

Northstar Communications Inc.

Project
Environmental, Safety, Health & Security
Program

TARGET ZERO

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1.0 Project Environmental, Safety, Health & Security Program (PESHSP) Introduction

Telecommunications Division (Telecom) professionals, subcontractors, and their lower-tiered subcontractors' crew members present or performing work on Telecom project sites are to comply with the requirements contained in this PESHSP.

This PESHSP establishes an administrative structure within which Telecom professionals, subcontractors, and their lower-tiered subcontractors' crew members present on Telecom project sites will provide for the safety, health, and security of individuals affected by work activities and for the protection of the environment and property.

This PESHSP does not relieve the Subcontractor or its lower-tiered subcontractors of any of their traditional or specific legal responsibilities with respect to occupational safety and health or the protection of the environment or property.

This PESHSP provides for consistency among the various subcontractors' individual programs; Telecom will monitor subcontractors' conformance with their individual programs, the contents of this PESHSP, and the contract agreement. Nonconformance will be communicated to the Subcontractor with an expectation of immediate correction.

The requirements set forth in this PESHSP are considered to be contractual obligations and are to be passed down by the Subcontractor to all its lower-tiered subcontractors.

The term "subcontractor" in this manual will refer to any general contractor, subcontractor, second tier contractor, etc., who are working under a Master Service Agreement/Contract with Telecom.

1.1 PESHSP Elements

This PESHSP includes the following major elements:

- Identification of the minimum environmental, safety, health, & security (ESH&S) requirements for Telecom professionals and subcontractors' crewmen staffed to Telecom project sites.
- Review of each subcontractor's ESH&S program for conformance with the minimum requirements of this PESHSP.
- Monitoring of subcontractors' activities for general compliance with this PESHSP.
- Identification of procedures for advising the Subcontractor of ESH&S nonconformance violations and issuance of violation notices.
- Identification of procedures for initiating corrective action and back charges to the Subcontractor if it does not comply with ESH&S nonconformance violation notices.

- Notification of coordination meetings and training that the subcontractors' crew members are required to attend.
- Notification of documentation and submittals for ESH&S related reporting requirements.

1.2 PESHSP Program Administration

Telecom will distribute copies of the PESHSP to all subcontractors as an attachment to their contract agreement.

Subcontractor is to ensure and require that crew members staffed to Telecom project sites are made aware of the contents of this PESHSP and their required compliance.

Subcontractor is to cascade ESH&S contractual requirements, including this PESHSP, to its lower-tiered subcontractors.

Subcontractor is to ensure and require that its lower-tiered subcontractors' crew members staffed to Telecom project sites are made aware of the contents of this PESHSP and their required compliance.

Telecom is to administer this PESHSP and is to have such authority as described in this plan as well as ESH&S language identified in contract agreements.

A copy of the PESHSP is to be maintained by the Subcontractor in Section 12 of its crew's jobsite ESH&S binder and made available to Telecom upon request.

1.3 PESHSP Roles, Responsibilities, and Leadership

1.3.1 Subcontractor Management

Subcontractors are responsible for establishing and managing the PESHSP to enable the subcontractors' field supervisors, crew members, and their lower-tiered subcontractors' field supervisors and crew members to be aware of their expectations. The Subcontractor is held accountable for meeting the requirements found in this PESHSP.

Subcontractors are to have field supervisors on-site during work being performed on behalf of their lower-tiered subcontractors unless the lower tiered subcontractor has a competent/qualified person on-site for tasks being performed.

Subcontractor will demonstrate, through actions, a strong commitment to ESH&S throughout all phases of work performed on Telecom project sites and is responsible for implementing its ESH&S program and meeting or exceeding the requirements of this PESHSP. The Subcontractor is to ensure during all phases of its and its lower-tiered subcontractors' scope that the following is accomplished:

- ESH&S policies and procedures are communicated to supervisors, crew members, and their lower-tiered subcontractors' supervisors and crew members.
- Acceptable ESH&S conditions are maintained throughout the project.
- Crew members are qualified to perform assigned work.

- This PESHSP is included as a contractual requirement for all lower-tiered subcontractors.
- Adequate resources are allocated to fully implement its ESH&S program and this PESHSP.
- Risk/hazard assessments are conducted and appropriate measures are developed to mitigate hazards and safeguard crew members prior to starting work.
- Regular inspections of project sites are conducted to ensure a safe work environment.
- Appropriate tools, training, and equipment are provided to crew members for each task.
- Tools and equipment are inspected for deficiencies and include current certifications, as required.
- Documentation is properly maintained and provided to Telecom, as required.
- ESH&S information and training issued by Telecom is reviewed, completed, applied, and disseminated.

