was damaged, and no personal injury was sustained, but where, given a slight shift in time or position, damage or injury could easily have occurred.</p>	<p>1) Contractor will notify no more than 30 minutes from knowledge.</p> <p>2) All other Incidents: As soon as possible after the Incident conditions have been made safe and stabilized, or within 2 hours after Contractor gains knowledge of the Incident.</p> <p>Contractor will provide an update on the Incident within 24 hours of the initial notification. The initial and immediate notification will include what happened and status of injured personnel.</p>
<p>Investigation: Contractor will investigate and complete a root cause analysis identifying underlying or contributory causes of each Incident and present such report to Owner along with a corrective action plan.</p>	<p>Contractor will investigate within 3 working days of the Incident and complete root cause analysis (RCA) report identifying underlying or contributory causes and corrective action plan and share the report with Owner. Contractor will provide the RCA within 7 working days after Contractor gains knowledge of the Incident.</p>
<p>Remediation: Contractor will remediate all issues and mitigation steps recommended in the root cause analysis report.</p>	<p>Within 30 days of Contractor gaining knowledge of the Incident, or such longer period as is reasonably required for the issues to be remediated.</p>

Table 2: Environmental, Health and Safety 'Incidents' include the following:

Term	Definition
Recordable Injury/Illness	<ul style="list-style-type: none"> • Any work-related fatality • Any work-related injury or illness that results in loss of consciousness, days away from work, restricted work, or transfer to another job • Any work-related injury or illness requiring medical treatment beyond first aid • Any work-related diagnosed case of cancer, chronic irreversible diseases, fractured or cracked bones or teeth, and punctured eardrums • Work-related cases involving: needlestick and sharps injuries; medical removal; hearing loss; and tuberculosis
Injury / Illness, Serious	<p>Serious work-related injury or illness including, but not limited to:</p> <ul style="list-style-type: none"> • Fatality or life-threatening injury/illness • Life altering or permanent disabling injury/illness • Amputation or disfigurement • Severe burn (e.g., 3rd degree any size, large surface area 2nd degree) • Significant fracture (e.g., compound, severe, to a large bone) • Required overnight hospitalization

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Term	Definition
	<ul style="list-style-type: none"> Recordable injury/illness to two or more people from single event
Fire Event, Serious	Fire event meeting any of the criteria below: <ul style="list-style-type: none"> Visible fire or extensive charring (for which the condition was not engineered into the process or equipment) Emergency response team or local agency response required to control fire Down time greater than 1 day
Environmental, Reportable	An unplanned release of a regulated substance which may result in the requirement of a self-report to local, state, or federal AHJ.
Environmental, Serious	An unplanned release of a regulated substance which may result in an adverse impact to human health (onsite or nearby property) or the environment or be of interest to the local media.
Property Damage, Serious	Damage to equipment or other property as the result of an Incident. <ul style="list-style-type: none"> Damage to Owner property or equipment that causes interruption to any business operation greater than one day. Property or equipment damage more than \$100,000 (USD) or equivalent
EHS Compliance, Serious	An EHS Law compliance concern that: <ul style="list-style-type: none"> May result in a citation with fines/penalty from a regulatory agency May result in significant business interruption or loss of reputation May result in a notification to a regulatory agency due to an environmental release
Potentially Serious Incident	An EHS Incident that does not result in a serious Incident (using the criteria listed above for Serious injury/illness, environmental, property damage, and EHS compliance) but under slightly different circumstances, there would be a high likelihood of doing so. When determining whether an incident is a potentially serious Incident, the following factors will be taken into consideration: <ul style="list-style-type: none"> Actual circumstances of the Incident (person, place, time, work practices being followed) Hazards present at the time of the Incident Appropriate controls in place at the time of the Incident Slightly different circumstances (timing, distance, body position, etc.)

**APPENDIX C
EHS PLAN AND CEMP CERTIFICATION**

Date: (date of original)	Revision Date: (date of latest revision)
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Sign in the space provided below to certify that the Project-specific EHS Plan and/or CEMP complies with Owner's Global Construction Environmental, Health, and Safety Policy. Copies of the completed EHS Plan, CEMP and this form will be distributed to Contractor and Owner.

Contractor Project Manager	Signature	Date
Contractor EHS Adviser/Manager	Signature	Date
Construction Manager	Signature	Date

**HIGH RISK ACTIVITY (HRA) MANAGEMENT
SAFETY PERFORMANCE SPECIFICATIONS**

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HIGH RISK ACTIVITY (HRA) MANAGEMENT SAFETY PERFORMANCE SPECIFICATIONS

DCX-SPS-100 HRA Management

(a) Fundamentals

- (1) Three levels of risk assessments and corresponding forecasting and planning meetings are completed
- (2) Permit procedures are established for applicable HRAs
- (3) Specific HRA Plans are established for planned activities
- (4) A Competent Person is assigned for each
 - (A) Performing authority for each HRA and Significant Exposure
 - (B) Personnel are qualified and trained for their duties
 - (C) HRA Audit Schedule will be developed and followed

(b) People

- (1) Authorizing Authority
 - (A) Ensure the implementation of the HRA Management SPS.
 - (B) Manages and oversight of all HRA Management SPS.
 - (C) Establish a process to provide assurance for the implementation of the HRA Management SPS.
 - (D) Ensure resources are applied to implement the requirements of this SMP, including Competent and Qualified Persons.
 - (E) Establish a training program to ensure competency of those managing and executing HRAs.
 - (F) Ensure data is collected for HRA trend analysis and conduct routine business reviews to determine corrective and preventative actions.
- (2) Site Supervisors
 - (A) Demonstrates strong and visible leadership, setting the example and building upon a strong safety climate.
 - (B) Have completed at least 30 hours of EHS related training in a three-year span.
 - (C) Manage crews and crew size that assures safe execution of work.
 - (D) Has overall accountability for meeting Owner leading indicators.
 - (E) Ensure all EHS requirements are implemented and complied with.
 - (F) Ensure all workers have proper training, competency, and experience to safely complete the work.
 - (G) Lead daily safety meetings.
 - (H) Lead scheduled safety-related meetings.
 - (I) Lead stretch and flex.
 - (J) Ensure all EHS plans are maintained and reflect Site conditions.
 - (K) Effectively plan, organize, coordinate, and execute all EHS requirements in related tasks.
 - (L) Respond and report all incidents to the Owner as required.
 - (M) Ensure workers are provided proper PPE.
 - (N) Uses Stop Work Authority.
 - (O) Enables workers to use Stop Work Authority.
- (3) Construction Site EHS Leaders
 - (A) The Construction Site EHS Leaders shall possess the skills, experience, certifications, and training necessary to competently perform Construction Site EHS Leader's duties.
 - (B) The Construction Site EHS Leaders must be assigned full-time onsite with no other duties aside from EHS. Including but not limited to:
 - Serve as lead EHS point of contact and supervisor for the Project.
 - Oversee the development and implementation of EHS programs at the Project.
 - Ensure adequate onsite EHS support is provided throughout the life of the Project.
 - Serve as the technical advisor for the implementation of the HRA Management SPS and ensure consistent policy enforcement of requirements.
 - Assist the Authorizing Authority in establishing a training program and ensure effectiveness for managing and controlling risks associated with HRAs.
 - Ensure HRA audits are conducted.
 - Provide consultation and technical guidance related to HRAs and Significant Exposures.
 - Ensure HRA incidents are investigated, lessons learned are communicated and applied.
 - Prepare metrics that reflect HRA trends for review by the business leaders.
 - Lead Subcontractor EHS professionals.
 - Develop leading indicators that include good catch programs (including near misses), audit findings, training needs/completed, observations, and other key indicators.
 - Uses Stop Work Authority.

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- (C) The Contractor shall risk assess and provide the appropriate number of dedicated, qualified, and competent EHS Professionals, including the Construction Site EHS Leaders, according to the size, scale, and complexity of the job Site activities for each shift. Below are the recommended ratios based on the number of workers onsite for each shift, including non-standard work hours, including Project management and field staff.
- 1 for 25 or fewer workers onsite.
 - 1 additional for 26 to 50 workers (two total)
 - 1 additional for 51 to 100 workers (three total)
 - 1 additional for 101 to 250 workers (four total) and
 - 1 additional for every 150 workers above 250*.
 - *For example 5 at 400, 6 at 550, 7 at 700, etc.

Note – EHS professionals are those dedicated to environmental, health, and safety positions on a full-time basis for their employer. They shall perform no other duties except EHS. Experience and capability shall be determined by the Contractor.

- (4) Competent (Appointed) Person
- (A) Ensures the execution of this SPS is applied and adheres to the requirements of this SPS and take effective action to correct non-compliance.
 - (B) Capability to solve or resolve EHS matters and has authorization to take prompt corrective measures.
 - (C) Ensures that risk assessments are completed for the planned activities and appropriate mitigation controls have been implemented.
 - (D) Ensures systems, processes, and tools/equipment are adequate for the risks associated with the activity being performed.
 - (E) Ensures employees involved in performing associated tasks are competent.
 - (F) Performs required inspections of the activity.
 - (G) Stops work when hazardous conditions exists and take immediate action to mitigate the hazards.
- (5) Qualified Person
- (A) Ensures the execution of this SPS is applied and adheres to the requirements of this SPS and take effective action to correct non-compliance.
 - (B) Perform all duties, as required, for the planned activity which may include, but not limited to, the design, assembly/disassembly, and use of a system.
 - (C) Serve as the subject matter expert for associated systems and related equipment.
- (6) Performing Authority
- (A) Ensures the execution of the HRA Management SPS is applied and adheres to the requirements of this SMP and take effective action to correct non-compliance.
 - (B) Participates in the creation of, reviews, and signs applicable safe work permits.
 - (C) Ensures a task specific work plan is in place for the execution of HRAs and that it is communicated with those performing the task.
 - (D) Ensures a written Site-specific Emergency Response Plan is always in place and available at the work Site when work is being performed.

(c) Process

- (1) Design
- (A) Contractors will receive a Preliminary Hazard Analysis (PHA) & Final Hazard Analysis (FHA) from Microsoft. The design team will ensure feasible hazard control measures are included and implemented for HRAs in the final design. Any exemptions or variances will be made through the Safety in Design process and requires full concurrence of the core Safety in Design team to ensure appropriate controls are established for protecting personnel conducting HRAs. Supplier scopes of work that only involve construction will adhere to the Safety in Design verification and sign off. Verification will be recorded in the owner's designated database.
 - (B) Contractors shall conduct and document a monthly Safety in Design Review.
- (2) Subcontractor HRA Management
- (A) All Subcontractors with scopes of work involving HRAs and Significant Exposures shall adhere to the relevant HRA and/or Significant Exposures Safety Performance Specifications (SPSs).
- (3) High Risk Activity (HRA) Forecasting and Planning
- (A) Three levels of risk assessments and corresponding forecasting and collaborating planning meetings will be completed prior to the execution of any HRA in accordance to this SPS, the

HIGH RISK ACTIVITY (HRA) MANAGEMENT

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relevant HRA specific SPS, and the Global Construction Environmental, Health, and Safety Contract Requirements. Figure 1.1 outlines a typical process workflow that the Authorizing Authority should align their own HRA planning meeting to ensure coordination with all affected parties.

(B) HRA Management Plan (Level 1)

- All entities performing HRAs are required to develop an HRA Management Plan. The HRA Management Plan and corresponding Site-Specific EHS Plan serve as a Program Level (Level 1) risk assessment. The Plans shall establish provisions to conduct all HRAs safely and in accordance with applicable SPSs, contractual EHS requirements, and applicable regulatory requirements.
- The HRA Management Plan shall include, at a minimum, the following elements:
 - Identification of HRAs in the work scope and Schedule per Specification 01 32 00 Construction Schedule and Progress Documentation.
 - Incorporation of HRAs into Collaborative Planning meetings (in accordance with Figure 1.1).
 - Requirements and the process to perform three levels of risk assessments for each HRA.
 - A process to issue permits
 - Training and authorization requirements for those performing HRAs.
 - Field inspections targeting HRAs.
 - Comprehensive HRA Audit program reviews.
 - Incident and investigation reports for all incidents involving HRAs. Incidents shall include near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity of those incidents.
 - Process to share and incorporate lessons learned from HRA incidents and shared best practices.
 - Metrics tailored to analyze HRA trends.
 - Incorporation of HRA impacts into change management process.
 - The process for tracking and updating as-built and temporary power drawings / BIM models
 - HRA Management Plans that do not meet the requirements set forth will not be allowed to perform the HRA until the Plan is revised to meet or exceed these requirements.

(C) Look Ahead and HRA Plans

- All HRAs will be included in look ahead meetings. Specific HRA plans, such as an Energy Isolation Plan or Lift Plan, will be identified and requested of the Performing Authorities. An Activity Level (Level 2) risk assessment is required as part of these plans. An HRA planning meeting must be scheduled to review these plans and their risk assessments for the upcoming HRAs with all entities involved. Reference the specific HRA SPS to identify minimum requirements for the activity specific HRA Plan.

(D) Activity Level Risk Assessment and Planning (Level 2)

- Prior to work, the Performing Authority shall complete a specific HRA Plan which is to be discussed at the HRA planning meeting and included with the applicable Permit request. The plan shall include an activity level (Level 2) risk assessment which identifies the hazards associated with the scope of work and required mitigations for all hazards identified.
- At a minimum, the risk assessment shall address the following:
 - Scope of work (e.g., size of excavation, number of equipment to be worked on, number of material and type of material to be lifted).
 - Method of procedures/safe work procedures/permit to work procedures and potential hazards.
 - Proximity to traffic, pedestrians, other work areas, overhead structures/utilities, underground structures/utilities, adjacent improvement, structures, equipment, or other potential hazards.
 - The numbers of workers required to complete the activity, including specialized roles (e.g., spotter, fire watch, confined spaced attendant or entrant, crane operator).
 - Types of tools and equipment required.
 - Type of PPE required.
 - Types of certifications and training required (i.e., crane operator certification).
 - Mitigation controls and how to implement them.

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- Engineering certification and design requirements, if applicable (i.e., excavations greater than 20 ft or 6.1 m).
 - Duration of the work and need for isolation and protection of work area, including after-hours.
 - Site-Specific Emergency Plans for possible emergency situations (e.g., excavation cave-ins, confined space rescue, etc.); and
 - Potential impacts and mitigations to live datacenters.
 - The HRA planning meeting must be held with all key stakeholders at least one day prior to the planned activities. However, one week prior to the task is recommended. Key stakeholders must include, at a minimum, the Authorizing Authority, Performing Authority, Competent Persons, EHS, and Microsoft CO+I Operations representative where there is a possibility of impact to a live datacenter. All Level 2 risk assessments and plans will be reviewed at this meeting. The team will ensure that no unmitigated high risks remain before proceeding.
- (E) Pre-Task Planning (Level 3)
- Workers shall be informed of all identified and potential hazards and prescribed safety measures prior to initiating work activities through review of the Level 2 risk assessment. The completed documents should accurately reflect the construction, installation, and servicing work activities, location, hazardous exposures, and other unique or Project/Site specific issues.
 - A pre-job walkthrough meeting will be conducted on the day of the task with all personnel involved in performing the HRA to discuss the Level 2 Risk Assessment, the HRA Plan, applicable safe work permits, and the Site-Specific Emergency Response Plan. Workers performing a pre-job walkthrough should use the appropriate documents and information available and complete a pre-task analysis to ensure hazards, or potential hazards, are correctly identified and communicated for the activity being performed. After the pre-job walkthrough meeting, if there is inconsistency between what the actual conditions are and what was expected in the pre-job walkthrough evaluation, the differences are resolved before any work begins and the appropriate changes noted on the Level 2 risk assessment.
 - No activities on the worksite should be performed until a Level 2 risk assessment covering the activity (with the appropriate hazards identified and control measures established) has been reviewed and approved by the Authorizing Authority.
- (F) Audits
- Contractor will develop and conduct High Risk Activity (HRA) audits as described in this HRA SPS.
 - A monthly HRA Program audit will, at a minimum, review the existence and execution of regulatory required written programs, training and competency, forecasting and planning of HRAs, risk assessments, administration of permits, and the field execution. Findings, corrective actions, and closure will be recorded in the MS database.
- (4) Permit Procedures
- (A) The following HRAs shall only be completed with a Permit:
- Confined Spaces
 - Energized Electrical Work
 - Energy Isolation
 - Ground Disturbance
 - Lifting Operations
 - Ladder Use
 - Hot Work (Burning and Welding)
- (B) No HRA shall be conducted without an approved and signed Permit prior to the beginning of work. Where required, permit procedures must include the following elements:
- Identification of the Authorizing Authority and their qualifications to execute these roles.
 - A requirement for the Performing Authority to obtain required approvals from the Authorizing Authority prior to beginning any permit required HRA.
 - A process to determine if additional safe work permits are required depending on the work. These should be identified on the applicable HRA Permit and the appropriate procedures shall be followed.
 - A copy of the Permit must be posted at the work location.

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(d) Tools

- (1) Audits and Inspections shall be conducted to ensure the effective implementation of the HRA Management program, verify the adherence to the SPSs and the safe execution of planned activities.
- (2) Collaborative Planning Meetings shall be conducted at least three weeks in advance (look ahead) and daily to ensure cross communication occurs between subcontractors and vendors to reduce and eliminate conflicts in the field that could potentially increase risk. HRAs must be discussed as part of these meetings and graphically depicted during daily coordination meetings.
- (3) Permits shall be completed for the following HRAs: confined space entry, energized electrical work, energy isolation, ground disturbance, lifting operations, ladder use, and hot work.
- (4) Risk Assessments shall be completed at three levels: program level, activity level, and task level. The risk assessments shall address all expected and potential hazards and the controls to eliminate or mitigate the associated risks. The risk assessments shall be completed, and corresponding forecasting and planning meetings shall be conducted to discuss the risk assessments.

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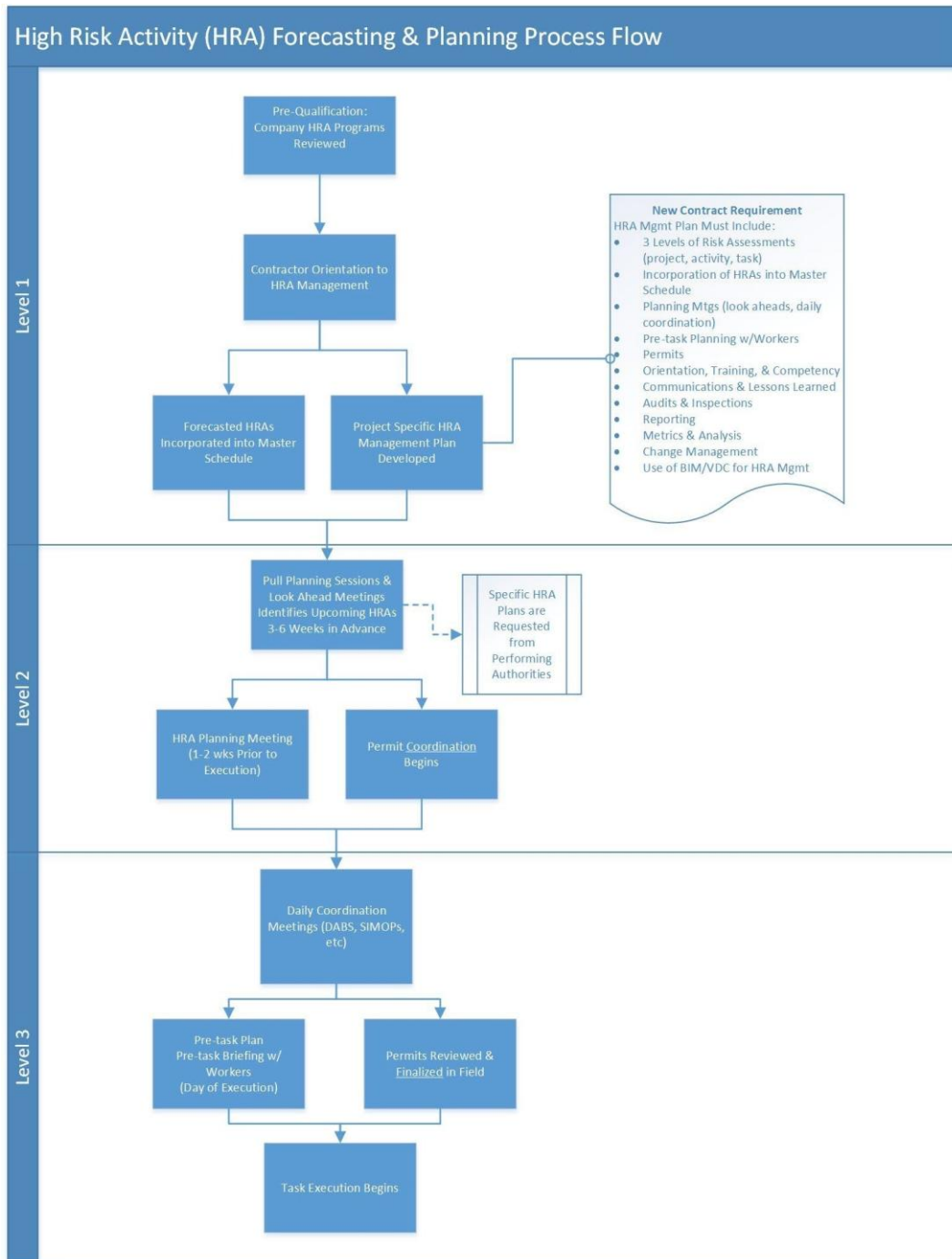


Figure 1: HRA Forecasting & Planning Process Flow

HIGH RISK ACTIVITY (HRA) MANAGEMENT
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DCX-SPS-101 **Working from Heights**

(a) Fundamentals

- (1) Work activity evaluated to ensure it cannot be performed on the ground
- (2) Fixed or mobile platform is used (Ladders Last Program Implemented)
- (3) Fall arrest system includes mandatory requirements
- (4) Everyone involved in the activity is trained on 100% fall protection
- (5) Emergency rescue plan is in place
- (6) All equipment is inspected and worn as required
- (7) All tools and equipment are adequately secured to prevent dropped objects
- (8) Fall Protection Plan developed and implemented
- (9) Risk assessment conducted when fall restraint versus fall arrest is warranted

(b) People

- (1) Authorizing Authority
 - (A) Ensures the Working from Heights Program is communicated and implemented within the scope of the respective Project/Site.
 - (B) Provides authorization and approval of working from heights activities.
 - (C) Ensures that all work complies with the requirements of the Working from Heights SPS.
 - (D) Ensures that Fall Protection Systems/Devices are inspected by a Competent Person.
 - (E) Monitors work from heights to verify adherence to requirements and take effective action to correct non-compliance.
 - (F) Determines if additional safe work permits are required depending on the scope of work (e.g., confined space, hot work, etc.).
- (2) Performing Authority
 - (A) Ensures a risk assessment is conducted and followed when fall restraint versus fall arrest is warranted.
 - (B) Ensures that a written Site-specific Emergency Rescue Plan is always at the Site.
 - (C) Ensures all workers are properly trained and aware of the hazards of their work.
 - (D) Ensures Competent Persons and personnel conducting work are properly trained and adhere to the requirements.
 - (E) Ensures Qualified Person supervises the erection, any modification of, and dismantling of scaffolding.
 - (F) Confirms the Competent Person and/or personnel conducting work has implemented the controls required to address all hazards.
 - (G) Administers a program that ensures Working from Heights safe work practices in accordance with all applicable regulations.
 - (H) Provides and maintains all fall protection equipment and ensures it is in good working condition, free of damage, and used as directed by the manufacturer.
- (3) Competent (Appointed) Person
 - (A) Is an individual capable of identifying existing and predictable hazards in the work and surrounding areas which are hazardous or dangerous to personnel, and who has authorization to take prompt corrective measures to eliminate such hazards. Has been trained and authorized to oversee work from heights. Performs the following activities:
 - Stops work and removes all personnel from work area until the proper corrective measures to eliminate the hazards have been implemented.
 - Follows fall protection equipment manufacturer's safe use procedures and conducts work from heights in a safe manner.
 - Maintains current training and required certification in working from heights safety regulations, and in fall protection equipment inspection, installation, and use.
 - Verifies that fall protection systems are installed in compliance with the program.
 - Performs periodic inspections of ongoing work to ensure compliance with the program.
- (4) Qualified Person
 - (A) Is an individual who possesses a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience and has successfully demonstrated their ability to solve or resolve problems relating to the subject matter, the work, equipment, or the Project.

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- Provides structural analysis, documentation, and approval of certified anchorages used for fall arrest, restraint and positioning systems, and designs and provides direction for the installation and use of horizontal lifelines.
 - Designs and provides direction for the installation and use of horizontal lifelines.
- (5) Personnel Conducting Work
- (A) Shall be trained in the subject matter to recognize the hazards associated with the type of work being conducted and to understand the procedures to control or minimize those hazards.
 - (B) Follows the fall protection equipment manufacturer's safe use procedures and conducts all work in a safe manner.
 - (C) Cordons off working area and ensures the use of warning signage as required based on the risk assessment.
 - (D) Stops work where unsafe work practices related to Working from Heights are identified and immediately notifies the appropriate supervisor.

(c) Process

- (1) High Risk Activity Forecasting and Planning
- (A) Develop a High-Risk Activity (HRA) Management Plan in accordance with SPS-100 HRA Management and the Global Construction Environmental, Health, and Safety Contract Requirements.
- Risk assessments specific to working from heights shall address the following, at minimum:
 - Methods for eliminating or reducing working from heights exposures using the hierarchy of controls
 - Review of potential hazards, safe work procedures, permitting requirements, etc.
 - PPE requirements
 - Methods to mitigate the potential hazards due to dropped objects
 - Ensure controls are in place to mitigate hazards associated with the operation of MEWPs, as applicable
 - Inspection requirements (e.g., PPE, personal fall protection, MEWPs, ladders, etc.)
 - Emergency Response Plan including the rescue plan
 - Assessment of potential inclement weather conditions, as applicable, and mitigation plans
- (2) Working from Heights
- (A) Establish a Working from Heights Program at the local Site that consists of fall protection systems design and use criteria, safe work procedures, working training, program audits, and periodic inspections. It must clearly outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of fall hazards, and the means to enforce compliance. The program must address all forms of working from height activities.
- (B) Fall Protection Systems Design and Use Criteria
- Only industrial type fall protection equipment shall be allowed on work Sites. All fall protection equipment shall meet the design requirements outlined by the manufacturer, local regulations, and standards pertaining to working from height activities. A hazard analysis and risk assessment shall be conducted for each working from height activity to determine the best type of fall protection system/device to implement.
- (C) 100% Fall Protection
- Fall protection controls to be implemented for all non-construction related tasks involving work from heights greater than 4- feet (1.2 meters). For all construction related tasks, fall protection must be implemented at 6 feet (1.8 meters) or based on country, state, or local requirements, whichever is more stringent. The work from height exposure applies to all activities, including steel erection, crane assembly/disassembly and maintenance, excavations, ladders, etc. A fall prevention and protection plan will include consideration of the hierarchy of controls.
 - Non-certified anchor points shall be capable of supporting at least 5,000 pounds or 2,268kg for each worker connected to the anchor point. Certified anchor points must be designed by a qualified person and capable of supporting twice the maximum arresting force of a given system for each worker connected to the anchor point.
 - Fall arrest body harnesses shall meet country or local regulations with five-point suspension and equipped with self-rescue devices (e.g., suspension trauma safety straps).

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- Contractor shall ensure self-retracting lifelines/lanyards/devices or SRL with edge protection rating are used for fall arrest systems. Restraint lanyards shall be used as a substitute in MEWPs. A Competent Person shall evaluate the appropriate type of restraint system for MEWPs.
 - Ensure plans for immediate rescue of employees working at heights in fall arrest systems.
 - All workers who work at heights shall be protected at all time times using a fall protection system based on the Hierarchy of Working from Height at the end of this section.
 - Ensure safe walkways and access for employees and implement an inspection and maintenance program to manage and mitigate all trip and slip conditions (e.g., providing structurally supported walkways and access, minimizing objects such as pipes, cords from being stored directly on the ground, and providing properly constructed hole covers).
 - Walkways and other means of employee access shall be capable of supporting 4 times the maximum intended load or meet the design and construction requirements outlined by local regulations and standards, whichever is more stringent.
 - Hole Covers. Protect openings in a floor or roof with a minimum dimension of 2 inches (5.1cm) in any direction. Ensure the hole cover is capable of supporting twice the intended load expected to cross over the hole cover, including twice the heaviest axle load of any vehicle or equipment.
- (3) Elevated Work Platforms
- (A) Design and Construction
- All elevating work platforms shall meet the design and construction requirements outlined by local regulations and standards or designed to support 4 times the maximum intended load. Only designed and approved or engineered industrial type elevating work platforms shall be allowed on construction Sites. All elevated work platforms shall have manufactured installed guards, guardrails, and anchorage points. Workers using elevated work platforms shall also use fall restraint equipment anchored to manufacturer installed anchorage points.
- (B) Setup Procedures
- The surface where the elevated work platform is to be positioned and setup shall be assessed by the Competent Person prior to positioning the platform. The positioning and set up of an elevated work platform is critical to its safe operation and prevention of the equipment overturning while the work platform is in the raised position. The set up shall be conducted by the Competent Person.
- (4) Ladders
- (A) Implement a Ladders Last Policy by actively seeking out safer alternative for working from heights activities. Where step ladders must be used, they will be of the platform or podium design and rolling platform staircase ladders are also acceptable. The Contractor will maintain a permit system to assure the ladders last policy is executed and to assess alternatives when platform ladders cannot be used. The Authorizing Authority will ensure controls are implemented to prevent the unauthorized use of ladders. Conductive and wood ladders are prohibited.
- (B) Ladders shall be sufficient to support industrial construction works and (e.g., rated to support a combined weight no less than 300 lbs or 136 kg per user and meet ANSI, or EN 131 Professional standards).
- (C) Require fall protection for ladders greater than established local requirements or 6 ft (1.8m). Limit activities that could impact ladder stability, deviation from three-point contact with the ladder or using heavy tools or other devices.
- (5) Inspection and Maintenance
- (A) Procedures shall be established to regularly inspect and maintain fall protection systems to ensure the integrity and functionality of the fall protection systems. Any fall protection equipment or systems with deficiencies shall be tagged "OUT OF SERVICE" until it can be evaluated by an external third-party. Fall protection equipment that is deemed out of service and verified unusable must be compromised to prevent reuse (i.e., cutting webbing of a full body harness, etc.). Inspections shall be completed by a Competent Person and maintenance shall be completed by Qualified Persons. Inspection and maintenance checks shall be documented and kept as records.
- (6) Protection from Falling Objects
- (A) Procedures shall be established to protect workers who are exposed to falling objects or contact with overhead obstructions. The procedures shall include risk assessments to evaluate potential drop zone areas, implementation of hazard controls, and audits to ensure that protection from

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falling objects is maintained. Procedures must include both prevention and protection control measures. Use of prevention strategies (e.g., tool tethering, protection screens, etc.) shall be prioritized over protection measures (e.g., use of a controlled access zone and/or spotter).

- (B) Controls:
- Establishing exclusion zones
 - Securing/tethering tools
 - Use of debris netting, screens, paneling, or canopies for MEWPs, Scaffolds, Leading Edges, and all other elevated areas for dropped object protection along with toe boards.
 - Administratively Control the hazard using spotters. Spotters are provided to prevent workers from accessing overhead work. The spotter shall remain in place until the work is completed and perform no other duties save to monitor the work area. The spotter shall do an inspection of the area before releasing it to general access.
 - PPE as a Control does not stop the drop but provide appropriate top and side impact protection.
- (7) Inclement Weather
- (A) Inclement weather shall be considered for any working at height activities. A Competent Person shall evaluate the increased overall hazard potential due to inclement weather conditions and the specific work activity. Work cannot be started without the approval of the Competent Person. Procedures for working on roofs must include guidelines for securing materials and stopping work.
- (8) Safe Work Procedures
- (A) The Performing Authority shall establish provisions to conduct all working from height activities safely and in accordance with manufacturer recommendations, locally applicable regulations, and standards. Safe work procedures shall include elements for the following:
- Unprotected walking and working surfaces
 - Hoist areas
 - Holes
 - Ramps, runways, and other walkways
 - Wall openings
 - Cranes and Derricks
 - Scaffolding
 - Ladders, fixed and portable
 - Protection from falling objects
 - Mobile elevated work platforms
 - Working above machinery, rotating equipment, or hazardous conditions as identified through the risk assessment.
 - Steel Erection fall protection systems. Climbing of columns is prohibited.
- (9) Scaffolding
- (A) Design and Construction
- Scaffolds shall be designed by a Competent Person and shall be constructed and loaded in accordance with that design and comply with applicable regulations as well as meet regional industry standards. All scaffolds shall be constructed to the manufacturer's guidelines and applicable regulations. Scaffold components manufactured by different manufacturers shall not be intermixed. Additional specific requirements may apply dependent on the specific type of scaffold used (supported scaffolds, suspension scaffolds, mobile scaffolds, integral prefabricated scaffolds, tubular welded frame scaffolds, etc.). All scaffolding will utilize guardrails on all sides regardless of elevation.
- (B) Erecting or Dismantling Scaffolds
- The Performing Authority shall provide safe means of access and/or active fall arrest for each worker erecting or dismantling a scaffold. Scaffold erection, moving, dismantling or alteration shall be performed only by experienced, trained authorized workers selected for such work by the Competent Person.
- (C) Scaffolding Access
- Multi-level scaffolds shall incorporate a stair design, in lieu of, an external straight ladder for access to various levels unless it can be demonstrated to be infeasible. In such cases, a fall arrest system will be designed and utilized for personnel using the access ladder.
- (D) Inspection of Scaffolds

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- Pre-Use or daily (at a minimum) inspections of scaffolding must be undertaken by a Competent Person along with inspections following significant events that may affect structural integrity such as alterations or weather events. A red, yellow, green tag system must be used to clearly indicate condition of scaffolding for use.
- (E) Mobile Elevated Work Platforms
 - The positioning and set up of a mobile elevated work platform is critical to its safe operation and prevention of the equipment overturning while the work platform is in the raised position. Safe work procedures for mobile elevated work platforms must include setup and take down procedures that includes consideration of the following elements:
 - Floor/ground type and stability.
 - Weight of the platform, personnel, tools and equipment.
 - Sloping or uneven surfaces.
 - Exclusion zones.
 - Simultaneous operations; and
 - Overhead hazards.
 - Single step emergency power down for Group A types 1, 2, 3 per ANSI A92.
 - Provide one spotter per MEWP unless mitigation procedures reduce exposure by determining spotter position, communication, and whether they are able to effectively manage multiple MEWPs in operation. Spotter shall have no other duty but to aid the movement of the MEWP and keep workers clear of operations.

(d) Tools

- (1) Emergency Rescue Plan
 - (A) A Site-Specific Emergency Rescue Plan shall be established and always available at the work Site when working from heights activities are being conducted. The emergency rescue plan shall include the procedures to initiate emergency rescue (including a self-rescue process, if needed), location of work, access route to work location, type and location of rescue equipment, and contact information for local emergency service providers. The plan shall also include a list of onsite trained Qualified Person(s) for emergency rescue.
- (2) Fall Protection Devices/Systems
 - (A) A hazard analysis and risk assessment shall be conducted for each working from height activity to determine the best type of fall protection system/device to implement. Fall protection devices/systems include the following:
 - Personal Fall Arrest System (PFAS)
 - Personal Fall Restraint System (PFRS)
 - Positioning Device System
 - Lifeline
 - Anchorages
 - Guard Rail Systems
 - Controlled Access Zones (prohibited as sole means)
 - Warning Line Systems (prohibited as sole means)
 - Safety Net Systems (prohibited as sole means)
- (3) Hierarchy of Working from Heights
 - (A) The hierarchy of safe means of working from heights that prioritizes the various fall prevention and protection systems:
 - Elimination or reduction of elevated work tasks.
 - Use of guardrail systems.
 - Use of scaffolding.
 - Use of Mobile Elevated Work Platforms (MEWP) with personal fall restraint.
 - Fall restraint system
 - Personal Fall Arrest System (PFAS) for SRL use ensure they are rated for edge protection
 - Ladders
 - Controlled Access Zones / Controlled Deck Zones / Warning Line Systems (prohibited as sole means)
 - Safety System (prohibited as sole means)
 - Safety Monitor (prohibited as sole means)

HIGH RISK ACTIVITY (HRA) MANAGEMENT
SAFETY PERFORMANCE SPECIFICATIONS

DCX-SPS-102 **Lifting Operations**

(a) Fundamentals

- (1) Documented lift plan is in place
- (2) Competent person is assigned and verified
- (3) Qualified Operator, Rigger, and Signalperson verified
- (4) Crane outriggers fully deployed
- (5) Visually inspected the lifting equipment and anchor points
- (6) Load rigged properly
- (7) Secured load prior to the lift
- (8) Taglines are attached
- (9) Clear method of communication is established
- (10) Clear barriers are in place to protect personnel

(b) People

- (1) Authorizing Authority
 - (A) Ensures the Lifting Operations Program is communicated and implemented within the scope of the respective Project/Site.
 - (B) Provides authorization and approval for work activities involving lifting operations.
 - (C) Ensures that resources necessary to comply with this SPS are provided on the Project.
 - (D) Ensures that lifting operations are evaluated by a Qualified Person and that the Lift Plan and lifting hazard analysis addresses hazards and controls for the activities.
 - (E) Monitors lifting operations to verify adherence to requirements and take effective action to correct non-compliance.
 - (F) Determines if additional safe work permits are required depending on work (e.g. hot work, fall protection, energy isolation).
 - (G) Mitigates any design requirements that result from the hazard exposures entered on the completed Lift Hazard Analysis Form and the Lift Permit.
 - (H) Ensures that lifting equipment is inspected by properly trained and qualified workers.
- (2) Performing Authority
 - (A) Always maintains a written Lift Plan at the work Site when lifting operations are being performed.
 - (B) Maintains a written Site-specific Emergency Rescue Plan at all times when lifting operations are being performed.
 - (C) Ensures a Qualified Person conducts an initial lift hazard analysis for all lifting operations.
 - (D) Ensures work area protection is installed and maintained during lifting operations.
 - (E) Maintains records of required training for all workers involved with lifting activities and make them immediately available.
 - (F) Confirms rescue services are available prior to and during lifting activities and means for summoning them are operable.
 - (G) Continuously monitors all lifting activities for any hazardous conditions.
 - (H) Immediately notifies the Authorizing Authority of any lifting activity incident.
 - (I) Ensures that workers know how to safely operate lifting equipment, and how to move objects safely.
 - (J) Ensures that only formally trained crane operators and Qualified Persons operate lifting equipment.
 - (K) Maintains lifting equipment in good mechanical and operating condition.
- (3) Qualified Person
 - (A) Is an individual who is trained and authorized by the Performing Authority, and has the education, experience and knowledge of the operation to be performed, and is competent to judge the hazards involved and specify controls/protective measures.
 - Conducts an initial lift hazard analysis of the lifting activities.
 - Functions as the Assembly/Disassembly Director as authorized by the Performing Authority. The A/D Director shall supervise all assembly/disassembly activities, including load testing, repair, and functional testing activities
 - Determines the need for periodic identification and re-evaluation of the hazards based on possible changes in lifting operations or other physical or environmental conditions, or both, which could adversely affect the lifting operation.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- Functions as the Lift Director as authorized by the Performing Authority. The Lift Director shall serve as the lift plan developer and oversees lift plan.
 - Specifies what conditions and precautions shall be in place to allow for safe lifting and what would constitute a change in conditions which would require a re-evaluation of the lifting operation.
- (4) Crane Operator
- (A) Is an individual certified by the National Commission for the Certification of Crane Operators (NCCCO certification) or local equivalent.
 - (B) Possesses documented qualification for the operation of the specific crane(s) to be used.
 - (C) Controls the use of the crane, and limits use of the crane to qualified worker(s).
 - (D) Maintains control of any keys or other mechanisms for limiting crane use.
 - (E) Maintains logbooks and inspection tags.
 - (F) Safely operates cranes within the manufacturers design specifications and operating limits.
 - (G) Maintains current training and qualification.
- (5) Qualified Lifting Equipment Operator
- (A) A Qualified Lifting Equipment Operator possesses a certificate, or professional standing, or has extensive knowledge/training/experience, and can demonstrate the ability to solve problems related to lifting equipment. In addition the Qualified Lifting Equipment Operator has been authorized to conduct lifting operations on lifting equipment on which they are trained to use.
 - Knows existing and potential hazards of lifting equipment operations.
 - Continuously monitors lifting operations and surrounding area for hazardous conditions.
 - Conducts pre-use inspection of the lifting equipment prior to each use.
 - Conducts a hazard analysis prior to initial equipment operations.
 - Follows the equipment manufacturer's safe operating procedures and conducts all work in a safe manner.
 - Communicates with the Qualified Rigger and Signal Person.
- (6) Qualified Rigger
- (A) A Qualified Rigger possesses a certificate, or professional standing, or has extensive knowledge / training / experience, and can demonstrate the ability to solve problems related to rigging loads. A Qualified Rigger is required whenever workers are within the fall zone and hooking, unhooking, or guiding a load, or doing the initial connection of a load to a component or structure.
 - Designated by the Performing Authority.
 - Ability to properly rig the load for a particular job.
- (7) Qualified Signal Person
- (A) A Qualified Signal Person demonstrates their knowledge through oral, written, and practical testing. A Qualified Signal Person is required for all lifts.
 - Knows the types of signals used at the work Site and can competently use them.
 - Knows the crane equipment, its limitations and all the dynamics involved in crane and boom movement and lifting.
- (8) Other Site Personnel
- (A) Has the training required to understand EHS responsibilities when working near lifting operations.
 - (B) Has authority to stop work and take action if a potentially hazardous condition is identified.
 - (C) Shall not approach any lifting equipment in motion.
 - (D) Shall not walk into lifting equipment barricade zones.

(c) Process

- (1) High Risk Activity Forecasting and Planning
- (A) Develop a High-Risk Activity (HRA) Management Plan in accordance with SPS-100 HRA Management and the Global Construction Environmental, Health, and Safety Contract Requirements. At minimum, the following elements must be described as part of the Site-Specific EHS Plan:
 - The identification of lifting operations in the work scope and schedule.
 - The process to be used to track/update as-builts and temporary drawings / BIM models.
 - The process to perform risk assessments for lifting activities.
 - A process for issuing Lift Permits.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- Training and authorization requirements for those performing lifting operations with associated verification process.
 - Emergency plans.
 - All other related EHS procedures and regulatory requirements specific to lifting operations.
 - Process for capturing lessons learned and best practices.
 - Audits of Lifting Operations Program activities, including a written report to Microsoft.
 - Change management process that evaluates the impacts of lifting operations and designs.
 - Incident and investigation reports for all incidents (including near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity of those incidents) involving lifting operations.
- (2) Lift Operations Program
- (A) Establish a Lifting Operations Program for personnel conducting lifting operations at the local Site that consists of safe work procedures for tasks involving lifting, requirements and process for critical lifts, hazard analysis, personal protective equipment selection, worker training, program audits, and a maintenance program. It must clearly outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazards associated with lifting operations, and the means to enforce compliance. The program must address all forms of lifting operations.
- (3) Equipment Design and Construction
- (A) Lifting equipment shall be designed, constructed, and maintained in accordance with the manufacturer's requirements and applicable standards. Lifting Equipment used in support of work activity within any Project shall have a valid report of thorough examination which has been issued within the previous six months. Lifting accessories should be clearly marked with the rated capacity and have a unique identification number for recordkeeping purposes. Lifting equipment shall be visually inspected before use with any defects being reported immediately. Major modifications, structural changes, or attachments to lifting equipment that affect the capacity and safe handling of the lifting equipment shall not be performed without prior written approval from the manufacturer.
- (4) Ground Condition
- (A) Complete a ground condition survey for each crane. Include a written report by a qualified engineer certifying the suitability of the ground and indicate the appropriate work platform for the crane to work from. Consider ground bearing pressure, underground utilities, and crane bearing pressure based on lifting operation dimensions.
- (5) Crane Operations
- (A) Crane operator qualification (per ASME B30.3 and B30.5) shall be certified by the National Commission for the Certification of Crane Operators (NCCCO certification) or country, state, or local equivalent and shall be furnished to Authorizing Authority prior to any crane work. All operators shall be trained by the manufacturer or vendor regarding the specific use of equipment. Equipment operators are only allowed to conduct lifting operations on equipment in which they are trained and authorized to use.
- (B) A Lift Plan and lift hazard analysis planning meeting are required for all lifts. The Lift Plan and associated planning meeting can cover multiple lifts within the same operation. The Lift Plan shall clearly outline the scope of work to be completed. The Performing Authority shall review changes to the plan to ensure no adverse risks emerge and go unmitigated.
- (6) Rigging and Hoisting
- (A) The Performing Authority shall ensure that only Qualified Riggers and Signal Person(s) are used for rigging and signaling tasks and maintain documentation of qualifications at the Site. Communication protocols shall be established between the Crane/Lifting Equipment Operators, the Qualified Riggers, and the Qualified Signal Person(s). All rigging and hoisting shall be conducted in a safe manner and in accordance to manufacturer requirements and applicable regulations.
- (B) When multiple lifts or operations are being conducted in the same area, coordination procedures must be implemented, and communications established between operators to avoid clashes. Tower cranes shall be erected to prevent accidental contact.
- (C) Multiple lift rigging (MLR) or Christmas Tree lifts are prohibited.
- (D) Ensure taglines or other devices like push/pull sticks or clamps are used for lifts stability where they do not present an additional hazard.
- (7) Critical Lifts

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (A) A Critical Lift Plan and Lift Permit are required if the lift operation could cause significant work delay or property damage, exceed 75% of a crane's rated capacity as configured, require more than one piece of equipment (i.e., tandem lift), eccentric lift operations, such as pile driving attachments, commercially adverse equipment, including items with long-lead time or of a certain dollar value as determined by the Contractor, lifts over live or operating facilities, mission critical impacts, sensitive equipment or facility, involves a crane suspended personnel basket, or causes the crane boom or load to come within 20 ft (6.1m) of energized overhead lines. The Performing Authority shall provide the Authorizing Authority with a copy of the permit before any critical lift commences. A Critical Lift Plan shall be prepared that details the step-by-step procedure for the critical lift.
- (8) Working in Proximity to Overhead Power Lines
- (A) Work is not permitted to come closer than 20ft (6.1m), including the maximum boom radius for powerlines with unknown voltage.
- (B) Refer to the chart below for minimum approach distances.

Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1,000	45

(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

- (9) Inspection, Maintenance, and Testing
- (A) Align lifting equipment inspection, maintenance, and testing with best practices or applicable country laws or regulations (refer to ASME B30.3 for tower cranes or B30.5 for mobile cranes or U.S. Occupational Safety and Health Administration (OSHA) 29 CFR 1926 Subpart CC as a reference where no law or regulation exists). Ensure delineation of roles and responsibilities of managers, supervisors, and workers within the inspection, maintenance, and testing program.
- (B) Ensure testing, inspections, and maintenance are performed per manufacturer recommendations/requirements. At a minimum Contractor will:
- Ensure all testing procedures and operations is conducted under the supervision or in coordination with the assembly/disassembly director.
 - Ensure testing performed to determine machine functionality and conducted as the crane configuration changes or per manufacturer requirements.
 - Ensure cranes are equipped with all safety features, including anti-two block devices, load limiting devices, load moment indicators.
 - Ensure that inspections are conducted according to country or local laws and regulations, industry practices, or based on internal procedures. The most stringent requirement applies when determining inspection requirements.
 - At a minimum, inspect and certify cranes based upon initial assembly, testing, modifications, or configuration changes.
 - Ensure pre-use inspections by a Competent Person.
 - Determine periodic inspections based on the crane's service use, including duty cycle, pile setting/extraction, eccentric loading, load free-falling, or any other type of excessive activity beyond the crane's normal operating condition, but no greater than annual from the initial inspection date.
 - Perform all heavy and major mobile equipment maintenance repairs at an off- Project location, or at a designated location specifically for maintenance and repair of equipment. Barricades will be used when it is not feasible to relocate equipment to the designated area. A pre-task plan should be developed with all equipment maintenance workers.