1.3.2 Subcontractor Field Supervision

Subcontractor’s field supervisors are to provide leadership and guidance as well as maintain communication, cooperation, and teamwork. Field supervisors must implement procedures and provide instructions for safe and efficient work practices. Field supervisors are responsible for the following:

- Cooperating with, and actively participating in, ESH&S audits and assessments conducted by Telecom.
- Conducting and documenting the Job Hazard Analysis (JHA) and Job Safety Analysis (JSA) with crew members.
- Ensuring that crew members are informed of the requirements of their ESH&S program and PESHSP regarding their respective roles and responsibilities.
- Establishing an adequate ESH&S interface with their lower-tiered subcontractors, other subcontractors on-site, and Telecom.
- Ensuring regular monitoring and auditing of ESH&S performance for crews and lower-tiered subcontractors’ crews ESH&S performance.
- Participating in coordination meetings held by Telecom to discuss safety, quality, cost, and scheduling and disseminating pertinent information to crew members and their lower-tiered subcontractors’ field supervisors.

Field supervisors that are fulfilling the ESH&S role are responsible for the following, in addition to the roles and responsibilities identified above:

- Responding to ESH&S related concerns, questions, and requirements.
- Conducting ESH&S audits and assessments detailed in their ESH&S program and PESHSP.
- Conducting ESH&S orientations for new crew members on their roles and responsibilities that are identified in their ESH&S program and PESHSP.
- Monitoring crew compliance with ESH&S requirements.
- Providing training and advice to crew members on ESH&S requirements.
- Conducting and participating in ESH&S meetings, investigations, reporting, and change management.

1.3.3 Subcontractor Crew Members

Crew members are responsible for the following:

- Working safely at all times to protect themselves, fellow crew members, other parties, and the environment.
- Learning and abiding by ESH&S requirements applicable to their job task.
- Reporting substandard practices or conditions to their supervisors.
- Attending required ESH&S training.
- Actively identifying and eliminating hazards within their control and competency.
- Promptly reporting any ESH&S related incidents including near misses, property damage, environmental, and injuries/illnesses to their supervisor.
- Correcting or initiating corrective actions for all unsafe acts and conditions within their control and competency.
- Being aware of the disciplinary reprimand associated with violating ESH&S requirements and endangering themselves and others around them.

1.4 Training and Education

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Field supervisors and crew members and lower-tiered subcontractors' field supervisors and crew members are to be adequately trained for their assigned work activities.
- All training and education is to be documented. Training records are to include subject, date, time, and names of trainees.
- Instructors conducting training are to be authorized by the Subcontractor and are to be qualified by experience and/or education.

Training records are to be maintained by the Subcontractor in Section 2 of its crew's ESH&S jobsite binder, or made available electronically, and are to be submitted to Telecom upon request.

1.4.1 *PESH&S Orientation*

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Field supervisors and crew members assigned to Telecom project sites are to be trained on the contents of this plan prior to beginning work on Telecom project sites conducted by the Subcontractor. The orientation is to be as follows:
 - The orientation is to be conducted by the Subcontractor's management.
 - The orientation is to provide Subcontractors' supervisors and crew members, and their lower-tiered subcontractors' supervisors and crew members knowledge of the project requirements, according to the PESHSP, as well as the Subcontractor's own ESH&S requirements.
 - The orientation is to include the crew members' work tasks, the safety and health hazards associated with those tasks, and the appropriate measures to be taken to mitigate those hazards.
 - Subcontractor may be required to send employees through orientation held by OCI/B&V.

Job Task Specific Training

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Field supervisors and crew members are to be provided with the appropriate training and instruction applicable to their assigned job tasks, including regulatory mandated training, as follows:
 - Regulatory training may include topics such as fall protection, competent climber, mobile equipment operations, tool usage, respiratory protection, confined space entry, excavation safety, stairways and ladders user training, scaffold user training, hazard communication, hazardous energy control, etc.
- A person qualified in the subject matter through experience or education is to conduct the training.