(d) Tools

- (1) Work Area Protection
- (A) The Performing Authority shall furnish, erect, maintain, and dismantle safety barricades required for their work, and coordinate all barricades belonging to any subcontractors. Barricades and signage shall be the initial layer of work area protection. Each barricade shall be tagged to identify owner, purpose, date erected, and date to be dismantled.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (B) The lifting zone shall be barricaded where practical or access prohibited by using spotters when a lift occurs, with warning signs to prevent any unauthorized entry. The exclusion zone shall extend the swing radius and full length of the boom.
 - (C) Use appropriate warnings to alert personnel to the lift starting, unusual work, or conditions inside the lifting exclusion zone unplanned for. The warning system can include air horns, whistles, visual alarms, or any other appropriate warning system.
 - (D) Entry to work area protection is permitted only if they are granted access by the designated lift director and they have a purpose for entry.
 - (E) Standing under a live load is strictly prohibited, this applies to the lifting team as well.
- (2) Lifting Operation Plan & Drawing shall be used to communicate: lifting points; load vectors at all stages of the lift/move; sling angles at all stages of the lift/move; accessories used; method(s) of attachment; method of rotating about either horizontal axis, if applicable; other factors affecting the capacity of the equipment or accessories; identification of the capacity (or limit) of equipment and load; identification of the expected load in each item of equipment and each accessory; and load tests and practice lifts, if required. All lifts that utilize rigging are required to have a lift plan, regardless of type of equipment used.
 - (3) A load-path drawing should be included with the expected height and swing radius (full length of the boom) of the load at each point in the lift. In addition, a travel sketch, either as a part of the load-path sketch or a separate sketch, indicating the planned travel path, and lifting and travel speeds. Where appropriate, floor loading diagrams are to be included to provide for setting the load down at any point in the path if that should be necessary. Where clearances are an issue, a detailed drawing with verified dimensions that demonstrates the lift can be accomplished as planned should be included. An assessment of wind loading should be completed.
 - (4) A Lift Hazard Analysis shall be completed prior to any lifting operations to ensure hazards have been identified and mitigation controls have been implemented.
 - (5) Lift Permits shall be completed for all lifting operations. A Lift Permit should include a description of the lift to be completed, lifting equipment used including the condition equipment, general Site conditions, and acknowledgement by the Authorizing Authority and personnel conducting the work. For non-critical lifts, a lift permit can cover multiple lifting operations in a day that considers the heaviest load and the maximum boom radius. For critical lifts, a lift permit must be developed for each critical lift.
 - (6) Pre-lift meetings shall be conducted to review conditions of the lift, the lift permit, environmental conditions that could impact the lift, responsibilities of each person, and other requirements based on the lift plan and permit.

HIGH RISK ACTIVITY (HRA) MANAGEMENT
SAFETY PERFORMANCE SPECIFICATIONS

DCX-SPS-103 **Mobile Equipment**

(a) Fundamental

- (1) Traffic management plan is implemented
- (2) Mobile equipment inspected and maintained per manufacturer and local requirements
- (3) Completed/documented mobile equipment forms readily available
- (4) Mobile equipment clearly visible to other vehicles and pedestrians
- (5) Mobile equipment deemed suitable for its intended task
- (6) Safe means of access and egress from equipment
- (7) Fall protection devices installed
- (8) Seatbelts are worn
- (9) Operator trained, experienced, and authorized to operate the mobile equipment
- (10) Driver is fit for duty, not under the influence, and is not suffering from fatigue

(b) People

- (1) Authorizing Authority
 - (A) Ensures the Mobile Equipment Program is communicated and implemented within the scope of the respective Project/Site.
 - (B) Ensures that resources necessary to comply with this SPS are provided on the Project.
- (2) Performing Authority
 - (A) Ensures that a written Mobile Equipment Program, Site-specific Emergency Plan, daily inspections, and equipment maintenance are always available at the work Site when mobile equipment activities are being conducted.
 - (B) Conducts an initial survey of the Project to identify mobile equipment hazards.
 - (C) Ensures that ground conditions are suitable for foundation equipment.
 - (D) Ensures that work platform design is suitable for foundation equipment.
 - (E) Ensures exclusion zones are installed for foundation equipment operations.
 - (F) Maintains records of completed required training and documented competency for all workers involved with mobile equipment activities and make them immediately available. Ensures mobile equipment service and maintenance records are maintained.
 - (G) Confirms rescue services are available prior to and during mobile equipment activities and means for summoning them are operable.
 - (H) Continuously monitors all mobile equipment activities for any hazardous conditions.
 - (I) Ensure all equipment parking is kept parallel.
 - (J) Mark and indicate visibly all overhead or underground utilities and structures that can be impacted by equipment operations.
 - (K) Install swing or rotational protection where people and objects can be struck by rotating equipment.
 - (L) Provide adequate illumination at equipment parking locations.
 - (M) Ensure equipment lights and other safety functions are operable before each use.
 - (N) Minimizes pedestrian interface through all equipment operations by providing warning technologies, signals, or other forms of indicating a machine or equipment movement.
 - (O) Ensure all material hauling, dumping, and loading equipment cabs are equipped with falling object protective systems.
 - (P) Ensure operators have proper protective equipment and maintain a safe distance away from cabs if they exit during loading operations.
 - (Q) Immediately notifies the Authorizing Authority of any incidents involving mobile equipment.
 - (R) Ensures that workers know how to safely operate mobile equipment.
 - (S) Ensures that only formally trained operators and Qualified Persons operate mobile equipment.
 - (T) Ensures all equipment is accompanied by the manufacturer's operating instructions and equipment safe operating capabilities in a format / language that the operator can readily understand.
 - (U) Ensures and documents that all mobile equipment is in safe working order when it arrives onsite.
 - (V) Ensures a documented daily inspection is completed by the operator before each work shift, to ensure the equipment is safe to operate and does not present a danger to the operator or others. Any findings made during the inspection shall be recorded in an inspection log for action by the contractor and addressed prior to operation if it poses an EHS risk.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (W) Contractor will enforce a policy to prohibit the use of smart devices by operators or Supervisors / workers in proximity to mobile equipment in use that is not supporting the work activity or for personal use. Smart devices approved for use shall positively impact worker safety.
- (X) Designates areas for mobile equipment parking, maintenance, and repair work. If not feasible to relocate equipment to the designated areas, then the equipment shall be enclosed by hard barricades.
- (Y) Ensures a pre-task plan is developed for all maintenance and/or repair work with workers and supervisors.
- (Z) Enforce a policy against leaving mobile equipment engines running while the cab is unoccupied.
- (3) Mobile Equipment Operator
 - (A) A Qualified Mobile Equipment Operator possesses a certificate, or professional standing, or has extensive knowledge/training/experience, and can demonstrate the ability to solve problems related to mobile equipment. In addition, the Operator has been authorized to conduct mobile equipment operations on the mobile equipment on which they are trained to use.
 - Knows existing and potential hazards of mobile equipment operations.
 - Continuously monitors mobile equipment operations and surrounding area for hazardous conditions.
 - Conducts pre-use inspection of the mobile equipment prior to each use.
 - Conducts a hazard analysis prior to initial equipment operations.
 - Follows the equipment manufacturer's safe operating procedures and conducts all work in a safe manner.
 - Communicates with the Signal Person / Spotter.
 - Trained and demonstrates competency call for the particular, make and model of equipment to be used before operating the equipment.
 - All mobile equipment shall be equipped with audible back-up alarms and flashing beacons or in the absence of these a qualified flag person shall be used to assist the operator during operation or movement.

(c) Process

- (1) Other Site Personnel (including workers that refuels, grease/oils, etc. the mobile equipment)
 - (A) Has the training required to understand EHS responsibilities when working near mobile equipment operations.
 - (B) Has authority to stop work and take action if a potentially hazardous condition is identified or when there is a deviation from the work plan.
 - (C) Shall not approach any mobile equipment in motion.
- (2) Signal Person / Spotter / Banks person
 - (A) A Qualified Signal Person demonstrates their knowledge through oral, written, and practical testing. A Qualified Signal Person is required on the job when mobile equipment is operating / moving in congested or physically restricted areas, when the load or area near or at the load is not in full view of the operator, when the equipment is on the move and the direction of the movement is obstructed, and when either the operator or the person handling the load believes that a signal person should be present for safety. A Qualified Signal Person knows the mobile equipment, its limitations and all the dynamics involved in mobile equipment movement and lifting. The use of Signal Person / Spotter shall always be risk assessed to ensure the Signal Person is not put in danger from mobile equipment movements. A Signal Person / Spotter conducts the following:
 - Knows the types of signals used at the work Site and can competently use them.
 - Assist the mobile equipment operator during mobile equipment activities and backup operations.
 - Watches for unsafe conditions and raise alarm if such condition occur without putting themselves in a dangerous position.
 - Ensures the immediate area where the mobile equipment is traveling is cleared of pedestrian traffic.
 - (B) High Risk Activity Forecasting and Planning
 - Develop a High Risk Activity (HRA) Management Plan in accordance with SPS-100 HRA Management and the Global Construction Environmental, Health, and Safety Contract

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

Requirements. At minimum, the following elements must be described in the Site-Specific EHS Plan:

- The identification of activities with mobile equipment in the work scope and schedule;
- The process to be used to track/update as-builts and temporary drawings / BIM models;
- The process to perform risk assessments for activities involving mobile equipment;
- Training and authorization requirements for those performing mobile equipment activities with associated verification process;
- Emergency plans;
- All other related EHS procedures and regulatory requirements specific to mobile equipment;
- Process for capturing lessons learned and best practices;
- Audits of Mobile Equipment Program activities, including a written report to Microsoft;
- Change management process that evaluates impacts to mobile equipment and design changes;
- Incident and investigation reports for all incidents (including near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity of those incidents) involving mobile equipment.

(C) Mobile Equipment Program

- Establish a Mobile Equipment Program for personnel conducting any activities with mobile equipment at the local Site that consists of equipment design and construction, safe work procedures, hazard analysis, equipment movement, pedestrian safety, worker training, inspection and maintenance program, and program audits. It must clearly outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazards associated with mobile equipment, and the means to enforce compliance.

(D) Equipment Design and Construction

- Mobile equipment shall be designed, constructed, and maintained in accordance with the manufacturer's requirements and applicable standards. Only industrial type mobile equipment shall be allowed on work Sites. Mobile Equipment used in support of work activity within any Project, shall have a valid report of thorough examination which has been issued within the previous six months. Mobile equipment shall be visually inspected before use with any defects being reported immediately. Major modifications, structural changes, or attachments to mobile equipment that affect the capacity and safe handling of the mobile equipment shall not be performed without prior written approval from the manufacturer. Equipment attachments must be engineered and approved by the manufacturer of the equipment prior to use.
- All mobile equipment shall be equipped with rollover protection and seat belts. Seat belts shall be worn whenever equipment is in operation. All mobile equipment shall be fitted with an automatic visual indicator that can be seen from 66 feet (20 meters) that the seat belt is engaged, for example a green-colored beacon attached to the top of the operator's cab. All mobile equipment attachments must be engineered and approved by the manufacturer of equipment prior to use. Lifting from buckets are prohibited.

(E) Safe Work Procedures

- Safe work procedures shall be established for each type of mobile equipment that is used at the workplace. The type of mobile equipment shall be dependent on the activity in which the mobile equipment will be used for and shall be determined by a Competent Person. Capacity, manoeuvring ability, size and dimensions, environmental terrain (i.e., slopes) and conditions (i.e., dust), and electric or fuel options are some items that should be considered when determining the right mobile equipment for the activity. Depending on what type of mobile equipment is used, permits such as a Lift Permit may be applicable.
- Mobile equipment left unattended shall have ignition keys removed from the operating cab and be left in a state to prohibit any unauthorized / unintended movement. Mobile equipment left unattended shall have all attachments lowered and all locks, levels, or brakes set to prevent any unintentional movement by a trained operator or mechanic.
- Mobile equipment operators shall be trained on the specific mobile equipment in which they are authorized to operate. Where required, authorized operators shall have the appropriate license and/or certification to operate the mobile equipment. In addition, safe work procedures for operating mobile equipment should include, but not limited to:
 - Requirements for seating and operator restraints;
 - Equipment speed limits;

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- Minimum safe distances from edges;
 - Equipment load limits;
 - Traveling with loads;
 - Care of unattended mobile equipment;
 - Entering and exiting mobile equipment;
 - Loading and unloading material with mobile equipment;
 - When the use of Signal Person/Spotter is required;
 - Requirements when backing;
 - Requirements when crossing pedestrian walkways;
 - Refueling/recharging procedures;
 - Parking requirements.
 - When a Signal Person/Spotter is utilized, the Signal Person/Spotter shall be stationed in full view of the mobile equipment operator with a full view of the intended path of travel for the mobile equipment and clear of the intended path of travel.
- (F) Mobile Elevated Work Platforms (see also SPS 101 Working from Heights)
- The positioning and set up of a mobile elevated work platform is critical to its safe operation and prevention of the equipment overturning while the work platform is in the raised position. Safe work procedures for mobile elevated work platforms must include setup and take down procedures that includes consideration of the following elements:
 - Floor/ground type and stability;
 - Weight of the platform, personnel, tools and equipment;
 - Sloping or uneven surfaces;
 - Exclusion zones;
 - Simultaneous operations; and
 - Overhead hazards.
 - Anti-crush devices shall be provided for all MEWPs.
 - One-step emergency power down shall be required for group A types, 1, 2, 3 per ANSI A92.
 - Attachments or other devices shall be approved by the MEWP manufacturer.
- (G) Inspection, Maintenance, and Testing
- A mobile equipment inspection and maintenance program shall be established in accordance with applicable legislation, standards, and manufacturer's specifications. This program shall include designating personnel who are responsible for specific inspections and maintenance tasks. The program shall outline the roles and responsibilities of managers, supervisors, and workers within the program. This program should include:
 - Location of completed equipment inspection forms
 - List of mobile equipment to be maintained;
 - Location of mobile equipment;
 - List of maintenance items each piece of mobile equipment requires;
 - What skills/personnel are necessary to accomplish this work. Only designated maintenance personnel are authorized to perform service on equipment;
 - How often it should be done;
 - Mobile Equipment shall be inspected before each use;
 - Mobile Equipment should be inspected monthly regardless of use;
 - Monthly inspections shall be performed by a Competent Person familiar with the mobile equipment and its operation, and shall be documented;
 - Defective mobile equipment shall be removed from service and locked out of service until defects are corrected.
 - All heavy and major mobile equipment maintenance repairs shall be performed at an off-Project location, or at a designated location specifically for maintenance and repair of equipment. Barricades will be used when it is not feasible to relocate equipment to the designated area. A pre-task plan should be developed with all equipment maintenance workers.
 - Mobile equipment operators shall be trained on the specific mobile equipment in which they are authorized to operate. Where required, authorized operators shall have the appropriate license and/or certification to operate the mobile equipment. In addition, safe work procedures for operating mobile equipment should include, but not limited to:
 - Location of mobile equipment;

HIGH RISK ACTIVITY (HRA) MANAGEMENT

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- List of maintenance items each piece of mobile equipment requires;
 - What skills/personnel are necessary to accomplish this work. Only designated maintenance personnel are authorized to perform service on equipment;
 - How often it should be done;
 - Mobile Equipment shall be inspected before each use;
 - Mobile Equipment should be inspected monthly regardless of use;
 - Monthly inspections shall be performed by a Competent Person familiar with the mobile equipment and its operation, and shall be documented;
 - Defective mobile equipment shall be removed from service and locked out of service until defects are corrected.
 - All heavy and major mobile equipment maintenance repairs shall be performed at an off-Project location, or at a designated location specifically for maintenance and repair of equipment. Barricades will be used when it is not feasible to relocate equipment to the designated area. A pre-task plan should be developed with all equipment maintenance workers.
 - Fall Protection is required for mobile equipment work that occurs at heights above 6ft (1.8m) or in accordance with country or local laws and regulations, whichever is more stringent. These activities include, but not limited to, maintenance, inspecting, cleaning. Before beginning any work with a fall exposure, the Performing Authority shall have a written Fall Protection Plan written by a Competent Person. The Fall Protection Plan shall address the specific issues on the Project and include a rescue plan including how to contact and request local emergency services. The Performing Authority will provide for each worker who might be expected to perform elevated work the proper training with written records.
 - Planned Pedestrian Segregation
- (H) Equipment Movement Plan
- Develop an internal equipment movement plan. The plan shall include traffic patterns for material hauling, grading requirements where applicable to minimize rollover potential, roadway type (gravel, asphalt, etc.), posted speed limits, pedestrian cross points, crash protection, public/ Project interfacing (public roads), and equipment parking location. The plan shall include maintenance of equipment travel paths.
 - Consider ingress/egress of delivery vehicles and emergency service vehicles. In areas of higher risk with personnel working near mobile equipment, a communication plan shall be established for personnel and mobile equipment operators.
 - Limit equipment and pedestrian interface.
 - Include physical separation of equipment movement from pedestrians.
 - Include appropriately crash-rated barricades directly controlling potential impact hazards. Substantial roadway barricade systems, such as concrete barriers, sand-filled or water-filled barricades, shall be used to designate and protect personnel at designated walkways.
- (3) Pedestrian Access
- Pedestrian walkways and mobile equipment traffic lanes shall be clearly established at a work Site. Archways and controlled access gates where practical, i.e. swing gates or other forms of forced gate movement, equipped with amber strobe lights, and signage shall be provided.
 - The signage shall warn equipment operators and spotters of pedestrian movement and warn pedestrians of equipment movement.
 - The signage shall be installed where walkways cross into mobile equipment paths.
 - Width of travel lanes, traffic patterns, material storage areas, and emergency vehicle access shall be considered when establishing walkways.
 - Pedestrians shall "not walk and talk" by stowing smart devices and be alert, stay clear of mobile equipment, wear the proper reflective PPE, and ensure there is communication with the mobile equipment operators or spotters when accessing or working around mobile equipment.

(d) Tools

- (1) A Hazard Analysis shall be completed prior to any operation of mobile equipment to ensure hazards have been identified and mitigation controls have been implemented.
- (2) Pre-Use Inspection Forms shall be completed prior the operation of the mobile equipment to verify that the equipment is in property working order. Damaged or defective mobile equipment shall be

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removed from service immediately and the Performing Authority shall be notified of the damaged or defective mobile equipment.

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DCX-SPS-104 **Ground Disturbance**

(a) Fundamentals

- (1) Risk assessment conducted by a Competent Person
- (2) All underground hazards and services identified and located
- (3) Protection in place to prevent cave-in of excavations
- (4) Adequate barriers and warning signs in place
- (5) Suitable safe entry and exits in place including escape route
- (6) Spotter present at the Site of any excavation
- (7) Ground stability and weather conditions monitored for change
- (8) Emergency and rescue plans in place for utility strike and cave in
- (9) Competent/Appointed Person and Ground Disturbance (G.D.) Marshal (or similar role) identified and assigned
- (10) Ground Disturbance permits issued per the requirements

(b) People

- (1) Authorizing Authority (Permit Authorizer)
 - (A) Communicate and implement ground disturbance requirements.
 - (B) Verify that the permit and its associated documentation include a method statement of work including hazard identification and risk assessment.
 - (C) Authorize and approve ground disturbance work permits.
 - (D) Issuing Authority (Permit Issuer)
 - (E) Designated by the Authorizing Authority.
 - (F) Ensure all permits issued are prepared and executed in full compliance these requirements and local procedures.
 - (G) Issue and close out ground disturbance permits and monitor work.
- (2) Performing Authority (Permit Requestor)
 - (A) Conduct a Risk Assessment for each ground disturbance work activity.
 - (B) Submit permit application and supporting documentation in advance of the work (no less than 3 days prior), allowing sufficient time for the authorizer to conduct the necessary reviews and checks.
 - (C) Obtain and adhere to permits.
 - (D) Ensure employees are aware of hazards, PPE, and emergency procedures.
 - (E) Ensure a Competent Person has been assigned.
 - (F) Ensure a Qualified person has been assigned to design / specify ground support systems.
 - (G) Ensure a rescue plan is in place when cave-in protective systems are required.
- (3) Competent/Appointed Person (Permit Holder)
 - (A) Has the training/experience/authority to act to ensure ground disturbance work is conducted safely.
 - (B) Properly identify soil classification and effective cave-in protective system and methods.
 - (C) Ensure ground supporting equipment is designed / specified by a suitably qualified person.
 - (D) Locate, Identify and mark underground services before ground disturbance activities commence.
 - (E) Confirm all available sources of information have been obtained and cross-referenced.
 - (F) Create, review, and sign ground disturbance permits.
 - (G) Perform documented daily inspections.
 - (H) Remove personnel when evidence indicates a hazardous condition until remediated.
 - (I) Ensure emergency rescue equipment is available at task work location.
 - (J) Stop any activity involving ground disturbance where safe work practices are found to be missing or provide inadequate protection from the hazards inherent to the work.
- (4) Ground Disturbance Marshal (or similar collateral duty role), as applicable
 - (A) A general contractor (GC) appointed position that is responsible for all ground disturbance activities onsite.
 - (B) Act as the point of contact for all ground disturbance activity across the assigned campus or Site.
 - (C) Can be a supervisor or Competent/Appointed Person, as applicable and based on scope.
 - (D) Not assigned to Site EHS personnel.
- (5) Personnel Conducting Work
 - (A) Be trained and understand hazards, control methods and emergency procedures.
 - (B) Help create, review, and sign ground disturbance permits.

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- (C) Ensure they are aware of and strictly follow the task work plan.
- (D) Verify that daily inspection has been completed and documented by the Competent person before entering excavation or trenches.
- (E) Do not enter excavation / trench if ground water is present.
- (F) Exercise stop work authority in the event of an unsafe condition being identified or a deviation from the agreed work plan.
- (6) Banks person/Spotter
 - (A) Assist the Qualified Equipment Operator when work is near underground or overhead utilities or obstructions.
 - (B) Watch for unsafe conditions and raise the alarm if such conditions occur.
 - (C) Required anytime using mechanical excavation of known live process, utility, electrical and fire water lines.

(c) Process

- (1) High Risk Activity (HRA) Forecasting and Planning
 - (A) All entities and contractors performing HRAs are required to develop and submit an HRA Management Plan. See SPS-100 HRA Management. As a defined HRA, those entities who conduct ground disturbance activities will establish provisions to conduct all ground disturbance activities safely and in accordance with the Safety Performance Specification, contractual EHS requirements, and applicable regulatory requirements. When ground disturbance work includes other high-risk activities (HRAs) (i.e., also a confined space) all applicable requirements and HRA controls and mitigations must be applied. The corresponding Site-Specific EHS plan shall include, at a minimum, the following elements:
 - (B) Scope, purpose, authorization, rules, and techniques to be utilized for the control of hazards associated with ground disturbance activities, and the means to enforce compliance
 - (C) Ground disturbance activities shall be conducted according to country, local, or authorities having jurisdiction laws and regulations.
 - (D) Identification of ground disturbance activities in the work scope and schedule
 - (E) Inclusion designs that include ground disturbance activities assessed for potential risks to personnel and the environment
 - (F) High-risk activity forecasting and planning
 - (G) The records and operation review process to be used to locate existing underground pipes, cables, vessels or any other existing utilities
 - (H) Utility locating methods and marking process (follow local regulations/procedures for color-codes)
 - (I) Procedures for digging around known and marked utilities and stop procedures for identified unknown utilities
 - (J) The process for tracking and updating as-builts and drawings / BIM models
 - (K) Requirements and the process to perform risk assessments for each ground disturbance activity
 - (L) A process to initiate a Ground Disturbance Permit
 - (M) Training and authorization requirements for those performing ground disturbance activities
 - (N) Protection of open excavations, regardless of depth
 - (O) Emergency plans, including rescue plans for cave-ins of excavation activities
 - (P) Detailed procedures as to how cave-in risks will be mitigated
 - (Q) All other related EHS procedures and regulatory requirements specific to ground disturbance activities
 - (R) Process for capturing lessons learned and best practices from ground disturbance activities
 - (S) Audits of Ground Disturbance permits
 - (T) Audits of ground disturbance activities
 - (U) Incident and investigation reports for all incidents involving ground disturbance activities, including near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity.
- (2) Ground Disturbance Program
 - (A) Establish a Ground Disturbance Program for personnel who conduct ground disturbance activities at the local Site that consists of Ground Disturbance Permit procedures, facility markings, line locating, inspections, and worker training. Ground disturbance includes, but are not limited to, excavating, digging, trenching, plowing, drilling, tunneling, auguring, shallow and

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deep pile foundations (drilling, auguring, driven, vibrating, etc.) blasting, hydro-excavating, probing or potholing, scraping and grading. The program must clearly outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazards associated with ground disturbance activities, and the means to enforce compliance. Ground disturbance work defined by this procedure, shall be conducted by permit only. The program shall also outline the means and methods that will be used to protect the general public while on or in the immediate vicinity of the Project/Site.