1.5 ESH&S Coordination Meetings and Periodic Communications

1.5.1 Subcontractor Preconstruction ESH&S Meeting

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Prior to their start of construction activities, subcontractors' management and field supervisors participate in a subcontractor preconstruction ESH&S meeting with Telecom:
 - During the meeting, Telecom will review project ESH&S requirements and deliverables with subcontractors' management and field supervisors using the [Subcontractor Preconstruction ESH&S Meeting \(TCOM-FM-0086-0056\)](#) form or equivalent.
 - Telecom will verify that all subcontractors' preconstruction ESH&S deliverables have been submitted and will answer any questions the subcontractors' management or field supervisors may have regarding ESH&S and performing work on Telecom project sites.
 - Subcontractor management is to disseminate the information presented in the meeting and review it with crew members prior to the start of construction activities.
- Subcontractor management is to conduct preconstruction ESH&S kickoff meetings with their lower-tiered subcontractors' field supervisors and crewmen using the [Subcontractor Preconstruction ESH&S Meeting \(TCOM-FM-0086-0056\)](#) form, or equivalent, prior to their start of construction activities and ensure that their lower-tiered subcontractors adhere to the requirements identified above.

[Subcontractor Preconstruction ESH&S Meeting \(TCOM-FM-0086-0056\)](#) forms for lower-tiered subcontractors are to be maintained by the Subcontractor and submitted to Telecom upon request.

1.5.2 Subcontractor Safety Meetings

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Appoint one representative in a construction/safety leadership role to attend monthly discussions via teleconference and quarterly meetings in person.

The safety meetings will focus on ESH&S related topics that will aid the Subcontractor and its lower-tiered subcontractors in their compliance with Telecom ESH&S program requirements.

1.5.3 Periodic Communications/Alerts

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Review periodic communications/alerts issued by the Telecom with their field supervisors, crew members, and lower-tiered subcontractors. Completion is to be documented using an attendance roster.

Periodic communication/alert attendance rosters are to be maintained by the Subcontractor and submitted to Telecom upon request.

1.6 Lower-Tiered Subcontractor Qualification and Authorization

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Submit to Telecom for review and evaluation all lower-tiered subcontractors using the [Subcontractor Qualification Review \(TCOM-FM-0086-0085\)](#), or equivalent, to ensure that they meet the requirements of Telecom and this PESHSP.
- Lower-tier subcontractors shall not commence work until a completed [Request for Lower-Tiered Subcontractor Usage Form \(TCOM-FM-0086-0075\)](#) is signed off by the telecom Regional ESH&S manager.

1.7 Designation of Competent/Qualified Persons

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Ensure that work is conducted under the direction of a competent/qualified person.
- Ensure that a competent/qualified person is on-site during the performance of all work-related activities.
- Ensure that the competent/qualified person(s) meet the Occupational Safety and Health Administration's (OSHA's) definition of a competent person:
 - "One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or

dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them". [[29 CFR 1926.32\(f\)](#)].

By way of training and/or experience, a competent person is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation, and has the authority to correct them. Some standards add additional specific requirements that must be met by the competent person.

1.8 Master Job Hazard Analysis

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Prior to the start of an assigned job scope, complete a Job Hazard Analysis (JHA) and train their crews on its contents using the [Master Job Hazard Analysis \(TCOM-FM-0086-0070\)](#) or equivalent.
- Have the completed JHA, at a minimum, identify the following:
 - Individual steps needed to complete the defined scope of work for that specific job scope.
 - Hazards associated with the individual steps needed to complete the defined scope of work.
 - Risk mitigation measures being implemented to protect crew members from the identified hazards will perform the individual steps needed to complete the defined scope of work to include engineering controls, administrative controls, and personal protective equipment.

[Master Job Hazard Analyses \(TCOM-FM-0086-0070\)](#) are to be maintained by the Subcontractor in Section 3 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.9 Job Safety Analysis (JSA)

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Field supervisors conduct a JSA using the [Job Safety Analysis \(TCOM-FM-0086-0068\)](#), or equivalent, and review it with other effected parties prior to commencing work operations each day:
 - The JSA is used to raise a crew member's awareness and get them thinking about safety at the beginning of the day. It is the Subcontractor's supervisors' responsibility to ensure that crew members have the appropriate personal protective equipment (PPE), are provided adequate fall protection as required, and have the proper tools and materials necessary in order to perform their assigned tasks.

- JSA meetings are mandatory and are required to be done every day and upon any significant changes to work activity or the project. Participation is to be documented by having professionals in attendance sign the completed form upon completion of the review. Individuals that do not attend or crew site leads that do not hold the meetings will be subject to disciplinary action.