(B) When a live datacenter is present on a campus where construction could negatively impact operations as a result of a ground disturbance incident the following must be established prior to commencing ground disturbance activities:

- A contractor selection process must be established that includes written programs and positive, direct experience for performing ground disturbance activities around mission critical facilities.
- A Site-specific, mission critical training program for workers performing ground disturbance activities which qualifies them to perform mission critical work. This qualification program will be validated by knowledge and hands-on skills-based testing. Only qualified workers who successfully complete the exam will be allowed to perform ground disturbance activities on a campus where a live datacenter is present.

(C) Ground Disturbance Permit Procedure

- A Ground Disturbance Permit process shall be established which complies with the requirements of this SPS for all work Sites where ground disturbance activities are performed prior to any ground disturbance activities commencing on the Site. The process by which Ground Disturbance Permits will be issued on the Project shall include the following elements:
 - Identification of the Authorizing Authority, Issuing Authority, and Competent Persons, and their qualifications to execute these roles;
 - A requirement for the Performing Authority to submit Ground Disturbance Permit requests at least three days prior to beginning the work;
 - A requirement for the Performing Authority to obtain required approvals from the Issuing Authority and the Authorizing Authority prior to beginning any ground disturbance work;
 - Excavation Plot Plan Drawing indicating the location with exact measurements of all underground facilities and utilities.
 - Soil classification and protective systems.
 - A requirement for emergency and rescue plans, inclusive of emergency contact numbers;
 - A process that includes a High-Risk Activity (HRA) planning meeting at least three days prior to the commencement of ground disturbance activities;
 - A process to determine if additional work permits are required (e.g., confined space, hot work, energy isolation/LOTO). These should be identified on the Ground Disturbance Permit and the appropriate procedures shall be followed.
- Coordination of Ground Disturbance Permits may occur prior to the day of the work task; however, cannot be finalized until the day of task. Permits may be finalized, and work may commence only after the Authorizing Authority, Performing Authority, and the designated Competent Person have reviewed the required documentation, ensured a pre-task plan has been completed with the workers immediately prior to the task, and performed a field walkthrough of the work area to verify controls and equipment are in place.
- Completion of the Ground Disturbance Permit
 - Prior to permit completion, as part of a joint visual inspection, the Performing and Issuing Authorities shall ensure that affected equipment is appropriately de-isolated, reinstated for service and integrity tested. Drawings and BIM models shall be updated as necessary to reflect the installation, removal or change of any underground utility, vessel or other equipment.

(d) Planning

(1) Level 1 Planning (Pull Planning/Collaborative Planning)

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- (A) Establishes provisions to conduct all HRAs safely and in accordance with this SPS, local standards, and applicable regulatory requirements. All ground disturbance activities shall be identified and documented on the Project schedule. Update as-built drawings when the work/permit is completed. All new utilities markings, including temporary utilities, shall be marked/traced. This includes, but is not limited to:
 - (B) Flagging or staking
 - (C) Non-conductive trace wire
 - (D) Utility marker/sensor balls (or similar)
 - (E) New electrical utilities will be protected by colored concrete include tracing wire, sensor balls (or similar), or hung overhead (power pole)
- (2) Level 2 Planning
 - (A) Ground disturbance activities shall be reviewed/discussed during weekly and daily meetings (e.g., Look Ahead Meetings, Progress Meetings, HRA Meetings, morning briefings, etc.), as applicable and when the work may impact an operating datacenter. The meetings shall include, but are not limited to, the following:
 - (B) Area and utility markings (color coded per local procedures/regulations)
 - (C) Excavation area marked, color coded, or flagged with suitable materials/methods to withstand weather, traffic, etc.
 - (D) Understanding of the utilities verification process per the local procedures/requirements including:
 - (E) Using "as-built drawings, BIM drawings, locates, potholing and/or additional methods to identify all utilities w/in 50 feet / 15 meters from excavation area.
 - (F) Electrical utilities (including low voltage/fiberoptic) w/in 50 feet / 15 meters of excavation are to be de-energized and visually verified (potholing/hydro-excavation).
 - (G) Electrical utility (including low voltage/fiberoptic) w/in 50 feet / 15 meters of excavation area that cannot be de-energized will be completed by hand or hydro-excavated.
 - (H) If the above cannot be completed, the perimeter of the trench/excavation will be hydro-excavated to the greatest depth of the trench/excavation prior to using mechanical means.
 - (I) All excavations within eight (8) feet / 2.43 meters of any utility will be completed by hand or hydro-excavating.
 - (3) Ground disturbance packet is presented with Operator and includes requirements including, but not limited to, ground disturbance permit, drawings, locates, lay down areas, barricading requirements, etc.

(e) Excavations

- (1) All excavations must comply with local laws/requirements or regulations in the country that are equal or more stringent. The contractor is not permitted to handle any known or suspected contaminated soil except to the extent permitted under an agreed authorized work scope. All excavations require a Ground Disturbance Permit. Excavation area must be outlined, marked, color coded, or flagged
 - (A) All spoils, debris and equipment are to stay a minimum of 2 ft (0.6 m) from the edge of excavations.
 - (B) All excavations/trenches 4 ft (1.2 m) or more in depth must be properly shored, benched, shielded/trench box, or sloped as determined by soil type and the Competent Person.
 - (C) Excavations greater than 20ft (6.1 m) require an engineered design or a manufactured system that is engineered for the dimensions and soil type required for the excavation.
 - (D) All excavations/trenches 4 ft (1.2 m) or more in depth must be properly barricaded with rigid barricades a minimum of 2 ft (0.6 m) from the edge, or warning barricades a minimum of 6 ft (1.8 m) from the edge.
 - (E) All excavations/trenches require proper means of access and egress such that no worker is ever more than 25 ft (7.6 m) from an exit point.
 - (F) Worker egress locations, regardless of depth, shall be designed and constructed to prevent injuries associated with slips, trips, and falls.
 - (G) If it becomes necessary for workers to enter any excavation, regardless of depth, the atmosphere in the excavation must be taken into consideration and be evaluated by EHS Personnel or the Competent Person prior to anyone entering the excavation.

(f) Blasting

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- (1) A detailed justification for blasting activities shall be presented to Microsoft to validate why traditional methods are not suitable. Only licensed contractors and operatives shall be engaged in blasting activities along with all specific local legislative permissions and permits and in compliance with local laws/regulations (i.e., in the United States, OSHA 1926.900 (Subpart U Blasting and the Use of Explosives). The licensed contractor shall ensure the following, at a minimum:
 - (A) A qualified and experienced Blaster in Charge (BIC) is assigned with overall responsibility for the blasting operations.
 - (B) Notification to regulator/legislator (if required).
 - (C) No explosive materials are stored onsite overnight.
 - (D) A detailed blasting plan developed for all blasting works by suitably qualified persons. Blasting plans and procedures must incorporate all reasonable measures necessary to eliminate negative impacts on persons, property, neighbouring structures, and the environment. The blasting plan shall include at a minimum, but not limited to:
 - Justification for blasting and containing blast area(s) to as small an area as possible
 - Explosive material security and storage facilities
 - Explosive material quantity minimization
 - Explosive type and associated hazard controls
 - Blast energy levels and blast radii
 - Affected safe zones
 - Exclusion zone security
 - Warning signs and audible safety signals pre and post blast
 - Flying debris control measures (i.e., blasting mats)
 - Assessment of soil/rock conditions (i.e., frozen soil impacts)
 - Vibration and noise monitoring
 - Pre-blasting dilapidation report of potentially affected structures
 - Post blast inspection procedures and communication
 - Emergency and failed blast procedures
 - Explosive material disposal

(g) Tools

- (1) Ground Disturbance Training
 - (A) Contractors are required to administer their own training programs (including retraining requirements) that meet local procedures and local regulatory requirements. At a minimum, the training shall include the following elements for all ground disturbance equipment operators, spotters, helpers, etc. before doing any ground disturbance work.
 - Regulatory requirements
 - Site specific ground disturbance policies and procedures
 - Best practices
- (2) Inspections
 - (A) Daily inspections of excavations, adjacent areas, and protective systems shall be made by the Competent Person for evidence of possible cave-ins, failure of protective systems, or other hazardous conditions:
 - Prior to the start of work and as needed throughout the shift
 - After any change in environmental conditions that could create a hazard for exposed employees, such as after a rainstorm.
 - An inspection is valid for a maximum of twelve (12) hours. In addition, no inspection is valid for more than two (2) hours past the end of the standard shift.
 - All inspections shall be documented and retained.
 - (B) The ground disturbance permit shall be revoked and removed from the task location when conditions are identified that do not comply with the permit or when conditions in the excavation change such that work in the excavation is unsafe. The ground disturbance work activity cannot resume until the unsafe condition has been corrected and a new permit is issued.
- (3) Excavation Plot Plan drawing indicating the exact location, including dimensions, of all underground facilities and utilities shall be developed and made available for reference at the work Site. Ground Disturbance activities shall not proceed without an Excavation Plot Plan Drawing. The Excavation Plot Plan Drawing should be retained with the Ground Disturbance Permit.

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- (4) Facility Marking is required. All known pipelines and utilities, as noted on the Excavation Plot Plan Drawing in the dig zone and extends at least 50 ft (15.2 m) of the dig zone shall be located, identified, and marked using flags and/or ground paint to indicate location and alignment. All markings shall be in place (or replaced, as needed) prior to beginning permitted ground disturbance work.
- (5) Line Location is the responsibility of the Competent Person and is required to ensure that all underground hazards, e.g., pipelines, electric cables, etc., are identified, located and isolated. Underground utilities must be exposed by hand digging before using mechanical excavators. Line location methods include:
 - (A) Utility Line Locators
 - (B) Hydro-Excavation
 - (C) Potholing, probe, and Scrape – This method shall not be used to locate electrical lines, fiber optic lines, and/or cables.
 - (D) Ground Penetrating Radar
- (6) Records and Operation Review is to confirm that all available sources of information have been obtained and cross-referenced to ensure, as far as is reasonable and practical, the existence of all underground facilities and utilities is known and understood.

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DCX-SPS-105 **Driving & Off-Road Vehicles**

(a) Fundamentals

- (1) Alternative transportation means evaluated
- (2) Vehicle is maintained and inspected
- (3) Vehicle is suitable for the trip
- (4) Travel plan is prepared and understood by all
- (5) Driver is trained and has a valid driver license
- (6) Driver is mentally and physically fit
- (7) Driver is aware of local road rules and requirements
- (8) Any loads being transported are properly secured
- (9) No mobile devices are to be used while operating the vehicle
- (10) Seatbelts are worn

(b) People

- (1) Authorizing Authority
 - (A) Ensures the Driving Program is communicated and implemented within the scope of the respective Project/Site.
 - (B) Ensures that resources necessary to comply with this SPS are provided on the Project.
 - (C) Monitors driving operations to verify adherence to requirements and take effective action to correct non-compliance.
 - (D) Ensures that driving hazard analyses addresses hazards and controls for the activities, and all work complies with the requirements of applicable regulations and the SPS.
 - (E) Provides motor vehicle program orientation for Authorized Drivers.
- (2) Performing Authority
 - (A) Monitors and ensures that Authorized Drivers comply with the Driving Program.
 - (B) Ensures that a written Driving Program is always available at the work Site .
 - (C) Ensures all Authorized Drivers have the proper training and required license and/or documented authorization to comply with all locally applicable laws, regulations, and standards pertaining to this activity.
 - (D) Maintains records of required training for all Authorized Drivers and makes them immediately available.
 - (E) Determines the appropriate risk control measures to implement to eliminate or reduce hazards associated with Driving.
 - (F) Immediately notifies the Authorizing Authority of any incidents involving driving.
 - (G) Ensures an inspection and preventative maintenance program for motor vehicles is implemented.
- (3) Authorized Driver
 - (A) Individuals that maintain minimum driver qualifications and are authorized by the Performing Authority to operate motor vehicles for work-related activities.
 - (B) Maintains competency for safe driving practices and rules of the road.
 - (C) Maintains a valid driver's license.
 - (D) Knows existing and potential hazards of motor vehicles in which they are authorized to drive.
 - (E) Conducts pre-use inspection of motor vehicles.
 - (F) Follows the motor vehicles manufacturer's safe operating procedures and conducts all work in a safe manner.
 - (G) Report all incidents involving driving to the designated Performing Authority point of contact.
- (4) Spotter/Flagman
 - (A) Communicates with Authorized Drivers to provide safe direction during vehicle operations.
 - (B) Maintains visual (line-of-sight) contact with Authorized Drivers at all times.
 - (C) Ensures the immediate areas where motor vehicles are backing is cleared of pedestrian traffic and driving hazards.
- (5) All Site Personnel
 - (A) Has the training required to understand EHS responsibilities when working near motor vehicles.
 - (B) Has authority to stop work and take action if a potentially hazardous condition is identified.
 - (C) Report all incidents involving motor vehicles to their Supervisor/Foreman.

(c) Process

- (1) High Risk Activity Forecasting and Planning

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- (A) Develop a High-Risk Activity (HRA) Management Plan in accordance with SPS-100 HRA Management and the Global Construction Environmental, Health, and Safety Contract Requirements. At minimum, the following elements must be described in the Site-Specific EHS Plan:
- The identification of driving activities in the work scope and schedule;
 - The process to be used to track/update as-builts and temporary drawings / BIM models;
 - The process to perform risk assessments for driving activities;
 - Training and authorization requirements for those operate motor vehicles with associated verification process;
 - Emergency plans;
 - All other related EHS procedures and regulatory requirements specific to driving;
 - Process for capturing lessons learned and best practices;
 - Audits of Driving Program activities, including a written report to Microsoft;
 - A change management process to evaluate and mitigate changes associated with logistics, deliveries, and designs.
 - Incident and investigation reports for all incidents (including near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity of those incidents) involving motor vehicles.
- (2) Driving Program
- (A) Establish a Driving Program for personnel operating motor vehicles at the local Site that consists of motor vehicle use, authorized driver qualifications, safe work procedures and practices, vehicle hazard analysis, worker training, and a preventative maintenance program. It must clearly outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazards associated with driving, and the means to enforce compliance. The program shall also outline the means and methods that will be used to protect the general public while on or in the immediate vicinity of the Project/Site. Additional requirements must be outlined for cargo vans, off-road vehicles, golf carts, lift gates, buses, fuel transport vehicles, or other specialty motor vehicles are used. All motor vehicles within the Driving Program shall have the appropriate registration and insurance coverage in place prior to driving.
- (3) Motor Vehicle Design, Construction, and Use
- (A) Motor vehicles shall be designed, constructed, and maintained in accordance with the manufacturer's requirements and applicable standards. Manufacturer's equipment (including standard safety equipment such as reversing alarms, seat belts, warning horns, etc.) shall not be modified or removed without written approval by the manufacturer. Motor vehicles used in support of work activities, whether personal or company owned/leased, within any Project shall complete regular maintenance inspections, be maintained in safe working conditions, and shall be visually inspected before use with any defects being reported immediately to the Performing Authority for correction. Modifications to company owned or leased vehicles (e.g., trailer hitches, electronic devices, etc.) shall not be permitted unless approved by the Authorizing Authority. Motor vehicles shall only be driven for their intended purpose. Motor vehicles shall be equipped with amber strobe lights and used whenever the motor vehicle is in use. All off-road vehicles on the construction Site must, at a minimum, have a backup alarm, visual indicator (flag and amber strobe lights), ROPS, seatbelts for all occupants, head and taillights, and other features highlighted in the ORV section.
- (4) Authorized Driver Qualifications
- (A) Personnel who operate motor vehicles for work-related activities must maintain minimum driver qualifications and must receive authorization to operate motor vehicles for work-related purposes. Minimum driver qualifications shall include the following:
- Valid driver's license for the class of vehicle they will operate for company business;
 - Auto insurance;
 - Acceptable motor vehicle record;
 - Mentally and physically fit to operate vehicles/equipment;
 - Company-required driver training requirements
- (5) Safe Work Procedures and Practices
- (A) Safe work procedures shall be established for driving and shall be applied to personal vehicles used for business purposes, company owned or leased vehicles, rental vehicles, and any off-road or utility vehicle. Authorized drivers shall abide by all federal, state, and local motor vehicle regulations, laws, and ordinances at all times while operating a motor vehicle on company

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business. Seatbelts must be worn by all occupants any time a vehicle is in motion. Use of mobile technology, including hands free, is prohibited while operating a vehicle in the worker parking area or on the construction Site.

- (6) Preventative Maintenance Program
 - (A) For company owned and leased vehicles, a motor vehicle preventative maintenance program shall be established in accordance with applicable legislation, standards, and manufacturer's specifications. Motor vehicles should be on a routine preventative maintenance schedule for servicing and inspecting safety related equipment. Regular maintenance should be completed at specific mileage intervals consistent with manufacturer recommendations for the vehicle. A mechanic should conduct a thorough inspection of the motor vehicle at least annually and document the results of the inspection. Personal vehicles used for business purposes should be maintained in safe working condition.
- (7) Parking
 - (A) A designated worker parking area with appropriate Site lighting and walking paths shall be established and maintained. Reverse parking of vehicles is required and walking paths and surfaces must be maintained to avoid slips, trips, and falls during all weather conditions. Designated parking areas will also be established and adjusted as necessary on the construction Site to avoid struck by and caught in between hazards. Reverse parking is also required on the construction Site.
 - (B) The Authorizing Authority will establish a permit process indicating approval by acquiring a list of vehicles and purpose of the company vehicle entering onsite to limit and control the number of company vehicles that are allowed onsite. Only vehicles used to perform a specific task are authorized access onsite. The permit shall be developed by the Contractor.
- (8) Off-Road Vehicles (ORVs)
 - (A) ORVs shall be made readily visible with amber strobe lights and tall warning flags and equipped with seatbelts and used by all occupants, rearview and sideview mirrors, top cover for rollover protection systems or ROPS, accelerator governors,, head and taillights, horn, and movement alarms.
 - (B) Doors, hard or soft, should be provided where feasible and reasonable.
 - (C) All workers using ORVs shall receive adequate training for operation on the Site.
 - (D) ORVs include all-terrain vehicles (ATVs), utility vehicles, and mini trucks.
 - (E) Windows shall be kept clean and free of obstructions.
 - (F) ORVs shall be considered only for functional purposes supporting construction activities and limited for use. Contractors shall consider alternative transportation needs for the Sites.

(d) Tools

- (1) Equipment Movement Plan is the internal traffic control plan within the Project/Site where there are multiple contractor Projects at one time and documents the movement and coordination of vehicles between the Authorized Drivers. Traffic control designs shall include and are not limited to the following:
 - (A) Entrances and Exits – provide separate entry and exit gateways for vehicles and pedestrians;
 - (B) Walkways – provide rigid, level, well-drained segregated pedestrian walkways that take a direct route where possible;
 - (C) Crossings – where vehicle routes cross pedestrian walkways, provide visible pedestrian crossing sign and crossing point where Authorized Drivers and pedestrians can see each other clearly;
 - (D) Obstructions – do not block the clear line of sight for vehicle routes and pedestrian walkways;
 - (E) Barriers – install rigid barriers between the vehicle routes and pedestrian walkways.
- (2) Traffic Control Signs for information, speed limits, and work zones shall be posted to assist the Authorized Drivers and Site Personnel in identifying designated vehicle traffic zones.
- (3) Motor Vehicle Inspection Form shall be completed daily by Authorized Drivers prior to the operation of the motor vehicle to verify that the vehicle is in proper working order. Vehicles deemed unsafe shall be removed from service immediately.

HIGH RISK ACTIVITY (HRA) MANAGEMENT
SAFETY PERFORMANCE SPECIFICATIONS

DCX-SPS-106 **Material Handling**

(a) Fundamentals

- (1) A Material Handling Coordinator has been assigned
- (2) Equipment has been inspected and tagged
- (3) Risk assessment conducted by a Competent Person
- (4) Loads are adequately supported and secured
- (5) Operator has been trained on equipment and attachments
- (6) Equipment is appropriate for task
- (7) Travel paths and offloading areas / methods have been reviewed
- (8) Seatbelts are worn

(b) People

- (1) Authorizing Authority
 - (A) Ensures the Material Handling Program is communicated and implemented within the scope of the respective Project/Site.
 - (B) Ensure resources necessary to comply with this SPS are provided on the Project.
- (2) Material Handling Coordinator (or similar collateral duty role)
 - (A) The Contractor determines the competency and capabilities of the Material Handling Coordinator.
 - (B) Monitors material handling activities to verify adherence to material handling requirements and take effective action to correct non-compliance.
 - (C) Ensures that hazard analyses address hazards and controls for the activities to be conducted, and all work complies with the requirements of applicable regulations and the SPS.
 - (D) Determine if safe work permits are required depending on the scope of work (e.g., hot work, confined space, energy isolation/LOTO).
 - (E) Ensure material handling equipment is inspected and maintained by properly trained and qualified workers.
- (3) Performing Authority
 - (A) Ensure that a written material handling program is always available at the work Site when material handling activities are being performed. The plan should consider loading and unloading procedures, material handling of objects, travel path, load geometry (center of gravity, dimensions, etc.), method of securing, and training of personnel. Appoint a dedicated logistics professional to manage all logistic activities on the Project.
 - (B) Ensure that a written Site-specific emergency rescue plan is always available at the work Site when material handling activities are being performed.
 - (C) Conduct an initial survey of the Project to identify material handling hazards.
 - (D) Ensure material handling equipment operators are properly trained to perform material handling work activities prior to the assignment.
 - (E) Ensure material handling equipment operators conduct a hazard analysis prior to operating material handling equipment.
 - (F) Confirm material handling operators conducting the hazard analysis implement the controls required to address all hazards noted on a completed Hazard Analysis Form.
 - (G) Evaluate transporting load conditions and develop action that limits the length of travel for a material handling equipment to carry a load, in either reverse or forward. These limits shall be based on load security, weather conditions, terrain, and other impactful criteria. Consider alternative means when those conditions are present.
 - (H) Ensure all loads are positively secured or exclusion zones are setup to ensure safe movement of loads.
 - (I) Ensure taglines or other devices like push/pull sticks are used to minimize contact with the loads while handled on equipment.
 - (J) Continuously monitor all work areas for hazardous conditions and eliminate any hazards identified.
 - (K) Establish an Equipment Movement Plan according to the Mobile Equipment Section of this HRA SPS.
 - (L) Immediately notify the Authorizing Authority of any material handling incidents.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (M) Maintain records of required training for all workers involved with material handling activities and make them immediately available to the Authorizing Authority and to regulatory agencies upon request.
- (4) Material Handling Equipment Operator
- (A) Be licensed and trained for the appropriate class of equipment being operated. A valid license must be available upon request.
 - (B) Know existing and potential hazards of material handling operations.
 - (C) Conduct pre-use inspection of the material handling equipment prior to each use.
 - (D) Conduct a hazard analysis prior to initial equipment operations.
 - (E) Follow the equipment manufacturer's safe operating procedures and conducts all work in a safe manner.
 - (F) Communicate with signalperson/spotter/banksperson.
 - (G) Only deviate from the direction of the signalperson/spotter/banksperson if an impending hazardous condition occurs.
 - (H) Immediately report incidents to the Performing Authority, no matter how minor.
 - (I) Submit incidents reports to the Performing Authority for any accident, no matter how minor.
- (5) Signalperson/Spotter/Banksperson
- (A) Assist the qualified material handling equipment operator during material handling activities and backup operations.
 - (B) Use proper signals and maintain visual contact with material handling equipment operator.
 - (C) Watch for unsafe conditions and raise the alarm if such conditions occur.
 - (D) Ensure the immediate area where material handling equipment is traveling is cleared of pedestrian traffic.
 - (E) Never cross the path of moving material handling equipment.
- (6) Other Site Personnel
- (A) Be trained, understand hazards, and pedestrian safety responsibilities when crossing or working near traffic zones.
 - (B) Have the authority to stop work and act if a potentially hazardous condition is identified.
 - (C) Must not approach any material handling equipment in motion.
 - (D) Must make eye contact with material handling equipment operators when crossing traffic zones.

(c) Process

- (1) High Risk Activity (HRA) Forecasting and Planning
- (A) Develop a High-Risk Activity (HRA) Management Plan in accordance with SPS-100 HRA Management and the Global Construction Environmental, Health, and Safety Contract Requirements. At a minimum, the following elements shall be described in the Site-Specific EHS Plan:
- Identification of material handling activities in the work scope and schedule;
 - The process to be used to track licensed material handling equipment operators;
 - Requirements and the process to perform risk assessments for each material handling activity;
 - The process for loading and unloading materials delivered or leaving the worksite and additional handling while on the Site.
 - Develop procedures to ensure safe coordination of all deliveries through a designated area.
 - Develop procedures that include load inspection prior to loading or unloading.
 - Develop procedures that include exclusion zones during loading or unloading to protect blindspots for unauthorized personnel.
 - Fall protection is required above 6ft (1.8m) or lower based on country or local laws
 - The process to perform material handling equipment inspections;
 - The process to evaluate applicable safe work permits for activities involving material handling;
 - The process for tracking and updating layout drawings / BIM models for HRA management;
 - Training and authorization requirements for those performing material handling activities;
 - Emergency plans, including rescue plans for material handling activities and detailed procedures as to how rescue services will be summoned;
 - All other related EHS procedures and regulatory requirements specific to material handling activities;

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- Process for capturing lessons learned and best practices from material handling activities;
 - Audits of material handling activities at least monthly using the Owner's tool;
 - Change management process to evaluate impacts to material handling and designs; and
 - Incident and investigation reports for all incidents involving material handling activities, including near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity.
- (2) Equipment Design and Construction
- (A) Material handling equipment shall be designed, constructed, and maintained in accordance with the manufacturer's requirements and applicable local standards. All material handling equipment shall have a means to secure the material while the equipment is traveling or lifting to prevent materials from being damaged or falling and injuring a worker. Material handling attachments are only allowed to be installed and used with manufacturer's approval and guidelines. Load charts that include capacities for attachments must be kept with the equipment. No worker will use material handling equipment or aides without the proper training and has demonstrated their competency.
- (3) Safe Work Procedures for Mechanical Material Handling Equipment
- (A) Safe work procedures shall be established for each type of material handling equipment or aide that is used at the workplace. The type of material handling equipment or aide used shall be dependent on the activity and shall be determined by the Material Handling Coordinator. Capacity, maneuvering ability, size and dimensions, and environmental terrain (i.e., slopes) are some items that should be considered when determining the right material handling equipment or aide for the activity. Depending on what type of material handling equipment or aide is used, permits such as a Lift Permit may be applicable. Material handling equipment operators shall be trained on the specific equipment in which they are authorized to operate. Where required, authorized operators shall have the appropriate license and/or certification to operate the equipment.
- (B) In addition, safe work procedures for operating material handling equipment and aides should include, but not limited to:
- Requirements for seating and operator restraints;
 - Equipment speed limits;
 - Minimum safe distances from edges;
 - Equipment load limits;
 - Traveling with loads;
 - Care of unattended equipment;
 - Entering and exiting equipment;
 - Rigging and hoisting;
 - When the use of Signal Person/Spotter/Banksperson is required
 - Requirements when backing;
 - Requirements when crossing pedestrian walkways;
 - Refueling/recharging procedures;
 - Parking requirements.
- (C) The Material Handling Coordinator and Performing Authority will ensure a task specific move plan is developed for equipment deployed into and supporting the datacenter operation. Equipment that poses a risk of worker being crushed, of high value or that, if damaged, could result in a schedule delay, will be classified as Critical Material Handling deployment and must be reviewed by affected parties in a dedicated HRA Planning meeting. All equipment should be secured to prevent falling unless the attachment is designed by the manufacturer to be securely moved by its design. The use of pallet jacks should be considered the last option and limited to moving low center of gravity and lower value materials.
- (D) When a Spotter/Banksperson is utilized, the Signal Spotter/Banksperson shall be stationed in full view of the mobile equipment operator with a full view of the intended path of travel for the mobile equipment and clear of the intended path of travel.
- (4) Inspection and Maintenance of Material Handling Equipment and Aides
- (A) All material handling equipment must be inspected prior to use and properly maintained. Any damaged or defective material handling equipment must be reported and taken out of service. All material handling equipment must be used in a safe manner and in accordance with the manufacturer requirements. The use of material handling equipment that have had major modifications, structural changes, and attachments to material handling equipment that affect

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

the capacity and safe handling of material is not permitted without prior written approval from the manufacturer.

(5) Material Storage

- (A) Contractors shall consider a “nothing touches the ground” approach to material storage. This approach ensures materials are maintained on carts, dollies, racks, shelves, or pallets for safer material handling. Materials storage areas shall be part of the Site Logistics EHS Plan and shall not create a hazard. Materials shall be stored in a manner to prevent sliding, collapsing, tipping, rolling, or spreading. Storage areas shall be free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage. Water, dust, and vegetation control will be exercised as necessary. Noncompatible materials shall be segregated in storage. Maximum safe loads on floors are not to be exceeded.
- (B) Maximum safe load limits of shelves used for material storage, and of floors within buildings, shall be conspicuously posted, except for floor or slab on grade.
- (C) Specific storage criteria are applicable to the following and should comply with local regulations:
 - Masonry Material
 - Lumber Materials
 - Flammable and Combustible Materials

(d) Tools

- (1) Barricades will be used to segregate people and equipment, and to restrict access to overhead work zones and hazardous work areas. Substantial roadway barricade systems, such as concrete barriers, sand-filled or water-filled barricades, should be used to designate and protect personnel at designated walkways. Where rigid barricades are required, they shall be capable of withstanding lateral forces (downward and outward) of 200 lbs. (90.7 kg) or greater.
- (2) Critical Material Handling Plan will be developed for any equipment deployment that poses a risk of a worker being crushed, movement of equipment of high value, or if an incident occurred resulting in property damage could delay the Project schedule. Follow the same criteria and use a Lift Permit for the critical material handling plan. The elements required in the Lift Permit shall be followed where applicable to the activity.
- (3) Fall Protection may be required for some material handling activities. Before beginning any work with a fall exposure, the Performing Authority shall have a written Fall Protection Plan written by a Competent Person. All workers who work at heights shall be protected at all time times using a fall protection guard rail system, or a fall arrest or a fall protection device/system with full body harnesses and shock-absorbing lanyards or self-retracting lanyards. Special planning is required to eliminate potential fall exposures related to work at heights above 6ft (1.8m) or as otherwise provided for in country or local regulations for material handling tasks such as loading or unloading. For more information regarding fall protection, refer to the Work at Heights SPS.
- (4) Hazard Analysis Forms shall be completed prior to any material handling tasks to ensure hazards have been identified and mitigation controls have been implemented.
- (5) Inspection Forms shall be completed prior to the use of any material handling equipment to verify equipment are in proper working order. Damaged or defective material handling equipment shall be removed from service immediately.
- (6) Site Logistics EHS Plan addresses logistical risks associated with material handling, including personnel and material handling equipment movement, designated staging areas for materials, and pathway restrictions (e.g., narrow paths, low overhead areas, etc.).

HIGH RISK ACTIVITY (HRA) MANAGEMENT
SAFETY PERFORMANCE SPECIFICATIONS

DCX-SPS-107 **Energy Isolation**

(a) Fundamentals

- (1) Risk assessment conducted by competent person
- (2) All sources of energy have been identified including type of energy, magnitude and applicable equipment or systems
- (3) Isolation plan is reviewed and permits issued
- (4) Isolation points are clearly identified & controlled by lock and tag
- (5) Test is performed to verify zero energy state achieved
- (6) Communication has occurred amongst all crew in the area
- (7) Verification of de-energization if isolation was performed by another party
- (8) Energy Isolation Register completed and available to track all isolations at the work Site

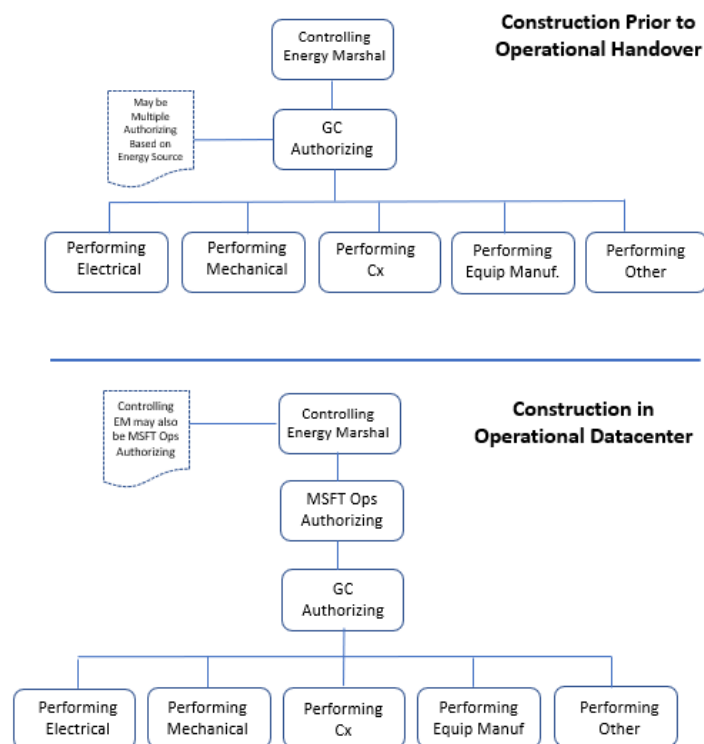
(b) People

- (1) Controlling Energy Marshal
 - (A) A third-party professional appointed by Microsoft who oversees and assures the Authorizing Energy Marshal and any supplemental vendor support complies with the overall Energy Isolation Program Management on a datacenter construction campus. The Operations appointed Controlling Energy Marshal can act in an Authorizing Energy Marshal role and is accountable for the implementation of all forms of Energy Isolation.
- (2) Authorizing Energy Marshal
 - (A) An individual who authorizes Energy Isolation tasks on behalf of and under the supervision of, the Controlling Energy Marshal.
 - Ensures program requirements, contract terms and conditions, and applicable regulatory requirements are followed.
 - Provides authorization and approval of Energy Isolation Work Permits to the Performing Energy Isolation Coordinator.
 - For Construction – the General Contractor (GC) appoints
 - For Datacenter Operations –the Datacenter Operations Manager (DCOM) appoints
- (3) Performing Energy Isolation Coordinator
 - (A) Individuals who manage and/or perform the isolation process of stored energy for those directly performing the work.
 - Ensures a Hazardous Energy (Level 2) risk assessment to identify exposures to workers is conducted,
 - Obtains Energy Isolation Authorization Work Permits from the Authorizing Energy Marshal when conducting any work which requires the isolation of hazardous energized equipment.
 - Ensures the development and implementation of a written equipment-specific energy isolation procedure for all individual units of energized equipment that will be de-energized.
 - Ensures the Authorized Person completes a qualification training process and is authorized by their employer to conduct energy isolation procedures.
 - Conducts a meeting with all workers involved with the energy isolation process to discuss the Level 2 activity risk assessment and equipment specific energy isolation procedure.
 - Ensures adequate information, instruction and competent supervision is available for the Authorized Person during energy isolating procedures.
 - Ensures sufficient energy isolating equipment and correct personal protective equipment are provided.
 - Ensures every individual performing work that could be exposed to hazardous energy is protected by their own uniquely- keyed personal lock and tag.
 - Ensures the training of Affected (Unauthorized) Persons to ensure a basic understanding of the dangers associated with hazardous energy and the importance of not tampering with energy isolation devices.
 - Ensures that the required periodic inspections and audits of the implementation and effectiveness of the local energy isolation program are conducted.
 - Ensures the energy isolation (LOTO) register is documented and available for tracking all energy isolations at the work Site.
- (4) Authorized Person
 - (A) Obtains a copy of the Energy Isolation Work Permit from the Performing Energy Isolation Coordinator when conducting any work which requires energy isolation.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (B) Notifies all Affected Personnel of energy isolation procedure prior to work commencing.
 - (C) Confirms and uses the written Equipment-Specific Energy Isolation Procedure provided by the Performing Energy Isolation Coordinator for isolating all power sources and for the placement, testing of zero-energy state, and removal of energy isolation devices.
 - (D) Logs each energy isolation procedure with the identity of the equipment, person performing the procedure, date and time the energy isolation is installed or removed, and equipment is re-energized.
- (5) Affected (Unauthorized) Persons
- (A) Shall understand the dangers of hazardous energy, recognize and not tamper with energy isolation devices, and not enter restricted access zones without approval of the Authorizing Energy Marshal. This level of training shall be provided to all personnel onsite by the respective Performing Energy Isolation Coordinators.



(c) Process

- (1) High Risk Activity Forecasting and Planning
- (A) Develop a High Risk Activity (HRA) Management Plan in accordance with SPS-100 HRA Management and the Global Construction Environmental, Health, and Safety Contract Requirements. At a minimum, the following elements must be described in the Site-Specific EHS Plan:
 - The identification of energy isolation activities in the work scope and schedule;
 - The process to be used to identify energy sources or utilities;
 - The process to be used to track/update as-built and temporary power drawings/BIM models;
 - The process to perform risk assessments for energy isolation activities;
 - A process for issuing energy isolation permits;
 - Training and authorization requirements for those performing energy isolation activities;
 - Protection of work areas, Lockout/Tagout (LOTO) and personal protective equipment;
 - Emergency plans;
 - Detailed procedures as to how multiple energy sources will be safely mitigated and regulatory requirements specific to energy isolation activities will be met;
 - Process for capturing lessons learned and best practices;
 - Energy Isolation Permit audits (at least monthly) and audits of energy isolation program activities;

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- Incident and investigation reports for all incidents (include near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity of those incidents) involving energy isolation activities.
 - (B) Three levels of risk assessments with corresponding forecasting and collaborative planning meetings will be completed prior to the execution of any High Risk Activity. Figure 1.1 outlines a typical process workflow that the Authorizing Energy Marshal should align their own energy isolation planning meeting to ensure coordination with all affected parties.
- (2) Energy Isolation
- (A) Establish an Energy Isolation Program at the local Site that consists of energy control procedures, worker training, program audits, and periodic inspections. It must clearly outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy, and the means to enforce compliance including: specific procedural steps for shutting down, isolating, blocking and securing machines or equipment to control hazardous energy; placement, removal and transfer of lockout devices or tagout devices and responsibility for them; specific requirements for testing equipment to determine and verify the effectiveness of lockout/tagout devices, and other energy control measures. The program must address all forms of hazardous energy and both permanent and temporary installations. Energy Isolation must be implemented for all systems and equipment capable of being energized or otherwise storing hazardous energy.
 - (B) Each Authorized Person must place their own individual, differently keyed, locks and tags on systems and/or equipment to control all hazardous energy sources. Personal verification of energy isolation shall be conducted by the Authorized Person prior to starting work. Verification must include, at a minimum, the placement of LOTO locks and tags at each source and confirming zero energy state.
 - (C) Group lockout/tagout devices must be used when group energy isolation work is performed by different companies, crafts, departments or groups, and they are operating on the same piece of equipment, or where energy isolation or de-isolation from one job may affect the safety of another. A documented Energy Isolation Plan shall be developed jointly by all Performing Energy Isolation Coordinators and reviewed and approved by the Authorizing Energy Marshal.
 - (D) A centralized LOTO location will be established and managed by the Energy Isolation Coordinator where all LOTO locks and tags are issued. Drawings depicting the applicable systems and most current energized state are to be posted at the centralized location and updated on a daily basis, at a minimum. A documented and up to date energy isolation (LOTO) register is required for tracking all energy isolations at the work Site.
 - (E) Removal of each lockout or tagout device shall be done by the Authorized Person who applied the device. The Energy Isolation Program must include specific procedures for the removal of any energy isolation device by any party other than the Authorized Person and only for extenuating or safety-critical situations when the Authorized Person is not available. A removal procedure must be developed and approved by the Controlling Energy Marshal, Authorizing Energy Marshal, Energy Isolation Coordinator and the Authorizing Authority EHS Manager.
 - (F) Restoring equipment and systems to service shall be done only after the Authorized Person has inspected the work area to ensure that: non-essential items have been removed; equipment components are operationally intact; all workers have been safely positioned or removed; all guards and safety devices have been replaced and verified; and all personnel have been notified that systems are going to be restored to operational status.
 - (G) Visual indicators, as shown in Figure 1.2, will be used to indicate equipment that is within the scope of work for tasks associated with energy isolation. The associated work permit number will be notated on the indicator to provide additional clarity.
- (3) Foreign Object and Debris (FOD)
- (A) Develop a Site-specific program to control the hazards associated with foreign objects and debris left behind during the installation, maintenance, and testing of equipment that could result in injury or property damage during energization of equipment or systems. FOD programs are to include specific criteria for ongoing prevention strategies, training, inspections and a means to ensure access into equipment is controlled and the integrity of completed inspections is maintained.

(d) Tools

HIGH RISK ACTIVITY (HRA) MANAGEMENT


SAFETY PERFORMANCE SPECIFICATIONS

- (1) Lockout/Tagout (LOTO) devices must be singularly identified; be the only device(s) used for controlling hazardous energy; not be used for other purposes; and be accompanied by a tag depicting individual name and contact number. The devices must be able to withstand the environment to which they are exposed, be standardized within the Energy Isolation Program; be substantial enough to prevent removal without the use of excessive force or unusual techniques and prevent inadvertent or accidental removal and indicate the identity of the employee applying the device(s).
- (2) Note: Only if the energy isolating devices are not lockable, tagout may be used if approved by the Controlling and Authorizing Energy Marshals.
- (3) Personal locks must be red in color, uniquely keyed and be accompanied by a tag depicting individual name and contact number.
- (4) Control locks which are used to control the unintentional activation of equipment or a system, are typically used to protect the equipment or a system from damage and could have a limited, but multiple keys, maintained by authorized personnel. Control locks should not be colored the same as lockout/tagout devices (red) for individual protection.
- (5) Group lockout devices must be used when work is performed by different companies, crafts, departments or groups that are operating on the same piece of equipment or where energy isolation or de-isolation from one job may effect the safety of another.
- (6) Lock boxes shall be used for group energy isolation when the number of workers exceed the capacity of multi-lockout devices. All locks used for Energy Isolation will be uniquely keyed. The ONE key used to control the hazardous energy will be locked inside the lockbox. Each person performing work on the equipment or in the system will apply their individual, unique lock onto the outside of the lockbox and retain their individual key. Access to the ONE key must not be allowed until all workers performing work have removed their own personal locks. Specific procedures must be developed for use during shift or personnel changes to ensure the continuity of lockout or tagout protection, including provision for the orderly transfer of lockout or tagout devices between outgoing and incoming employees.
- (7) Locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners and other hardware will be provided by the performing authority company for isolating, securing or blocking of equipment from hazardous energy sources.
- (8) Visual indicators, shown in Figure 1.2 below, are intended to provide visual notification that equipment is within the scope of a worker's scheduled task and provided an additional verification that the defined energy isolation steps have been achieved prior to conducting work. To drive consistency across Microsoft datacenter campuses the following specification must be used in the creation of the indicators:
 - (A) Size: 5x8 inches (or comparable for campuses located outside of U.S.)
 - (B) Material: Dry-erase, magnetic for electrical equipment. Tags with means of attachment as specified under LOTO devices.
 - (C) Color: Green as shown for construction.
 - (D) Labeling: As shown. Translated as needed.
- (9) Electrical Energy Isolation Template below; use respective templates for other hazardous energy types (e.g., pneumatic, hydraulic, etc.).

**HIGH RISK ACTIVITY (HRA) MANAGEMENT
SAFETY PERFORMANCE SPECIFICATIONS**

For use in Construction space

NOTICE



This equipment has been identified as part of an energy isolation procedure.