[Job Safety Analyses \(TCOM-FM-0086-0068\)](#) are to be maintained by the Subcontractor in Section 3 of its crew's ESH&S jobsite binder and submitted to Telecom on the 3rd of each month.

1.10 Loss Management Monthly Summary

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Subcontractors are to record monthly ESH&S statistics for their crews and their lower-tiered subcontractors' crews using the [Loss Management Monthly Summary \(TCOM-FM-0086-0069\)](#) or equivalent.

[Loss Management Monthly Summaries \(TCOM-FM-0086-0069\)](#) are to be submitted to Telecom on the 3rd of each month for the previous month.

1.11 Substance Abuse Program

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Ensure the development and implementation of a Drug and Alcohol Testing Program for field supervisors and crew members staffed to Telecom project sites as required by the contract agreement.
- Immediately inform Telecom of all non-negative results.
- Use the following forms to verify program compliance:
 - [ESH&S Pre-Project Substance Abuse Test Verification Template \(TCOM-FM-0086-0083\)](#) or equivalent.
 - [Post-Incident/Injury Substance Abuse Test Verification Template \(TCOM-FM-0086-0082\)](#) or equivalent.
 - [Probable Cause Substance Abuse Test Verification Template \(TCOM-FM-0086-0084\)](#) or equivalent.
- Provide additional documentation requested by Telecom to verify testing compliance.

[ESH&S Pre-Project Substance Abuse Test Verification Templates \(TCOM-FM-0086-0083\)](#) are to be submitted to Telecom and placed in Section 2 of its crew's jobsite binder prior to the Subcontractor's employees or lower-tiered subcontractors' field supervisors or crew members starting work on a Telecom project.

[Probable Cause Substance Abuse Test Verification Templates \(TCOM-FM-0086-0084\)](#) are to be submitted to Telecom on the 3rd of each month.

[Post-Incident/Injury Substance Abuse Test Verification Templates \(TCOM-FM-0086-0082\)](#) are to be submitted to Telecom 24 hours after the incident occurs.

Reasonable suspicion substance abuse program compliance letters ([TCOM-FM-0086-0082](#), [TCOM-FM-0086-0083](#), [TCOM-FM-0086-0084](#)) are to be submitted to Telecom as justified.

1.12 Criminal Background Record Check Program

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites, **if required by the project**:

- Develop and implement a Criminal Background Record Check Program for field supervisors and crew members staffed to Telecom project sites as required by the contract agreement. [Pre-Project Criminal Background Check Verification Template \(TCOM-FM-0086-0087\)](#), or equivalent, is to be used by the Subcontractor and its lower-tiered subcontractors to verify program compliance, if applicable.
- Provide additional documentation requested by Telecom to verify screening compliance.

If applicable, in accordance with the Telecom contract agreement, [Pre-Project Criminal Background Check Verification Templates \(TCOM-FM-0086-0087\)](#) are to be submitted to Telecom prior to the Subcontractor's employees or lower-tiered subcontractors' employees start work on a Telecom project.

1.13 Incident Investigation and Reporting

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Have a system in place for immediate verbal reporting, investigation, and documentation of all injuries, accidents, illnesses, fires, hazardous material spills, environmental incidents, and unsafe conditions/behaviors/procedures to the Subcontractor's field supervisor, management, and Telecom.
- Immediately report all ESH&S related incidents to Telecom, regardless of the day or hour, including but not limited to, injuries; fatalities; occupational illnesses; near miss incidents; property damage incidents; incidents involving theft or vandalism; environmental incidents; automobile incidents; outages; utility strikes; and regulatory inspections by state, local, or federal government agencies to the Regional ESH&S Manager through a phone call. If the Regional ESH&S Manager does not answer, leave a message with brief incident summary.

- Investigate all ESH&S related incidents using the appropriate incident investigation form identified below:
 - [Injury/Illness Investigation \(TCOM-FM-0086-0067\)](#) or equivalent.
 - [Near-Miss/Property Damage Investigation \(TCOM-FM-0086-0071\)](#) or equivalent.
 - [Environmental Incident Report \(TCOM-FM-0086-0095\)](#) or equivalent.
 - [Utility Strike Investigation \(TCOM-FM-0086-0079\)](#) or equivalent.
- Ensure that corrective actions and measures are swiftly taken, based on the findings of the investigation, to inhibit a future recurrence.
- As part of the investigation, all involved parties are interviewed using the [Incident Interview \(TCOM-FM-0086-0066\)](#) or equivalent.
- As part of the incident investigation, all involved parties are subject to substance abuse testing in accordance with the requirements of Section 1.12 of this PESHSP.

[Injury/Illness Investigations \(TCOM-FM-0086-0067\)](#) and [Incident Interviews \(TCOM-FM-0086-0066\)](#) are to be submitted to Telecom within 72 hours after the incident occurs.

1.14 Work-Related Injury Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Ensure that injured/ill crew members are provided the best treatment available.
- Ensure that, at a minimum, two crew members trained in first aid/CPR are present on Telecom project sites at all times while work is being performed.
- Ensure that tower crews enforce that one of the two first aid/CPR trained crew members is maintained on the ground at all times while elevated work is being performed.
- Ensure that first aid/CPR trained crew members are physically and mentally capable of safely and effectively performing the required duties and maintain written verification of training. First Aid / CPR training must include a hands-on portion. Online (electronic) only certification will not be accepted.
- Ensure that first aid kits/supplies are maintained and made readily available to crew members on Telecom project sites.
- Report all work-related injuries/illnesses occurring on Telecom project sites to Telecom in accordance with Section 1.14 of this PESHSP.

Current first aid/CPR certifications are to be maintained by the Subcontractor in Section 2 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.14.1 Minor Injuries/Illnesses Requiring On-Site First Aid Evaluation and Care

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- First aid/CPR trained crew members should treat minor injuries/illnesses on-site.
- First aid kits should be stocked and made readily available for use on all Telecom project sites.

1.14.2 Non-Life-Threatening Injuries/Illnesses Requiring Off-Site Medical Evaluation and Care

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Occupational clinics are established and made readily available to crew members in areas where the Subcontractor or its lower-tiered subcontractors are performing work.
- Occupational clinics should only be utilized for the evaluation and care of non-life-threatening injuries/illnesses.
- Subcontractors are responsible for providing the injured/ill crew members with transportation to the occupational clinic. Injured/ill crew members are not required to drive themselves to off-site evaluation and care.
- The Subcontractor's safety managers or field supervisors are responsible for accompanying the injured/ill crew members to the occupational clinic.

1.14.3 Life-Threatening Injuries/Illnesses Requiring Off-Site Medical Evaluation and Care

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Local hospitals are to be identified in areas in which work is performed for the evaluation, treatment, and care of injuries/illnesses that are considered to be life threatening.
- The Subcontractor is responsible for summoning off-site emergency responders by dialing 9-1-1. In areas without 9-1-1 services, Subcontractor is responsible for contacting emergency responders using a local number.
- The Subcontractor is responsible for having a plan for the transportation, treatment, and care of crew members suffering from life-threatening injuries/illnesses in areas where emergency responders cannot be contacted.

- The Subcontractor’s safety managers or field supervisors are responsible for accompanying the injured/ill crew members to the emergency room/hospital.

1.15 Emergency Action and Rescue Planning

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- A documented site-specific emergency action plan (EAP) is developed, communicated, and maintained on-site using the [Site-Specific Emergency Action Plan \(EAP\) \(TCOM-FM-0086-0077\)](#) or equivalent.
- At a minimum, the written EAP must include the following:
 - Jobsite information (address and/or latitude and longitude).
 - Emergency responder contact information.
 - Procedures if cellular phone use is not available on-site.
 - Non-emergency care facility being utilized.
 - Emergency care facility being utilized, including written directions from the jobsite.
 - Muster point identified.
 - Site-specific escape plan (building evacuation route) if working inside a building or on a rooftop.

Tower rescue kits must be located on-site in an easily accessible location. ALL components that make up the rescue kit must be together and adhere to the following requirements:

- Be maintained in accordance with ANSI Z359.4:
 - Fisk descenders and similar friction devices do not meet ANSI Z359.4 for rescue applications. Descent devices have a hands free locking element and panic locking element associated with the device.
- Have sufficient rope for height of work and secondary lifelines to maintain 100% fall protection during rescue.
- Have adequate connectors for rescue application.

[Site-specific EAPs \(TCOM-FM-0086-0077\)](#) are to be maintained by the Subcontractor in Section 10 of its crew’s ESH&S jobsite binder and made available to Telecom upon request.