Work Permit Number		
Verification and Signature Required (Prior to working in this de-energized equipment)	Source Equipment/Voltage	Authorized Person(s) Signature
Primary power source to this equipment has been verified and locked out		
Secondary power source (if applicable) to this equipment has been verified and locked out		
DC / Control power source (if applicable) to this equipment has been verified and locked out		
Performing Energy Isolation Coordinator Printed Name	Today's Date	Time
Contact phone number		
Authorized Person(s) Signature		

For use in Construction space

Figure 2: Visual Indicator for Electrical Energy Isolation

DCX-SPS-108 Confined Spaces

(a) Fundamentals

- (1) Energy Isolation is implemented and verified by supervisors as required
- (2) Standby attendant assigned to task
- (3) Adequate communication is established
- (4) Risk assessment conducted by Competent Person
- (5) Atmosphere testing equipment is in place & calibrated
- (6) Rescue plan has been established and is executable
- (7) Confined space entry permit is issued

(b) People

- (1) Authorizing Authority

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (A) Ensures the Confined Spaces Program is communicated and implemented within the scope of the respective Project/Site.
 - (B) Ensures that resources necessary to comply with this SPS are provided on the Project and provides authorization and approval for confined space work activities.
 - (C) Ensures that confined spaces are evaluated by properly trained and qualified personnel and that the Confined Space Entry Permit addresses the hazards and controls for the planned work activities within the confined space where applicable.
 - (D) Ensures that work complies with the requirements of the Confined Space Entry Permit procedure where applicable.
 - (E) Monitors confined space activities to verify adherence to requirements and take effective action to correct non-compliance.
 - (F) Determines if additional safe work permits are required depending on work (e.g., hot work, energy isolation/LOTO).
- (2) Performing Authority (Confined Space Entry Supervisor)
- (A) Shall have a written Confined Space Program, including Emergency Response, Evacuation, and Rescue Plan, that meets the requirements of this SPS and local regulations and is always available at the work Site when confined space activities are being performed.
 - (B) Classifies confined spaces based on the conditions and hazards present.
 - (C) Determines acceptable entry conditions for confined space entry, authorizes and oversees entry operations, and terminates an entry when required.
 - (D) Confirms hazard controls have been implemented prior to entry.
 - (E) Shall have a written Site-Specific Emergency Response, Evacuation, and Rescue Plan in place, meets all local regulatory requirements, and available at the work Site at all times when confined space activities are being performed.
 - (F) Confirms that rescue services are available prior to and throughout the entry. If a permit required confined space entry occurs, rescue team must be located at the entrance of the space for the duration of the entry.
 - (G) Ensures the Confined Space Entry Team are properly trained.
 - (H) Maintain training records for all Site personnel that perform confined space activities and makes them immediately available to the Authorizing Authority and/or regulatory agencies upon request.
- (3) Authorized Attendant
- (A) An individual assigned to monitor confined space work activities, provide support or react as required for the safety of the Authorized Entrant(s), and know existing and potential hazards, including information on the mode of exposure, signs or symptoms, consequences and exposure effects.
 - Always remains outside the Permit Required Confined Space during entry operations unless relieved by another Authorized Attendant.
 - Maintains communication with and keeps an accurate written account of those workers entering the Permit Required Confined Space by use of the Confined Space Entry Sign-in Sign-Out Log.
 - Ensures the log and permit are posted outside the confined space while work is underway and then filed in the Project office and available for review upon request.
 - Constantly monitors conditions in the confined space and maintains contact with authorized entrants.
 - Stop work and remove Entrant(s) from Confined Space until the proper corrective measures to eliminate the hazards have been implemented.
 - Perform non-entry rescues if properly trained and when specified by the Emergency Response, Evacuation and Rescue Plan;
 - Orders evacuation of the Permit Required Confined Space when required and summon rescue and other services during an emergency.
 - Performs no other duties beyond Authorized Attendant duties.
- (4) Authorized Entrant
- (A) An individual who enters a confined space to perform an assigned task and knows confined space hazards, including information on the means of exposure such as inhalation or skin absorption, signs of symptoms and consequences of exposures.
 - (B) Use appropriate personal protective equipment properly.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (C) Maintain communication with Attendant(s) as necessary to enable them to monitor the Entrant's status and alert the Entrant(s) to evacuate if necessary.
 - (D) Exit from the Permit Required Confined Space when directed or when unplanned hazards are recognized.
 - (E) Alert the Attendant when a prohibited condition exists or when warning signs or symptoms of exposure exist.
 - (5) Qualified Person
 - (A) An individual who is trained and authorized by the Performing Authority, and has the education, experience and knowledge of the operation to be performed, and is competent to judge the hazards involved and specify controls and/or protective measures.
 - Conducts confined space survey and compiles confined space inventory.
 - Determines the need for periodic identification and re-evaluation of the hazards based on possible changes in activities in the confined space, or other physical or environmental conditions, or both, which could adversely affect the space.
 - Specifies what conditions and precautions shall be in place to allow for safe entry and what would constitute a change in conditions which would require a re-evaluation of the confined space.
 - Determines the number of attendants needed based upon the staffing needed to safely carry out confined space entry operations.
 - (6) Other Site Personnel
 - (A) Has the training required to understand EHS responsibilities when working near confined spaces.
 - (B) Has authority to stop work and take action if a potentially hazardous condition is identified.
 - (C) Report all incidents involving confined spaces to the Performing Authority.
- (c) Process
- (1) High Risk Activity Forecasting and Planning
 - (A) Develop a High-Risk Activity (HRA) Management Plan in accordance with SPS-100 HRA Management and the Global Construction Environmental, Health, and Safety Contract Requirements. At minimum, the following elements must be described in the Site-Specific EHS Plan:
 - The identification of confined space activities in the work scope and schedule;
 - The process to be used to track/update as-builts and temporary drawings / BIM models;
 - Confined space inventory;
 - The process to perform risk assessments for confined space activities;
 - The process to initiate a Confined Space Entry Permit where applicable;
 - The process for confined space entry with Authorized Entrant(s) and Authorized Attendant(s);
 - Training and authorization requirements for those who perform confined space work with associated verification process;
 - Site-Specific Emergency Response, Evacuation, and Rescue Plan;
 - All other related EHS procedures, safe work permits, and regulatory requirements specific to confined spaces;
 - Process for capturing lessons learned and best practices;
 - Audits of Confined Spaces Program activities monthly using the Owner's tool;
 - Change management process to evaluate impacts to confined spaces and designs;
 - Incident and investigation reports for all incidents (including near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity of those incidents) involving work in confined spaces.
 - (2) Confined Space Program
 - (A) Establish a Confined Spaces Program for personnel who conduct work in confined spaces at the local Site that consists of confined space design and configuration, confined space classification, confined space survey and inventory, hazard analysis, confined space entry permit procedures, atmospheric testing, worker training, personal protective equipment selection, and emergency response and rescue procedures. It must clearly outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazards associated with confined spaces, and the means to enforce compliance. The program shall also outline the means and methods that will be used to protect the general public while on or in the immediate vicinity of the Project/Site.

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- (3) Confined Space Design and Configuration
- (A) The physical characteristics, configuration and location of a confined space is defined as an area:
- Not designed for continuous human occupancy;
 - Large enough for a person to bodily enter and perform tasks; and
 - Has a restricted entrance or exit by way of location, size, or means.
- (B) All excavations or trenches exceeding a depth of 4 feet (1.2 meters) must be assessed to determine if the excavation or trench is a confined space. A documented risk assessment must be conducted and available upon request.
- (4) Confined Space Classification
- (A) Where Contractor controls work area, Contractor shall classify all confined spaces according to country or local regulations for early works, enabling activities, demolition, and greenfield construction Sites.
- (B) Where Contractors perform work in live Microsoft Datacenter Operations, such Contractors are expected to follow Microsoft's classifications of confined spaces, coordinate with Microsoft on the acceptable entry conditions, and submit a permit with Microsoft's approval.
- (5) Hazard Analysis
- (A) Hazards shall be identified for each confined space prior to entry. The hazard analysis process shall be conducted by a Qualified Person and include, but not limited to, a review of the following:
- The past and current use of the confined space which may adversely affect the atmosphere;
 - The physical characteristics, configuration, and location; and
 - Existing or potential atmospheric hazards.
- (B) Once hazards have been identified, each hazard shall be examined with respect to the following:
- Scope of the hazard exposure;
 - Magnitude of the hazard;
 - Likelihood of hazard occurrence;
 - Consequences of the hazard occurrence;
 - Potential for changing conditions or activities;
 - Strategies for controlling the hazards; and
 - Impact on the need for emergency response.
- (6) Energy Isolation
- (A) All energy sources which are potentially hazardous to confined space entrants shall be secured, relieved, disconnected, and/or restrained before personnel are permitted to enter the confined space. Methods and means shall be selected and used to prevent flammable, toxic, irritating, or oxygen displacing gases, vapors, and liquids from entering the space. All hazardous material, high pressure, high temperature and other piping that could be reasonably expected to introduce a hazard shall be isolated by utilizing blinding, disconnection, removal, or double block and bleed as needed to prevent entry of material(s) and hazardous contaminant(s). Machines, equipment, or processes shall be locked or tagged or both. Lockout or tagout, or both, of equipment, systems, and processes shall be verified prior to permitting entry into the confined space.
- (7) Ventilation
- (A) When ventilation is used to control atmospheric contaminants in a Permit Required or Alternate Entry Confined Space, the space shall be ventilated until the atmosphere is within acceptable limits for oxygen and contaminants. A Qualified Person shall ensure the ventilation system reflects sound ventilation principals of supplying enough clean make-up air, minimizing short-circuiting (inadequate air movement) and controlling the exhaust to prevent creating hazards in other areas. Air movers or other means of introducing air into the space shall be placed in such a manner to minimize the possibility of introducing air contaminants which may create hazards (i.e., carbon monoxide). A ventilation system shall:
- Be maintained during the entry if there is a potential for the atmospheric condition in the confined space to become unacceptable;
 - Have equipment that is bonded or grounded to eliminate static energy; and
 - Have ductwork that does not cause tripping hazards or block exits.
- (B) Contractor shall make reasonable efforts to engineer confined spaces into non-permit entry conditions. Alternative control measures like purging, cleaning, and aerating shall be considered when ventilation is not possible or feasible for complete elimination of atmospheric hazards, other protective measures or methods to control air contaminants. Any control measure that involves the use of supplied oxygen for personnel (e.g., SCBA or airline) will be classified as a Critical Confined Space Entry and must be evaluated by the Owner before commencing.

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- (8) Confined Space Entry Permit Procedure where applicable
- (A) Confined Space Entry Permit Initiation
- The process by which Confined Space Entry Permits will be issued on the Project shall include the following elements:
 - Identification of the Authorizing Authority and Entry Superintendent and their qualifications to execute these roles;
 - A requirement for the Performing Authority to obtain required approvals from the Authorizing Authority prior to beginning any confined space work activity;
 - A requirement for the Qualified Person to complete the Confined Space Entry Permit prior to the beginning of work;
 - A process to determine if additional safe work permits are required (e.g., hot work, energy isolation/LOTO). These should be identified on the Confined Space Entry Permit and the appropriate procedures shall be following.
- (9) Confined Space Entry Requirements
- (A) Before each entry, and entry permit will be completed and signed by the Entry Team (Performing Authority, Authorized Attendant(s), and Authorized Entrant(s)). Each member of the Entry Team shall be capable of identifying existing and predictable hazards of confined space work activities and surrounding areas which are hazardous or dangerous to the Entrants or other personnel and have authorization to take prompt corrective measures. The Entry Team shall also be able to operate test equipment for combustible gas, oxygen, and toxic gas levels and shall be able to interpret test results and implement effective control measures. The Confined Space Entry Permit shall document that pre-entry preparations have been completed prior to entering the confined space. A copy of the complete permit shall be posted at the location of the confined space where work activities are being performed.
- (B) For a Confined Space Entry Permit to remain in effect, the following shall be done before each re-entry into the confined space:
- Atmospheric tests results shall be within acceptable limits of local applicable regulations;
 - If atmospheric tests results are not within acceptable limits, then precautions to protect entrants against the hazards shall be defined on the Confined Space Entry Permit;
 - A Qualified Person shall verify that all precautions and other measures called for on the permit are still in effect;
 - Only operations or work originally approved on the Confined Space Entry Permit shall be conducted;
 - When conditions or work activities are outside the limits specified on the Confined Space Entry Permit or could introduce a hazard not addressed on the Confined Space Entry Permit, then it shall be immediately revoked.
 - Specified emergency rescue equipment and the Authorized Attendant must be present in the immediate work area and remain able to communicate and initiate emergency rescue procedures.
- (C) Confined Space Entry Duration
- The duration of the Confined Space Entry Permit must not exceed the time required to complete the work or the length of one work shift, whichever is shorter. If the confined space work extends beyond one work shift, a new permit must be completed and signed by the respective parties involved in the entry.
 - Confined Space Entry Permit Termination/Cancellation
 - The Confined Space Entry Permit shall be terminated or cancelled if any of the following occur:
 - Emergency alarms are sounded, or an evacuation alarm is activated.
 - Conditions not covered by the permit are found.
 - A condition covered by the permit cannot be safely controlled.
 - Work continues past the time allocated on the permit.
 - Any other hazardous or potentially hazardous condition is identified by the confined space work crew.
- (10) Emergency Response, Evacuation, and Rescue Plan
- (A) The Performing Authority shall have a written Site-Specific Emergency Response, Evacuation, and Rescue Plan in place. The Plan shall always be available at the work Site when confined space work is being performed. The Plan shall be written to address response to identified or potential emergencies and to provide for timely evacuation, horizontal or vertical retrieval, or rescue of

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entrants in a confined space. The Rescue Plan cannot depend solely on offsite emergency response personnel and must be capable of immediate rescue. At a minimum, the Emergency Response, Evacuation, and Rescue Plan shall include:

- Evacuation when certain hazards are identified during an entry;
- Determination of what type of rescue may be necessary;
- Location of incident;
- Potential number of Entrants and Rescuers;
- Methods on rescue including non-entry methods;
- Rescue equipment and location;
- Names of the trained emergency response personnel familiar with confined space hazards;
- Contact information for local emergency services provider;
- Local emergency services may direct the rescue upon arrival, if the worker is still in the confined space;
- Medical evaluation procedure once the affected worker(s) are rescued to ensure the appropriate medical attention is received.

- (B) Horizontal and/or Vertical retrieval or rescue methodology shall include the use of fall protection for the Entrant as well as suspended rescuers. Appropriate retrieval equipment or methods shall be used whenever a person enters a permit required confined space. If the retrieval equipment increases the overall risks of entry or does not contribute to the rescue, it shall not be used. The Authorizing Authority and the Performing Authority shall establish the identity of the rescue responder for an emergency and what system will be used to notify the responder that an emergency exists.

(11) Incident Reporting and Investigation

- (A) Any confined space related incident, including near-miss incidents, shall be reported to the Authorizing Authority immediately. The details of the incident shall be documented on the Incident Investigation Form by the Performing Authority within 24- hours. Upon learning of a hospitalization or fatality incident, the Performing Authority or their authorized designee, will immediately notify the Authorizing Authority, so that notification required by a Country, State, Provincial or regulatory agency is made within prescribed timeframes. The Authorizing Authority shall make the case notification to the Owner prior to notifying the appropriate Country, State, Provincial or regulatory agency. The Authorizing Authority shall be contacted whenever a regulatory agency conducts onsite inspections or inquiries involving EHS concerns.

(d) Tools

- (1) Confined Space Survey and Inventory shall be conducted and compiled by a Qualified Person. A process shall be established to identify the addition or deletion of confined spaces to keep a documented inventory current. The confined space inventory may include the following:
- (A) Unique identifier for the confined space;
 - (B) Location of the confined space;
 - (C) Classification of non-permit or permit required;
 - (D) Hazardous conditions of the space;
- (2) Permit Required Confined Space Signage shall be placed around openings that can be entered without the use of tools, special equipment, or keys. Signs shall be maintained in legible condition and the sign shall include the wording "Danger Permit Required Confined Space".
- (3) Confined Space Entry Permit accompanies the Hazard Analysis of the work performed in confined spaces and shall be conducted by a Qualified Person in accordance with the SPS, equipment manufacturers guidelines, local regulations, and standards pertaining to this activity for potential impacts to EHS. The Confined Space Entry Permit must be reviewed and signed by all Entry Team members (at a minimum, Performing Authority, Authorized Attendant, Authorized Entrant) prior to entering the confined space. The Confined Space Entry Permit shall include, at a minimum, the following:
- (A) Date and time of entry;
 - (B) Location of entry;
 - (C) Names or identification of all Entrants;
 - (D) Type of work which will be conducted in the confined space;
 - (E) Determination if the Permit can be reclassified as Alternate Entry

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- (F) The hazards to be controlled or eliminated prior to proceeding with the entry;
 - (G) Safety equipment and precautions required to perform the work;
 - (H) Identification of the test instrument, the type of atmospheric tests required, and the results of those tests;
 - (I) Type of equipment which will be necessary for a rescue and how aid will be summoned in the event of an emergency.
- (4) Confined Space Entry Sign-In and Sign-Out Log provides a standardized method for maintaining an accurate, real time tracking of Authorized Entrants in a confined space. Maintaining an accurate log enables emergency response/rescue personnel to know precisely who and how many entrants are in a confined space at a given time.
- (5) Atmospheric Testing shall be conducted by a Qualified Person prior to entry into a confined space. Initial testing of the atmospheric conditions shall be completed with the ventilation systems shut down. Further testing shall be conducted with the ventilation turned on to ensure that the contaminants are removed and the ventilation system (makeup air, fan, duct) is not a source of contamination. If the confined space is vacated, the Qualified Person shall determine the need for the atmospheric re-testing prior to re-entry. Atmospheric conditions shall be continuously monitored with calibrated equipment throughout the duration of the confined space entry. The atmosphere of the confined space shall be considered within acceptable limits whenever the following conditions are maintained:
- (A) Oxygen – 19.5% to 22.5%
 - (B) Flammability – less than or equal to 10% of the Lower Explosive Limit (LEL) or Lower Flammable Limit (LFL)
 - (C) CO
 - (D) H₂S
 - (E) Toxicity – less than applicable regulatory exposure limits.
- (6) Personal Protective Equipment shall be used in conjunction with other controls. A Qualified Person shall determine personal protective equipment needed by all personnel entering the confined space, including rescue teams. Where a potential exists for persons or objects falling into a confined space, barricades, or other appropriate fall protection methods shall be utilized. All rescue personnel shall use NIOSH approved pressure demand self-contained breathing apparatus (SCBA) or NIOSH approved pressure demand combination Type C Airline/SCBA breathing equipment when entering a confined space where potential atmospheric hazards exist.

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DCX-SPS-109 **Electrical**

(a) Fundamentals

- (1) Persons are trained and qualified
- (2) Tools and equipment fit for the purpose
- (3) Permit is issued
- (4) Systems and equipment properly identified, isolated and verified
- (5) Barricades and warning devices in place
- (6) Risk assessment completed by competent person
- (7) Controls in place to ensure that the person performing the work is not alone

(b) People

- (1) Authorizing Authority
 - (A) The management representative who has responsibility to ensure Environmental, Health, and Safety (EHS) expectations are both communicated and met within the scope of his or her respective Project/Site.
 - (B) Ensures an Electrical Safety Program is developed, communicated and implemented within the scope of his or her respective Project/Site.
 - (C) Ensures the resources necessary to comply with this SPS are provided on his/her Project.
 - (D) Provides authorization and approval of electrical activities.
 - (E) Ensures that all work complies with the requirements of the Energized Electrical Work Permit and provides approval.
 - (F) Ensures that electrical systems are inspected by a Qualified Person.
 - (G) Monitors electrical activities to verify adherence to requirements and take effective action to correct non-compliance.
 - (H) Determines if additional safe work permits are required depending on the scope of work (e.g., confined space, hot work, etc.).
 - (I) Completes close-out and recordkeeping of Energized Electrical Work Permit, including post job inspection.
- (2) Performing Authority Electrical Coordinator
 - (A) Is the company's designated Competent Person capable of identifying existing and predictable hazards in the work and surrounding areas which are hazardous or dangerous to personnel, and who has authorization to take prompt corrective measures to eliminate such hazards. Has been trained and authorized to oversee electrical activities. Conducts and signs the Energized Electrical Work Permit where required, and performs the following activities:
 - Ensures that a written Site-specific Emergency Rescue Plan is at the Site at all times.
 - Ensures all workers are properly trained to be aware of the hazards of their work.
 - Authorizes access to electrical work areas using a procedure or permit and designates additional persons to grant authority in their absence.
 - Ensures qualified engineers/electricians use appropriate information, including wiring diagrams, charts, tables, schedules perform shock hazard analysis, arc flash hazard analysis, and other analysis using a standardized process.
 - Ensures electrical drawings, facility modification, and other design documents comply with local electrical code requirements.
 - Verifies that workers are qualified and authorized to perform required electrical work, including non-electrical workers who use portable electrical tools and equipment.
 - Prohibits unauthorized employees from working on electrical systems.
 - Ensures safety controls to protect workers from the hazards associated with electricity are in place, inspected, and tested.
- (3) Qualified Electrical Worker
 - (A) Is an individual who is trained and authorized to perform work on electrical equipment and hold the applicable license or certification defined by local requirements.
 - (B) Conducts electrical work in a safe manner.
 - (C) Verifies that electrical systems are installed in compliance with the program.
 - (D) Performs periodic inspections of ongoing work to ensure compliance with the program.
 - (E) Maintains current training and required certification in electrical safety work practices, including First Aid, Cardiopulmonary Resuscitation (CPR), Automated External Defibrillator (AED), and

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understanding release methods for disconnecting a circuit or a person from a circuit for safe and proper medical response.

- (F) Obtains and adheres to the Energized Electrical Work Permit, when applicable.
 - (G) Stops work and removes all personnel from work area until the proper corrective measures to eliminate the hazards have been implemented.
- (4) Affected (Unauthorized) Person(s)
- (A) Shall be informed and trained in the subject matter to recognize the electrical hazards associated with the type of work being conducted that may affect them and to understand the procedures to control or minimize those hazards. This level of training shall be provided to all personnel onsite by the respective Performing Authority Electrical Coordinator.
 - (B) Shall be trained in basic electrical safety, arc flash awareness and familiar with any electrical safety related practices, if any, that are necessary to perform the work as required in their job role.
 - (C) Affected (Unauthorized) person(s) are not authorized to perform any electrical work or energized electrical work.

(c) Process

- (1) High Risk Activity Forecasting and Planning
- (A) Develop a High-Risk Activity (HRA) Management Plan in accordance with SPS-100 HRA Management and the Global Construction Environmental, Health, and Safety Contract Requirements. At minimum, the following elements must be described in the Site-Specific EHS Plan:
- The identification of electrical activities in the work scope and schedule;
 - Arc flash and shock hazard analysis which includes voltage and incident energy (cal/cm²) in which personnel will be exposed at a working distance, the approach boundary requirements (limited and restricted), arc flash boundary, and required personal protective equipment based on a 360-degree assessment.
 - Arc flash study labeling for all equipment over 125 Volts AC/DC. Equipment at or below 125 Volts AC/DC must still have the required equipment labeling per equipment manufacturer and local regulatory requirements;
 - Arc flash studies and labeling must be updated as needed based on any design changes or retrofits;
 - The process used for alerting techniques (e.g., safety signs/tags; barricades; attendants; Site communication; etc.) to warn and protect workers from electrical shock hazards, burns, or failure of electrical equipment and components;
 - The process to be used to identify and isolate electrical energy sources. Electrical sources must always be treated as live until proven otherwise;
 - The process to be used to track/update as-builts, one-line drawings, and temporary power drawings / BIM models;
 - The process to perform risk assessments for electrical activities;
 - Eliminate live electrical work by coordinating outage support with the Owner and Utility Owner;
 - A process for issuing Energized Electrical Work Permits;
 - Training and authorization requirements for those performing electrical activities with associated verification process;
 - Protection methodology for approach boundaries;
 - Emergency plans;
 - All other related EHS procedures and regulatory requirements specific to electrical activities;
 - Process for capturing lessons learned and best practices;
 - Energized Electrical Work Permit audits and audits of Electrical Safety Program activities;
 - Incident and investigation reports for all incidents (including near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity of those incidents) involving electrical work.
- (2) General Requirements for Electrical Equipment
- (A) All electrical equipment shall comply with local electrical codes and standards. Such standardizing bodies include the International Electrotechnical Commission (IEC), the National Electrical Code (NEC), the Underwriters Laboratories (UL), etc. All electrical systems shall be maintained in a safe condition free from recognized hazards. Unsafe electrical systems and equipment that present

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an imminent hazard to personnel will be de-energized, isolated, and removed from service until repaired or replaced, unless de-energizing would introduce additional or increased hazards.

- (B) Contractor will provide ground fault circuit interrupter (GFCI/RCD) protection for all cord sets, receptables and electrical tools and equipment connected by cord and plug which are used or available for use by workers. All GFCI/RCD receptables will be placed at the source end of the electrical service. A formal inspection and testing program shall be established to include, at a minimum, weekly inspection and testing by a Qualified electrical worker. GFCI/RCD should be tested prior to each use by the worker using equipment or tools protected by the GFCI/RCD.
- (3) Safe Work Procedures
- (A) The Performing Authority shall establish provisions to conduct all electrical activities safely and in accordance with locally applicable regulations, standards, and the Energy Isolation SPS. Safe work procedures shall include, but not limited to, the following:
- Electrical Installations or Modifications
 - Battery Storage and Charging
 - Electrical Cabinets, Panels, and Rooms
 - Resetting Tripped Protective Devices
 - Electrical Work – 50V (AC or DC) or Less
 - Electrical Work – Greater than 50V (AC or DC)
 - Metering and Testing on Energized Circuits (e.g., live-dead-live; prove-test-prove; troubleshooting; etc.)
 - De-energized Electrical Work with Absence of Voltage Verifications
 - Work within an Approach Boundary
 - Working in Proximity to Overhead Power Lines
 - Ground Disturbance
 - Wall Penetrations
- (4) All efforts shall be made to de-energize equipment prior to performing work. In the rare case where this cannot be achieved, the following will apply:
- (A) When working on or near energized electrical component, the electrical equipment shall be de-energized to the maximum extent feasible before crossing the limited, restricted, or prohibited approach boundary to perform work on the equipment. The Authorizing Energy Marshal must approve the justification for the performance of all energized work and should only be considered when it is technically infeasible to de-energize the system.
- (B) Entry into an electrical approach boundary by a qualified worker requires an Energized Electrical Work Permit approved by the Authorizing Authority Energy Marshal. The Energized Electrical Work Permit accompanies the hazard analysis for the work performed on or near exposed electrical conductors within the restricted approach boundary or when personnel interactive with equipment when conductors or circuit parts are not exposed, but an increased likelihood of injury from an exposure to an arch flash exists. A process must be established to determine the issuance of an Energized Electrical Work Permit. Refer to Figure 1.1 Energized Electrical Workflow for guidance.