1.16 Return to Work

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Ensure that effort is made return crew members to work after a work-related injury or illness, under the direction of the physician.
- Develop and implement a return-to-work program to assist crew members who are temporarily disabled because of a work-related injury or illness:
 - Injured crew members are to be treated by an authorized medical treating facility in accordance with Section 1.14 of this PESHSP.
 - The medical facility is to be utilized for initial treatment and evaluation of all injured crew members.
 - Follow-up care should be provided in accordance with applicable professional compensation statutes.
 - If the doctor determines that the professional qualifies for “return to work” (“restricted-duty”), the doctor will complete appropriate forms indicating the restrictions and conditions for transitional work.
- Ensure that modified work is provided until they are able to resume regular duties. All modified work is temporary in nature and is designed to facilitate a return to regular duties as soon as possible.
- In no case is an injured professional to be laid off or terminated from an “alternative work” position, unless first discussed with Telecom.

1.17 Governing Body (Regulatory) Inspection

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Immediately notify Telecom of the presence of a government agency inspection official on a Telecom project site:
 - A representative from Telecom may accompany the government agency inspection official during inspections of the project, if they are at the site during the inspection.
 - A crewman is to be selected to accompany the government agency inspection official officer during project inspections.
- Ensure that governing body inspections are documented using the [OSHA/MSHA Inspection Summary \(TCOM-FM-0086-0073\)](#) or equivalent.
- Examine the government agency inspection official’s credentials prior to the start of any project inspection.

- Ensure that the government agency inspection official is treated courteously and given full cooperation at all times while on the project site.
- In the event of any violation of ESH&S laws arising from a crew member's action or failure to act, take immediate action to resolve the violation with the appropriate regulatory authority; pay any and all fines, penalties, or other costs that are levied by a regulatory authority; and reimburse to Telecom and the Client all directly related and documented costs expended to resolve the violation.

[MSHA/OSHA Inspection Summaries \(TCOM-FM-0086-0073\)](#) are to be immediately submitted to Telecom following the closing conference.

1.18 PESHSP Surveillance

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Maintain written disciplinary procedures equal to or greater than those discussed in this PESHSP as follows:
 - The procedures must include enforcement responsibilities of all field supervisors.

1.18.1 Surveillance

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Monitor crew members for compliance with the ESH&S requirements found in governing body regulations, the Subcontractor's ESH&S Program, this PESHSP, and Client ESH&S requirements.

Telecom will provide surveillance of subcontractors' activities to observe whether such activities are in compliance with this PESHSP and use the violation notification procedures to enforce program compliance.

1.18.2 Violation Notification Procedures

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Ensure that management, field supervisors, and crew members are aware of the PESHSP violation notification procedures. If an apparent violation of an ESH&S occurs, the Subcontractor will be advised of the violation and be required to correct the violation.

If there is a conflict between the PESHSP, the subcontractors' ESH&S program requirements, Client ESH&S requirements, and governing body regulations, the most restrictive is to apply.

- Inform their supervisors, crewmen, and lower-tiered subcontractors of an ESH&S violation by one of the following methods:

- **ESH&S Occupational Violation Notice**--Subcontractor will be informed of and are required to inform their lower-tiered subcontractors of apparent violations of ESH&S standards by means of the [ESH&S Occupational Violation Notice \(TCOM-FM-0086-0072\)](#) or equivalent. Violation notices are to be delivered by the most expeditious method to the Subcontractor's office. The Subcontractor will receive an original and one copy of each violation notice. The following are the four types of violations:
 - o Serious--Any condition or practice that is causing or likely to cause death or serious physical harm to any person.
 - o Non-serious--Any condition or practice that is not likely to cause death or serious physical harm to any person.
 - o Stop Work/Imminent Danger--The existence of any condition or practice that would reasonably be expected to cause death or serious physical harm before such condition or practice can be corrected or any condition or practice that can reasonably be expected to cause a significant environmental incident before such condition or practice can be corrected. This is a "stop work" situation. All persons are to be withdrawn from the affected area, and no one is allowed in the area except those people deemed necessary to correct the condition or practice.
 - o Stop Work/Noncompliance--A violation (serious or non-serious) described in a notice that has not been totally corrected within the noted abatement time, and the abatement time should not be extended. This is a "stop work" situation. All persons are to be withdrawn from the affected area, and no one is allowed in the area except those people deemed necessary to correct the condition or practice.

- **ESH&S Personal Violation Notice**--Subcontractors' field supervisors, crew members, and lower-tiered subcontractors' crew members who violate governing body requirements, the Subcontractor's Environmental, Safety, Health and Security Incident Prevention Program (SESHSIPP), this PESHSP, or Client requirements are to be issued a personal violation notice using the [ESH&S Personal Violation Notice \(TCOM-FM-0086-0074\)](#) or equivalent.
 - o Field supervisors or crew members who receive three personal violation notices are to be immediately removed from the Telecom project.
 - o Field supervisors or crew members found to be knowingly or willfully violating PESHSP requirements, resulting in Imminent Danger to Life and Health (IDLH) circumstances, are to be removed from the Telecom project immediately pending a full investigation.
 - o Field supervisors or crew members discharged for violations are to not be eligible for rehire/future placement on a Telecom project.

- Non-serious type personal violation notices are to be handled with progressive discipline protocols as follows:
 - First Offense--Oral warning.
 - Second Offense--Written warning.
 - Third Offense--Permanent removal from the Telecom project.

[ESH&S Occupational Violation Notices \(TCOM-FM-0086-0072\)](#) and [ESH&S Personal Violation Notices \(TCOM-FM-0086-0074\)](#) issued by the Subcontractor are to be signed and submitted to Telecom immediately after the issuance of the notice.

1.18.3 Imminent Danger Violation

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Immediately cease work if a violation is considered to be imminently dangerous to life, limb, environment, or property.
 - The imminent danger conditions are to be corrected before work is allowed to continue.

1.18.4 Repeat Violations

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Repeated nonconformance with the PESHSP and repeated failure to comply with correction directives may result in removal of the Subcontractor's management from the Telecom project or termination of the contract agreement.

1.18.5 Abatement

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Ensure that ESH&S hazards noted on ESH&S violation notices are abated within the time period.

Telecom will initiate steps to correct the violation and back charge such expenses to the Subcontractor if the hazard has not been abated within the time period given on the ESH&S violation notice.

1.19 PESHSP Auditing

ESH&S audits and assessments provide a method of measuring the level of compliance with the Subcontractor and its lower-tiered subcontractors. Audit and assessment reports identify ESH&S improvement opportunities and direct corrective action.

Telecom will conduct periodic audits of the Subcontractor's sites using the [Project ESH&S Scorecard \(TCOM-FM-0086-0030\)](#) or equivalent.

1.19.1 Subcontractor and Lower-Tiered Subcontractor Responsibilities

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Implement an ESH&S program compliance auditing process for field supervisors and crew members assigned to Telecom project sites.
- Ensure that field supervisors and crew members participate in ESH&S scorecard audits performed by Telecom.

1.20 Community Relations

The objective of a community relations plan is to ensure that good public relations are maintained at all times during the Telecom project. Complaints must be dealt with swiftly and, when appropriate, remedial action will be taken.

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Immediately contact Telecom if about complaints associated with Telecom project sites.
 - The Client and Telecom have overall responsibility for undertaking all communications with outside third parties.
 - Telecom and the Client will seek to set up and maintain good public relations through a program that informs the public of the project and its schedules and by being available to answer questions about the project in an informed and consistent manner.
 - Complaints from neighbors or other parties will be treated seriously, and the cause will be fully investigated.
 - Telecom will log the complaint in the project log and, when appropriate, remedial action will be taken.
 - The complainant will be informed by the Client of the action that has been taken.
 - Complaints will be actively followed up, and corrective action will be taken, as appropriate.
- Notify Telecom in advance of unusual activities, including work performed outside of normal hours.
 - Telecom will notify the Client; in turn, the Client will notify all affected neighbors.

1.21 Security Requirements

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Ensure field supervisors and crew members are familiar with these requirements and the possible penalties for the following violations:
 - Security regulations may be added to or deleted from this PESHSP as deemed necessary by Telecom.
 - Revisions or additional requirements will be sent to each subcontractor.
 - Upon receipt, the Subcontractor is responsible for informing each of its crew members and its lower-tiered subcontractors of the revised or additional rules.
- Are responsible for all materials and equipment provided to them for use on Telecom projects. Security methods are to be employed, as required, to ensure the protection of all materials, equipment, and work from theft, vandalism, fire, and all other damage and loss.
- Comply with Telecom project security requirements regarding guard service, registration of personnel and vehicles, and use of designated gates.
- Ensure that the following mandatory security requirements are adopted for the protection of all persons involved with the Telecom project sites:
 - These rules apply to subcontractor management, field supervisors, crew members, and other parties approved by Telecom while on Telecom project sites.
 - These rules are general in nature and are not to be considered all-inclusive; nor do they relieve Telecom, the subcontractors and their lower-tiered subcontractors' management, or field supervisors from applicable regulations promulgated by governmental authorities.