HIGH RISK ACTIVITY (HRA) MANAGEMENT SAFETY PERFORMANCE SPECIFICATIONS

MCIO Safety
Energized Electrical Work (EEW) Flow Chart

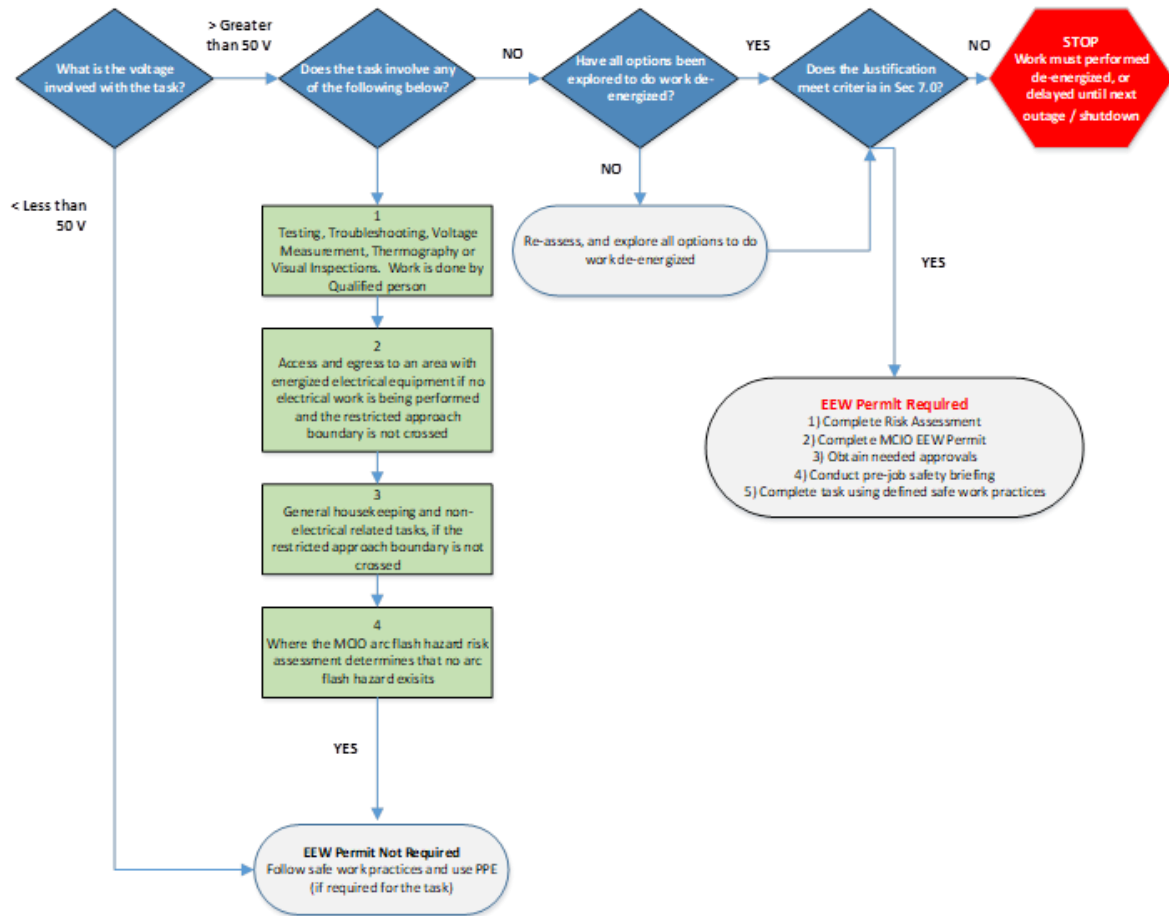


Figure 3: Energized Worker Flow Chart

(5) Emergency Rescue Plan

(A) A Site-Specific Emergency Rescue Plan shall be established and available at the work Site at all times when electrical activities are being conducted. At a minimum, rescue plans shall include:

- Type of assistance needed
- Location of incident
- Number of person(s) to be rescued
- Methods of rescue
- Rescue procedures and equipment
- Onsite trained qualified person(s) for emergency rescue, if applicable
- Contact information for local emergency services provider

(B) If the Site utilizes an onsite rescue plan, the plan shall also include a list of onsite trained Qualified Person(s) for emergency rescue. Only a Qualified Person(s) or emergency services provider trained in the use of rescue equipment and methods may perform any type of rescue. Personnel performing electrical work are required to have, at minimum, first aid, Cardiopulmonary Resuscitation (CPR), Automated External Defibrillator (AED) training and knowledge of safe release methods. Rescue equipment, such as a retrieval hook, shall be considered and available as required by the risk assessment.

(6) Temporary Power and Lighting

(A) Contractor to provide all temporary power necessary for office trailers, welding machines, mall tools, etc. Except for welding machines, temporary power distribution will be limited to 120 volts or voltage indicated by Country or Local code or requirements. Temporary power must be protected by hard barricades to prevent damage from vehicle traffic. A detailed temporary power distribution plan will be submitted prior to starting work to provide a baseline understanding of exact locations and dimensions for future overhead work or ground disturbance activities. The

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distribution drawings and a BIM model will be kept up-to-date after any modifications and prior to any follow-on overhead work or ground disturbance activities. Installation of underground and overhead temporary power shall be treated as permanent power, including buried warning markers, encasement, and semi-permanent above ground markings (e.g., beyond paint and flagging).

- (B) There should be sufficient levels of illumination inside buildings and outside with an emphasis placed on hazardous tasks and walking paths. Temporary light stringers will be hard usage cord construction and have lamp covers. Outdoor temporary light will be protected by GFCIs/RCDs.
- (7) Electrical Work – Greater than 50V (AC or DC)
 - (A) Electrical work involving circuits 50V (AC or DC) or greater must have a formal written procedure and activity level risk assessment. The procedure must be inclusive of an Energy Isolation Plan. These procedures and risk assessment must be presented at an HRA planning meeting as outlined in this safety performance specification.
- (8) Working Within an Approach Boundary
 - (A) An activity risk assessment will be completed and documented to identify shock and arc flash hazards, determine appropriate safe work practices, protective clothing, and electrical PPE to be used before any person approaches exposed energized parts within the limited approach boundary or the flash protection boundary. Electrical load study engineering calculations must determine the incident energy exposure and flash protection boundary in accordance with NFPA 70E. Work performed on energized electrical circuits, or near exposed parts shall be performed by qualified and authorized personnel using appropriate PPE. An Energized Electrical Work Permit must be completed.
- (9) Energization or Re-energization
 - (A) When initially energizing electrical equipment or systems, or re-energizing systems that have been modified, a written plan must be in place that addresses the integrity of the equipment/system being energized and the protection of personnel involved.
- (10) Working in Proximity to Overhead Power Lines
 - (A) All equipment will be kept at least 20 ft (6.1 m) from all overhead power lines. Refer to the Lifting Operations SPS for minimum approach distances. Local regulatory standards shall be consulted to ensure additional approach distance requirements are met. The most stringent standard shall be applied. A person (spotter) will be designated to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means. Warning lines will be erected in areas where tasks are being executed close to overhead power lines. Line insulators must be in place for all temporary overhead lines where vehicle traffic travels beneath.
- (11) Ground Disturbance
 - (A) A documented procedure and Level 2 risk assessment must be completed and an HRA planning meeting held prior to commencement of any ground disturbance activities. The Ground Disturbance SPS should be followed in conjunction with this procedure.
- (12) Interior Penetrations for Concealed Utilities
 - (A) A documented procedure and Level 2 risk assessment will be completed for work requiring drilling, cutting or penetrating walls, floors, or other surfaces that may contain hidden electrical obstructions. All pertinent drawings and documentation must be reviewed.
 - (B) If the presence and location of electrical circuits or conductors cannot be accurately identified and de-energized, Contractors shall use ground penetrating radar (GPR) or other similar locating technologies for concealed utilities and appropriate mitigating controls must be used

(d) Tools

- (1) Signs, Barricades, Attendants or other alerting techniques shall be used to isolate the work area and warn others of exposed energized electrical circuits.
- (2) Energized Electrical Work Permit is the formalized verification and approval document, in addition to, the hazard analysis of the work performed on or near exposed electrical conductors within the restricted approach boundary or when personnel must interact with equipment when conductors or circuit parts are not exposed, but an increased likelihood of injury from an exposure to an arc flash exists. Any exemptions that do not require an Energized Electrical Work Permit must be documented in the Electrical Safety Program. Troubleshooting, testing, or calibration of electrical equipment can

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only be performed with the circuit energized, only if conducted outside of the restricted approach boundary using safe electrical work practices.

- (3) Electrical Personal Protective Equipment shall be identified by the Performing Authority during the pre-task hazard analysis for electrical tasks. Electrical PPE includes, but is not limited to, the equipment and clothing necessary to protect personnel performing electrical work from hazards involving electrical shock, arc flash, and any other electrical hazards that may be encountered. The type of PPE required for the task will be determined by consulting established guidance documents (i.e., NFPA 70E) for the recommended clothing matched to the respective hazard level. All Electrical Personal Protective Equipment must be inspected prior to use to ensure it is in good working condition and will perform as designed.
- (4) Insulated Tools and handling equipment shall be used when performing any electrical related work due to the potential of exposed energized electrical conductors or circuit parts where accidental contact might occur. Insulated tools shall be rated for the voltages on which they are to be used.
- (5) Inspections of all electrical equipment and insulated tools must be regularly conducted and documented by a Competent Person. Insulated tools and equipment must be inspected for damage immediately following any incident that could have caused damage. In addition, all insulated tools and equipment must be tested and tagged per applicable standards as per local regulatory requirements.

HIGH RISK ACTIVITY (HRA) MANAGEMENT
SAFETY PERFORMANCE SPECIFICATIONS

DCX-SPS-110 **Noise**

(a) Fundamentals

- (1) Risk assessment conducted by a Competent Person
- (2) Noise survey and dosimetry
- (3) Noise Management Plan in place
- (4) Noise control conducted in the following order: at the source, noise propagation, at the worker level
- (5) Exposed employees are trained on hazards associated with occupation noise and personal protection devices
- (6) Personal Protection Devices are being used in areas with a sounds level of 85 dBA or higher
- (7) Baseline audiometric testing and annual audiometric testing
- (8) Hearing Conservation Program for employees working in areas with exposure to sound levels of 85 dBA TWA

(b) People

- (1) Authorizing Authority
 - (A) The Authorizing Authority is the management representative who has responsibility to ensure EHS expectations are both communicated and met within the scope of his or her respective Project/Site.
 - Ensures the Noise Program is communicated and implemented within the scope of his or her respective Project/Site.
 - Ensures the allocation of all necessary resources in support of the Project's Noise Management Plan.
- (2) Performing Authority Noise Management Coordinator (or similar collateral duty role)
 - (A) The Noise Management Coordinator is an individual that ensures that all work complies with the requirements of the Noise Program.
 - Shall have a written Noise Program that meets the requirements of this Safety Performance Specification (SPS) and have it available at the work Site at all times when work activities are conducted with exposure to noise.
 - Confirms that control measures defined in the Plan are implemented, maintained, and revised as necessary through routine inspections and observation reports.
 - Confirms that all personnel performing activities with exposure to noise complies with the requirements of this SPS.
 - Determines the appropriate risk control measures to implement to eliminate or reduce hazards found on completed risk assessments.
 - Maintain training records for all Site personnel that conduct work activities with exposure to occupational noise.
 - Ensures that the timely notifications of all incidents are provided to the Authorizing Authority.
- (3) All Site Personnel
 - (A) Shall be trained in the subject matter to recognize the hazards associated with the type of work being conducted and to understand the procedures to control or minimize those hazards.
 - (B) Completes documented risk assessments (e.g., job hazard analysis, job safety analysis, etc.) for work activities or tasks in areas with exposure to noise.
 - (C) Complies with all procedures and requirements of the Project Noise Management Plan.
 - (D) Stop work and take action if a potentially hazardous condition exists.

(c) Process

- (1) High Risk Activity Forecasting and Planning
 - (A) Develop a High-Risk Activity (HRA) Management Plan in accordance with SPS-100 HRA Management and the Global Construction Environmental, Health, and Safety Contract Requirements. At minimum, the following elements must be described in the Site-Specific EHS Plan:
 - Identification of activities conducted with exposure risk to occupational noise in the work scope and schedule;

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- Requirements and the process to perform risk assessments for each activity conducted with occupational noise exposure;
- The process to perform inspections on occupational noise related mitigations;
- The process to evaluate applicable safe work permits for activities involving work with occupational noise exposure;
- Training and authorization requirements for those performing activities with exposure to occupational noise;
- All other related EHS procedures and regulatory requirements specific to activities conducted with exposure to occupational noise;
- Process for capturing lessons learned and best practices from activities conducted with exposure to occupational noise;
- Audits of activities conducted with exposure to occupational noise at least monthly;
- Change management process to evaluate the impacts of Noise and designs; and
- Incident and investigation reports for all noise related incidents, including near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity.

(2) Noise Program

- (A) Establish a Noise Program for protecting personnel from hearing loss who conduct work with exposure to loud occupational noise and/or extended noise exposure. The program should consist of risk assessments, noise monitoring, hearing protection devices (HPDs), and training. Hearing protection devices shall be used in areas where noise exposure is 85 dBA or higher. The Hearing Conservation Program shall be implemented when employees are exposed to noise levels of 85 dBA or higher for an 8- hour Time Weighted Average (TWA).

(3) Noise Hazards and Controls

- (A) The control of occupational noise depends on the proximity of personnel to noisy activities or equipment and understanding the level and duration of noise exposure. A high noise area is any area having measured noise levels that meet or exceed 85 dBA. Consideration must be given to both continuous noise sources and short-term, high level impact noise sources.
- (B) Common tools and equipment that generate loud noise levels include servers, portable power tools, fans or blowers, compressors, generators, and electrical equipment.
- (C) Noise prevention and control strategies usually involve elements from the following control groups:
- The work process (including tools, equipment, machinery)
 - The workplace (includes noise enclosures or acoustic treatments)
 - The workers (safe work practices and other administrative controls, audiometry, hearing protection and training)
- (D) The noise control hierarchy should be conducted in the following order:
- Eliminate the noise source
 - Control the noise source
 - Control the noise propagation
 - Control at the worker level
- (E) Engineering Controls
- For hearing loss prevention purposes, engineering controls must be assessed when noise level meet or exceed 85 dBA. Engineering controls are defined as any modification or replacement of equipment, or related physical change at the noise source or along the transmission path (except for HPDs), that reduces the noise level at the worker's ear. Hearing protection devices (HPD) worn by a worker reduce (attenuate) noise before it reaches the receiver's ears, but because they are worn by the worker, HPDs are considered personal protective equipment rather than engineering controls.
- (F) Hearing Conservation Program
- All exposed employees with a measured 8-hour TWA at or above 85 dBA or exceeds the sound levels as shown in the Permissible Noise Exposure table, on any one day, must be included in a Hearing Conservation Program (HCP). The Permissible Noise Exposure table is included as Appendix B.
 - Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

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- When the daily noise exposure for is composed of two or more periods of noise exposure of different levels, their combined effect should be considered. Exposure to different levels for various periods of time shall be computed according to the Equivalent Noise Exposure Factor formula.
 - The HCP should include:
 - Measuring noise levels in the workplace
 - Baseline and annual audiometric tests for affected employees
 - Offering multiple styles of hearing protection for the employee
 - Initial and annual training
 - Notification to employees of any areas designated as having loud noise or requiring hearing protection
- (G) The Noise Management Coordinator will notify the Authorizing Authority and any exposed employee that fall into this category in writing.
- (H) Training shall be conducted for all Site personnel that may be exposed to occupational noise. The training program shall include:
- The Project Noise Management Plan;
 - Roles and responsibilities in preventing noise-induced hearing loss including safe work practices;
 - Sources of noise in the workplace;
 - Applicable Country or local regulations pertaining to noise or hearing conservation;
 - Results of noise risk assessment and noise assessments;
 - Exposure limit values and action level values;
 - Effects of noise on hearing including the risk of hearing damage or loss;
 - Purpose of hearing protection;
 - Advantages and disadvantages of various types of hearing protection;
 - Proper selection, use, fit, and care of hearing protection devices;
 - Purpose and procedures for audiometric testing; and
 - Procedures for responding to and reporting an incident.

(d) Tools

- (1) Risk Assessments shall be completed for work areas where noise exposure has the potential to meet or exceed 85 dBA. Data from risk assessments or information related to equipment specifications will provide documentation that hazardous noise exposures may exist that required further evaluation.
- (2) Area Noise Surveys shall be conducted in work areas identified where noise levels meet or exceed 80 dBA and repeated every four years, or earlier when changes in conditions occur which may significantly change overall area noise levels.
- (3) Noise Dosimetry shall be conducted on employees with exposures at or above 85 dBA as an 8-hour TWA. Noise dosimetry results should be used to determine if employees should be included in the HCP requirements. Both Noise Surveys and Dosimetry shall be conducted by a qualified person using recognized methods, accepted standard procedures, and suitable equipment which is properly calibrated to ensure accuracy. Noise monitoring results (personal and area) must be communicated to affected employees within 30 days or receipt of the finalized results.
- (4) Hearing protection devices must be used any time noise levels meet or exceed 85 dBA, regardless of the duration of exposure in the noise area. The Noise Management Coordinator will ensure that hearing protection devices are placed near those areas which require the use of hearing protection.
- (5) Equivalent Noise Exposure Factor formula:

$$FF(e) = \left(\frac{TT_1}{LL_1}\right) + \left(\frac{TT_2}{LL_2}\right) \dots + \left(\frac{TT_m}{LL_m}\right)$$

F(e) = The equivalent noise exposure factor

T = The period of noise exposure at any essentially constant level.

L = The duration of the permissible noise exposure at the constant level from the Permissible Noise Exposure table.

If the value of F(e) exceeds 1, the exposure exceeds the permissible levels

- (6) Audiometric Testing (baseline and annual) shall be conducted for all personnel if their exposure exceeds an 8-hour TWA of 85 dBA, on any one day. A baseline audiogram must be conducted within six months of initial exposure equal to or exceeding 85 dBA as an 8-hour TWA.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (A) Audiometric tests must be performed by a licensed or certified audiometric test technician.
 - (B) Annual retesting is required if an employee continues to be routinely exposed to an 8-hour TWA of 85 dBA or more.
 - (C) Retesting should include a comparison of an employee's baseline audiogram with the retest results to determine if a hearing loss categorized as a Standard Threshold Shift (STS) has occurred.
- (7) Signage shall be displayed in all areas with continuous noise levels at or above 85 dBA and shall be in compliance with local laws and regulations. Signs indicating the need for dual hearing protection will be required at entrances to areas with noise source that exceed 100 dBA.

HIGH RISK ACTIVITY (HRA) MANAGEMENT
SAFETY PERFORMANCE SPECIFICATIONS

DCX-SPS-111 **Thermal Stress**

(a) Thermal (Heat and Cold) Stress Fundamentals

- (1) Risk assessment conducted by a Competent Person
- (2) Thermal Stress Management Plan in place
- (3) Shelters are in place to protect workers from weather
- (4) Heat Stress Index monitors are installed at high-risk locations and associated warning signs or indicators in place
- (5) Exposed employees are trained on heat and cold stress
- (6) Thermal stress specific PPE is used (i.e., appropriate clothing)
- (7) Medical screening completed for employee fitness, as needed
- (8) Feasible controls are in place to reduce exposure to thermal stress.

(b) People

- (1) Authorizing Authority
 - (A) Ensures the Thermal Stress Program is communicated and implemented within the scope of the respective Project/Site.
 - (B) Ensures the allocation of all necessary resources in support of the Project's High Risk Exposure Management Plan for Thermal Stress.
 - (C) Oversees the implementation of the High Risk Exposure Management Plan for Thermal Stress for the Project.
 - (D) Confirms that control measures defined in the Plan are implemented, maintained, and revised as necessary through routine inspections and observation reports.
 - (E) Oversees the completion of hazard control provisions defined in Risk Assessments when work is conducted in areas with temperature extremes.
 - (F) Conducts an as-needed review of the High Risk Exposure Management Plan for Thermal Stress and Site provisions including a written audit at least monthly, and suggests revisions based on changing needs or improvements.
 - (G) Ensures that the timely notifications of all incidents are provided to the Owner.
- (2) Performing Authority
 - (A) Implements all provisions of this SPS and applicable EHS procedures related to Thermal Stress risk assessment processes.
 - (B) Stops or suspends individual tasks or operations when the control of an Environmental, Health or Safety risk has not been clearly identified and properly controlled or worker feels ill effects due to exposure.
 - (C) Ensures Site personnel can assess their own personal issues of intolerance to hot or cold environments based on physical limitations, medical conditions, or required medications, and communicate needed accommodations to their Supervisor.
 - (D) Reports all work-related injuries and illnesses to the Authorizing Authority immediately.
 - (E) Ensures their supervisors and employees are properly trained in the recognition of signs and symptoms of exposure to temperature extremes.
 - (F) Maintains all training records and make them available upon request by the Authorizing Authority or an EHS regulatory agency.
 - (G) Verifies hazard controls defined in risk assessments are provided, implemented, utilized and maintained in good working order.
- (3) All Site Personnel
 - (A) Shall be trained in the subject matter to recognize the hazards associated with the type of work being conducted and to understand the procedures to control or minimize those hazards.
 - (B) Completes documented risk assessments (e.g., job hazard analysis, job safety analysis, etc.) for work activities or tasks in areas with temperature extremes.
 - (C) Complies with all procedures and requirements of the Project High Risk Exposure Management Plan for Thermal Stress.
 - (D) Reports any conditions or issues which may cause potential exposure to Thermal Stress to their Supervisor.

(c) Process

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (1) High Risk Activity Forecasting and Planning
 - (A) Develop a High-Risk Activity (HRA) Management Plan in accordance with SPS-100 HRA Management and the Global Construction Environmental, Health, and Safety Contract Requirements. At minimum, the following elements must be described in the Site-Specific EHS Plan:
 - Identification of activities conducted in temperatures with potential exposure risk to heat or cold stress in the work scope and schedule;
 - Requirements and the process to perform risk assessments for each activity conducted in temperature extremes;
 - The process to perform inspections on heat or cold related controls;
 - The process to evaluate applicable safe work permits for activities involving work conducted in thermal stress environments;
 - Training and authorization requirements for those performing activities with risk of Thermal Stress;
 - Emergency plans, including rescue plans for heat- and cold-related incidents and detailed procedures as to how rescue services will be summoned;
 - All other related EHS procedures and regulatory requirements specific to activities conducted with risk of Thermal Stress;
 - Process for capturing lessons learned and best practices from activities conducted with risk of Thermal Stress;
 - Audits of activities conducted with risk of Thermal Stress at least monthly or temperature permitting, including a written report to Microsoft;
 - Change management process to evaluate the impacts of Thermal Stress and the design; and
 - Incident and investigation reports for all incidents heat or cold stress, including near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity.
- (2) Thermal Stress
 - (A) Establish a Thermal Stress Program addressing High Risk Exposure Management (see heat and cold sections for further elements) for personnel conducting work in temperatures that may expose them to heat or cold stress. Heat and cold stress are a function of the following variables: air temperature, solar and thermal radiation, relative humidity, air movement, and the physiological condition of the worker. Management of heat or cold stress involves the job-specific application of engineering controls, administrative controls, and protective equipment to eliminate or to mitigate the effects of extreme temperatures on personnel. The Program must ensure that resources identified in the High Risk Exposure Management Plan to protect personnel shall be provided in sufficient quantity and quality and maintained throughout the period of temperature extreme exposure.
- (3) Identification and Evaluation of Thermal Stress
 - (A) Prior to performing work, the Performing Authority shall evaluate whether the potential for exposures to Thermal Stress exists. The following risk factors as appropriate shall be considered:
 - High temperatures, humidity and corresponding heat index;
 - Sources of radiant heat nearby;
 - Use of protective clothing which can impair the body's ability to regulate heat (coveralls, semi-permeable, or impermeable chemical protective clothing, etc.);
 - Work requiring moderate to heavy physical labor;
 - Outdoor operations conducted in hot/humid weather, such as roadwork, or work on roofs;
 - Direct physical contact with hot objects;
 - Work performed indoors or other enclosures during conditions that could result in heat buildup or other environments with minimal air movement;
 - Cold temperatures, wind and the corresponding wind chill index;
 - Use of protective clothing (coveralls, semi-permeable, or impermeable chemical protective clothing), which leads to excess wetting of inner garments;
 - Skin exposure that may lead to body heat loss or freezing of skin;
 - Exposure to rain, snow or other liquids.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (4) Should potential exposures to Thermal Stress be identified, the Performing Authority shall take all steps as necessary, and as identified in the Project High Risk Exposure Management Plan for Thermal Stress to mitigate the risks. In periods where exposure to temperature extremes are likely, personnel shall address the risks associated with their work in their pre-task safety plan. Should conditions related to temperature extremes worsen beyond what was forecast, work shall be re-evaluated for potential risks. Pre-task safety plans shall be revised as necessary.
- (5) Heat Related Exposures and Mitigations
- (A) Personnel who are exposed to heat and/or humidity, or work in hot environments may be at risk of suffering occupational illnesses and injury. Heat-related illnesses and injuries include:
- Heat rash
 - Heat cramps
 - Heat exhaustion
 - Heat stroke
- (6) The Project's High Risk Exposure Management Plan for Thermal Stress shall address high heat working conditions based on a Heat Index greater than 90° F or 32° C or as provided for in applicable regulations or local requirements. The Plan shall specify mitigation actions. Mitigations shall be clearly identified and shall include, but not limited to (align with global standard):
- (A) Acclimatization program;
- (B) Rest breaks based on the heat index and work load.
- (C) Weather condition monitoring (i.e., Hourly);
- (D) Posting of warning signs;
- (E) Provide cool or shaded rest areas
- (F) Hydration breaks with potable drinking water provided;
- Portable water coolers shall have water changeout tape to indicate the time the water was changed. Periodic change out of water not to exceed eight hours.
- (G) Fans/Blowers;
- (H) Misters and/or air-conditioned cool down stations;
- (I) Cooling garments (e.g., air-cooled suits, water cooled suits or vests, ice vests);
- (J) Enhanced monitoring of personnel for signs of heat stress (i.e., "buddy system");
- (K) Adjust work schedule to avoid highest heat periods of the day;
- (L) Postponing/rescheduling certain work activities;
- (M) Cessation of all outside work activities.
- (7) Cold Related Exposures and Mitigations
- (A) Personnel who are exposed to cold may be at risk of suffering illnesses and injury. Wind Chill is a major factor to cold stress risk. As wind speed increases, it causes the cold air temperature to feel colder, increasing the risk of cold stress to exposed workers. Increased wind speed also causes heat to leave the body more rapidly. Cold related illnesses and injuries include:
- Chilblains
 - Trench foot
 - Frostbite
 - Hypothermia
- (8) The High Risk Exposure Management Plan for the Project shall specify the specific cold weather conditions at which various mitigation actions are to be activated. Mitigations should be clearly identified and may include, but are not limited to:
- (A) Weather condition monitoring (i.e., hourly);
- (B) Posting of warning signs;
- (C) Warming breaks as needed;
- (D) Special protective clothing;
- (E) Provision of designated warming facilities;
- (F) Provision of heating equipment in work areas (beware of potential fire dangers and air quality/ventilation posed by heating equipment);
- (G) Hourly work/break rotation;
- (H) Enhanced monitoring of personnel for signs of cold stress (i.e., "buddy system");

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (I) Shielding work areas from windy conditions;
- (J) Use thermal insulating material on equipment handles;
- (K) Adjust work schedule to avoid coldest periods of the day;
- (L) Postponing/rescheduling certain work activities;
- (M) Cessation of all outside work activities.

(9) Training

- (A) Training shall be conducted for all Site personnel that may be exposed to heat or cold stress. The training program shall include:
 - The Project High Risk Exposure Management Plan for Thermal Stress;
 - The environmental factors that contribute to the risk of heat or cold related illness;
 - General awareness of personal factors that may increase susceptibility to heat or cold related illness including, but not limited to, an individual's age, degree of acclimatization, medical conditions, drinking water consumption, alcohol use, caffeine use, nicotine use, and use of medications that affect the body's responses to temperature exposures;
 - The importance of removing their personal protective equipment such as non-breathable chemical resistant clothing during all breaks;
 - The best clothing options for working in thermal stress (i.e., layering for cold weather exposures);
 - The importance of frequent consumption of water or other acceptable beverages;
 - The importance of acclimatization;
 - The different types of heat or cold-related illness, the common signs and symptoms of heat related illness;
 - The importance of immediately reporting signs or symptoms of heat or cold-related illness in either themselves or in other workers to the appropriate person;
 - How to respond to emergencies.

(10) Emergency Rescue Plan

- (A) A Site-Specific Emergency Rescue Plan shall be in place and reviewed at the pre-job planning meeting and shall always be available at the work Site when work is being performed. The Plan shall be written to address responses to identified or potential emergencies and to provide for timely rescue of workers. The Plan shall have specific procedures for heat or cold related emergencies. If the Site utilizes an onsite rescue plan, the plan shall also include a list of onsite trained Qualified Person(s) for emergency rescue.

(d) Tools

- (1) Hazard Analysis Forms shall be completed prior to any tasks being conducting in thermal stress with exposure risk to heat or cold stress to ensure hazards have been identified and mitigation controls have been implemented.
- (2) The Heat Index shall be used to determine the relative risk of prolonged exposure or performance of strenuous activities in the heat and will assist in the determination of heat-related mitigations.
- (3) Shelters will be established throughout the job Site to help protect workers from the effects of heat or cold stress. Cooling/warming stations shall be maintained and be supplemented with drinking fluids.
- (4) Visual Indicators shall be used to indicate level of risk to workers as it relates to heat and cold stress.
- (5) The Wind Chill Chart shall be used to determine the relative risk of prolonged exposure of activities conducted in the cold and will assist in the determination of cold-related mitigations.

HIGH RISK ACTIVITY (HRA) MANAGEMENT
SAFETY PERFORMANCE SPECIFICATIONS

DCX-SPS-112 **Hazardous Materials**

(a) Hazardous Materials Fundamentals

- (1) Hazardous materials approved for the Site
- (2) Hazardous materials management includes approvals, inventory, and inspections
- (3) Risk assessment has been conducted by a Competent Person
- (4) prior to the use of the hazardous materials
- (5) Safety Data Sheet are accessible and reviewed
- (6) Containers for hazardous materials are properly labeled and
- (7) stored
- (8) Users are trained in the risk of the material
- (9) Feasible controls are in place to reduce exposure to
- (10) hazardous materials
- (11) Personnel being exposed are monitored
- (12) PPE is worn (e.g., gloves, clothing, respirator)

(b) People

- (1) Authorizing Authority
 - (A) Ensures the Hazardous Materials Program is communicated and implemented within the scope of the respective Project/Site.
 - (B) Ensures that resources necessary to comply with this SPS are provided on the Project.
 - (C) Ensures that the Performing Authority has a written Hazardous Materials Program that complies with the requirements of this SPS, and applicable local laws, regulations, and standards.
 - (D) Monitors hazardous materials activities to verify adherence to requirements and take effective action to correct non-compliance.
 - (E) Determines if applicable safe work permits are required depending on work (e.g., hot work, confined space, energy isolation/LOTO).
- (2) Performing Authority
 - (A) Shall have a written Hazardous Material Program that meets the requirements of this SPS, including but not limited to approvals, inventory, spill response/containment, and inspection, and is available at the work Site at all times when hazardous material activities are being performed.
 - (B) Shall maintain a current Hazardous Material Inventory and accompanying Safety Data Sheet for each hazardous material at the work Site.
 - (C) Ensures that all employees at the work Site are aware of the hazards associated with the hazardous materials onsite.
 - (D) Shall have a written Site-Specific Emergency Response Plan in place and available at the work Site at all times when hazardous material activities are being performed.
 - (E) Confirms that rescue services are available prior to the hazardous material activity and that the means for summoning them are operable.
 - (F) Maintain training records for all Site personnel that work directly with hazardous materials or around hazardous materials; and makes them immediately available to the Authorizing Authority and/or regulatory agencies upon request.
 - (G) Shall immediately notify the Authorizing Authority of any incidents involving hazardous materials.
- (3) Authorized Person(s)
 - (A) Are individuals who work directly with hazardous materials and are authorized to do so by the Performing Authority.
 - Know existing and potential hazards, including information on the mode of exposure, signs or symptoms, consequences and exposure effects of hazardous materials;
 - Has the required Safety Data Sheet (SDS) readily accessible during all hazardous material work activities, and follows the recommended actions as defined in the SDS;
 - Uses Personal Protective Equipment Hazard Analysis to determine the hazards and necessary controls for these activities;
 - Stop work until the proper corrective measures to eliminate the hazards have been implemented;
 - Perform rescues if properly trained and as specified by the Emergency Response Plan without placing themselves or fellow workers in danger;
 - Summon rescue and other services during an emergency;

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- Continuously monitors the hazardous materials work activity and surrounding perimeter for any hazardous conditions;
- (4) Other Site Personnel
- (A) Has the training required to understand EHS responsibilities when working near hazardous materials.
 - (B) Has authority to stop work and take action if a potentially hazardous condition is identified.
 - (C) Report all incidents involving hazardous material to the Performing Authority.

(c) Process

- (1) High Risk Activity Forecasting and Planning
- (A) Develop a High-Risk Activity (HRA) Management Plan in accordance with SPS-100 Management and the Global Construction Environmental, Health, and Safety Contract Requirements. At minimum, the following elements must be described in the Site- Specific EHS Plan:
- The identification of hazardous material activities in the work scope and schedule;
 - The process to be used to track/update as-builts and temporary drawings / BIM models;
 - Hazardous Material inventory;
 - The process to perform risk assessments for hazardous material activities;
 - Training and authorization requirements for those who work directly with hazardous materials, and awareness training for personnel working around hazardous materials;
 - Site-Specific Emergency Response Plan;
 - All other related EHS procedures, safe work permits, and regulatory requirements specific to hazardous material;
 - Process for capturing lessons learned and best practices;
 - Audits of Hazardous Material Program activities, including a written report to Microsoft;
 - Change management process that evaluates impacts of hazardous materials and designs;
 - Incident and investigation reports for all incidents (including near-misses, property damage, environmental mishaps, and injuries regardless of the actual or potential severity of those incidents) involving work with hazardous material.
- (2) Hazardous Material Program
- (A) Establish a Hazardous Material Program for personnel who conduct hazardous material work activities at the local Site that comply with local laws, regulations, and applicable standards for hazard communication. The Performing Authority shall ensure that information about the dangers of all hazardous materials used on the site is known by all affected workers. The Hazard Material Program shall consist of the following elements:
- A written program:
 - Approval process;
 - Inventory list;
 - Inspection schedules;
 - Hazardous material identification,
 - Labeling and storage;
 - Release prevention and control;
 - Emergency response;
 - Personal protective equipment; and
 - Training.
 - It must clearly outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazards associated with hazardous material, and the means to enforce compliance. The program shall also outline the means and methods that will be used to protect the general public while on or in the immediate vicinity of the Project/Site.
- (3) Health Hazard Evaluation
- (A) The Authorizing Authority will conduct a health hazard evaluation at the beginning and intermittently throughout the Project to proactively identify new hazardous materials present and ensure adequate mitigation programs are in place and workers are trained.
- (4) Written Hazard Communication Plan
- (A) All job Sites where workers are potentially exposed to hazardous materials shall have a written program that describes how the Global Harmonized Systems of Classification and Labeling of Chemicals is implemented at the Site. The Performing Authority shall ensure that information about the dangers of all hazardous materials used at the Site is known by all affected workers.

HIGH RISK ACTIVITY (HRA) MANAGEMENT

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- (5) Hazardous Material Identification
- (A) A hazardous material is any item or agent (biological, chemical, radiological, and/or physical) that has the potential to cause harm to humans, animals, or the environment either by itself or through interaction with other factors. A material is considered hazardous if it has any of the following characteristics:
- Carcinogen
 - Toxic
 - Irritant
 - Corrosive
 - Sensitizer
 - Combustible
 - Explosive
 - Flammable
 - Oxidizer
 - Pyrophoric
 - Unstable-reactive
 - Water-reactive
- (B) In addition, materials which in the course of normal handling, use, or storage may product or release dusts, gases, fumes, vapors, mists, or smoke which may have any of the characteristics listed above are also considered hazardous.
- (6) Hazard Material Labeling
- (A) Primary Containers
- The Performing Authority shall ensure all containers of hazardous materials received for use are clearly labeled according to local regulatory requirements and the GHS program. All primary containers with hazardous materials will be appropriately labeled with the product identifier, signal word, pictogram(s), hazard statements, precautionary statements, and manufacturer's information. The Performing Authority shall ensure that workplace labels or other forms of warning on all hazardous chemical labels are legible, in English, and prominently displayed on the container, or readily available in the work area throughout each work shift. Labels on incoming containers of hazardous chemicals shall not be removed or defaced. Labels and other forms of warning shall remain on containers and be maintained so that they are legible through use. If a label is damaged or removed from a primary container, the label must be replaced. The Performing Authority shall inform the other contractors and their workers of any precautionary measures that need to be taken to protect workers during the workplace's normal operating conditions and in foreseeable emergencies; and, the methods the Performing Authority shall use to inform the other contractors and their workers of the labeling system used in the workplace.
- (B) Secondary Containers
- When the contents of large containers are broken down into smaller or secondary containers for in-house use (such as spray bottles), the Performing Authority shall ensure that the label shows the above listed six elements. If the secondary container is too small to allow for a proper label, then at a minimum, the secondary container shall be labeled with the product identifier and words, pictures, or symbols (or some combination) regarding the material's hazard(s). The secondary container information must provide users with general information that, when supplemented with the SDS, sufficiently informs the user of all the material's hazard(s).
- (7) Portable Containers and Pipes
- (A) Portable containers are those in which a worker transfers material from a labeled container to a portable one, solely for immediate use. The Performing Authority shall ensure all portable containers of hazardous material are clearly labeled with the identity and appropriate hazard warnings required by local regulations and standards pertaining to this activity.
- (8) Hazardous Material Storage
- (A) Hazardous materials shall be stored properly following manufacturer's recommendations, local laws, and regulations. Proper storage information can be obtained from Section 7 of the SDS. Hazardous materials shall be stored in containers appropriate for their hazard. For example, corrosives should not be stored in metal containers as it will corrode the metal. Hazardous materials shall be stored with like materials. Incompatible substances such as flammable liquids should not be stored with an oxidizing agent, and acids should not be stored with bases. Each

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

chemical family should be separated from all other chemical families by an approved non-combustible partition or by distance. Hazardous materials shall be stored in quantities in compliance with local regulations and manufacturer recommendations. Other storage considerations for hazardous materials include:

- Temperature
 - Ignition control
 - Ventilation
 - Bonding
 - Environmental elements
- (9) Silica Exposure Control
- (A) Establish and implement controls to prevent the generation of silica dust during construction activities. Ensure compliance with country, state, and local regulations when developing the controls.
- (10) Legionella
- (A) Establish and implement controls to prevent the spread by identifying infectious diseases, communicating the associated risks, and training personnel on sanitation/distancing protocols, medical screening/response, and protective equipment. In addition, ensure proper maintenance of water systems to prevent the growth of Legionella or other harmful microbiological growth. Ensure testing of water systems for Legionella at least every 6 months, and immediately take corrective actions to resolve any elevated Legionella or other harmful microbe levels identified. Properly flush water systems after the completion of construction and before occupancy of the building.
- (11) Flammable and Combustible Liquids
- (A) Flammable liquids shall be stored in adherence to local laws, regulations, and applicable standards. Only approved containers and portable tanks shall be used for storage and handling of flammable liquids. Approved safety cans and containers shall be used for the handling and use of flammable liquids in quantities of five gallons or less. For quantities of one gallon or less, the original container shall be used, for storage, use and handling of flammable liquids. Large quantities of flammable liquids have specific storage criteria pertaining to construction, arrangement, outfitting requirements, as well as capacity limitations. The Performing Authority shall comply with local laws, regulations, and applicable standards when storing flammable and combustible liquids in:
- (B) Inside Storage Rooms
 - (C) Outside Storage Buildings
 - (D) Outdoor Portable Tanks
 - (E) Underground Storage Tanks
 - (F) Aboveground Storage Tanks
- (12) Fire Control for Flammable Liquids Storage
- (A) At least one portable fire extinguisher, having a rating of not less than 20-B units, shall be located outside of, but not more than 10 feet from, the door opening into any room used for storage of more than 60 gallons of flammable liquids. At least one portable fire extinguisher having a rating of not less than 20-B units shall be located not less than 25 feet (7.62 meters), nor more than 75 feet (23 meters), from any flammable liquid storage area located outside. At least one portable fire extinguisher having a rating of not less than 20-B:C units shall be provided on all tank trucks or other vehicles used for transporting and/or dispensing flammable liquids.
- (13) Dispensing Flammable or Combustible Liquids
- (A) When dispensing flammable or combustible liquids from one container to another, the containers shall be grounded or bonded to prevent static discharge which can ignite vapors. Grounding is the process to removing excess charge on an object by creating a low-resistance path to the earth. Grounding cables should be attached to each drum to the earth source and left in place as long as the drum is in use. Bonding is connecting a bond wire between the dispensing container and the receiving container so that both containers have the same static potential, thus eliminating the chance of static discharge. When grounding or bonding, it is critical that a metal-to-metal connection be made between a container and the bonding or grounding cables. The area of connection should be clean from dirt, rust, and paint for proper bare metal contact. It is also important to discharge oneself prior to opening any containers for dispensing.
- (14) Release Prevention and Control

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (A) Hazardous materials must be stored in original containers, as long as the container remains undamaged and properly labeled and stored in a manner to minimize the potential for a spill. When not in use, hazardous material containers shall be kept closed. Good housekeeping practices in hazardous material use or storage use shall be utilized.
- (B) In the event of a spill, the Performing Authority shall establish a spill response procedure that shall include, but not limited to the following:
- Initial response procedure to contain the spill;
 - Spill response equipment, including appropriate PPE;
 - Spill response equipment location;
 - A notification process which includes authorities to be notified (Authorizing Authority, management, EHS, Regulatory Agencies, etc.) and in what order;
 - Summon appropriate qualified spill response contractors, if applicable.
- (C) In the event that a hazardous material spill is an immediate danger to health and safety, personnel must move away from the area and call the local emergency number. If a hazardous material spill exceeds the local agency reportable quantity the Performing Authority shall notify the Authorizing Authorities immediately.
- (15) Spill Tracking
- (A) Any spills shall be entered into the Spill Log and EHS shall be notified of all spills. If a large catastrophic spill occurs, describe the event, including known or possible causes, areas affected, and effectiveness of the cleanup. Include a review of the qualified cleanup contractor and their procedures. Complete an RCA for the investigation to indicate corrective action. For small spills, it is sufficient to fill out the Spill Log, and to take measures to prevent a repeat occurrence.
- (16) Aboveground Storage Tanks
- (A) The area surrounding an aboveground storage tank or a group of tanks shall be provided with drainage, or shall be diked to prevent accidental discharge of liquid from endangering adjoining property or reaching waterways. The drainage system shall terminate in vacant land or other area or in an impounding basin having a capacity not smaller than that of the largest tank served. This termination area and the route of the drainage system shall be so located that, if the flammable liquids in the drainage system are ignited, the fire will not seriously expose tanks or adjoining property. The volumetric capacity of the diked area shall not be less than the greatest amount of liquid that can be released from the largest tank within the diked area, assuming a full tank. The capacity of the diked area enclosing more than one tank shall be calculated by deducting the volume of the tanks other than the largest tank below the height of the dike. Walls of the diked area shall be of earth, steel, concrete or solid masonry designed to be liquid tight and to withstand a full hydrostatic head. Earthen walls three feet or more in height shall have a flat section at the top not less than two feet wide. The slope of an earthen wall shall be consistent with the angle of repose of the material of which the wall is constructed. The walls of the diked area shall be restricted to an average height of six feet above interior grade. No loose combustible material, empty or full drum or barrel, shall be permitted within the diked area.
- (17) Fuel Handling and Transport
- (A) Only use approved safety cans to store and perform transfers from the can to the end use.
- (B) Minimize transport of fuel.
- (C) Never smoke when handling flammable or combustible liquids.
- (D) Never refuel a hot engine.
- (E) If fuel is spilled, clean the area immediately.
- (F) After refueling, but before starting the engine – move the tool at least 25 feet / 7.6 meters away from the refueling area to avoid igniting vapors.
- (18) Compressed Gas Storage, Use, and Transport
- (A) A compressed gas storage, use, and transport shall be developed and implements that includes, but is not limited to, the following components:
- User responsibilities
 - Labels
 - Proper storage (inside and outdoors)
 - Proper handling
 - Safety controls
 - Spill and release mitigations / response
- (d) Tools**

HIGH RISK ACTIVITY (HRA) MANAGEMENT

SAFETY PERFORMANCE SPECIFICATIONS

- (1) A Hazardous Material Inventory shall be maintained for all hazardous materials used at a Project Site. The hazardous material inventory should include the following: material name; manufacturer's name, address, and telephone; location at the work Site; quantity; and hazard characteristics. Separate lists of hazardous materials used at each location shall be maintained and posted in individual work areas. The Performing Authority or their designee shall establish a procedure to collect, manage, monitor, and update the hazardous material inventory. The hazardous material inventory list must be readily accessible to all workers on all shifts, always maintained at the Project site, and be provided upon request to any person(s) on the Project Site.
- (2) Safety Data Sheets shall be maintained for all hazardous material at a Project Site. The SDS's shall be in the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals format with the standard 16 sections. The Performing Authority who purchases chemicals shall be responsible for obtaining all SDS's that are used by workers. No container shall be released for use until the SDS is received and the information has been verified. The Performing Authority or their designee shall establish a procedure to collect, manage, monitor, and update the SDS's. The SDS's must be readily accessible to all workers on all shifts, always maintained at the Project Site, and be provided upon request to any person(s) on the Project Site.
- (3) Signage shall be used to indicate areas where hazardous materials is being handled or stored. Signage shall indicate at minimum that:
 - (A) The material is hazardous
 - (B) PPE requirements
 - (C) Authorized personnel only
 - (D) Other pre-cautionary statements such as "DANGER", "NO SMOKING", or "OPEN FLAMES"
 - (E) Signs and symbols shall be visible at all times when work is being performed and shall be removed or covered promptly when the hazards no longer exist. Signage must follow GHS signage/labeling requirements.
- (4) Barricades shall be used to separate non-authorized personnel in areas where hazardous materials is being handled or stored.
- (5) Release Prevention and Control Equipment
 - (A) The appropriate supplies (spill kit) to cleanup hazardous materials that may be spilled at the work Site shall be available. Supplies must be easily accessible when required and must be sufficient in quantity and type to adequately cleanup the materials that may be spilled.
 - (B) Release prevention and control equipment may be:
 - Electronic or mechanical leak detectors
 - Cathodic protection systems
 - Secondary containment
 - Drip pans
 - Drum faucets
 - PPE such as gloves, aprons, goggles, respiratory protection, etc.
 - Absorbent socks, pads, pillows.
 - (C) Personal Protective Equipment shall be selected by a Qualified Person in accordance with the requirements of the job to be performed and the SDS; and be properly used and maintained, and discarded if damaged, contaminated, or is a single-use item. Personal protective equipment shall be determined by evaluating the hazards of hazardous material handling with respect to:
 - Scope of hazard exposure;
 - Magnitude of hazard;
 - Likelihood of hazard occurrence;
 - Potential for changing conditions or activities;
 - Strategies for controlling the hazards; and
 - Impact on the need for emergency response.