Any managers, field supervisors, or crew members working on Telecom project sites are subject to discharge and/or prosecution on criminal charges if he or she is involved with the following:

- Violating any state or federal law on the project.
- Fighting, creating a disturbance, or engaging in any negligent act that could result in injury or death.
- Conspiring or participating in placing a threat of any type to disrupt any work effort.
- Destroying or attempting to destroy any property.

- Intentionally engaging in conduct constituting a substantial step towards the commission of any criminal offenses.
- Possessing firearms or other deadly weapons on his/her person or within a vehicle under his/her control on the project sites.
- Entering without authorization into an area that is not his/her assigned work area.
- Committing any act that constitutes moral misconduct.
- Assaulting or molesting any project Security Officer, supervisor, or other professional either on or off the project.
- Driving any vehicle in a manner that may result in injury to anyone on the project.

Possible consequences for prohibited acts include a variety of options ranging from safety/security violations to arrest and criminal prosecution.

- Ensure that the following are prohibited on Telecom project sites:
 - Firearms or other deadly weapons.
 - Explosives or fireworks.
 - Alcoholic beverages.
 - Narcotics or non-prescribed drugs.
 - Any unauthorized vending device, including soft drinks, snacks, or other foodstuffs.
 - Unauthorized sale of food, tickets, beverages, or other merchandise.
 - Any open fires, including barrels and fire rings.
 - Posting of unauthorized signs.

Telecom has developed close working relationships with local, state, and federal law enforcement agencies. If a criminal problem does develop, the full weight of available law enforcement resources will be brought to bear. The criminal element that preys on construction projects simply finds it easier to go elsewhere. Consequently, the Client's capital can be directed toward more productive uses than paying for crime.

1.21.1 Security Inspections

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Spot Inspections—Periodic spot inspections of individuals' carried or worn items as an antitheft technique. Such inspections will include individuals' backpacks, lunch boxes, briefcases, toolboxes, and other carried or worn items capable of concealing

tools or materials. Both management and labor personnel will be subject to inspection, and all inspections will be made on a random nondiscriminatory basis. Anyone who is asked to open a lunch box, briefcase, toolbox, etc., in his/her possession will be expected to do so. Refusal to cooperate with the inspection program will result in removal of the crew member(s) from the project.

- Vehicle Inspections--Vehicles entering or leaving the project site are also subject to inspection at any time by Telecom or Client personnel. The driver of the vehicle will also be expected to open compartments upon request. Failure to comply with vehicle inspection procedures will result in removal of the crew member(s) from the project.
- Most routine inspections will occur when leaving the project site. Expanded security measures will be implemented when circumstances require their use. Expanded inspections will include a complete inspection of all personnel, carried or worn items, and vehicles prior to entry to the project site.

1.21.2 Alcohol and Drugs

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- The use of narcotics and alcohol is strictly prohibited at the project. Anyone reporting for work under the influence of narcotics, intoxicants, or non-prescribed drugs will be discharged. Anyone who transports or allows to transport, any narcotic, alcoholic beverage, or non-prescribed drug onto the project site, will be discharged. Individuals may be inspected for narcotics prior to entering the project sites.

1.21.3 Visitors and Third Parties

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Visitors or third parties **are not allowed** on Telecom project sites without prior consent from Telecom.

1.22 Recordkeeping and Documentation Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Ensure that a document management system is in place so that forms, inspections, reports, meetings, and investigations required by this PESHSP are submitted to Telecom in a timely manner and/or maintained on the Telecom project sites in the crew's ESH&S jobsite binder, in accordance with the requirements of this section.

1.22.1 Items Required to Be Maintained in Corporate Offices by the Subcontractor

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Pre-Hire/Pre-Project, Random, Post-Accident, and Reasonable Suspicion Drug Tests are to be kept and made available if requested by Telecom for periodic auditing.

When requested, the Subcontractor will provide verification of the test by sending the test results to Telecom, excluding any personal information outside of the test date, test result, employee name, and what type of test was completed.

- If the Subcontractor is working on a project where background checks are required by the Client, results of background checks are to be kept by the Subcontractor and made available if requested by Telecom for periodic auditing.

1.22.2 Items Required to be Maintained in Crew’s Jobsite ESH&S Binders by the Subcontractor

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

***ESH&S Kickoff Meeting** Section 1

***Training Records, Certifications, Pre-Project Drug Test Verification, and Background Checks** Section 2

Risk Mitigation Plans Section 3
 * Job Hazard Analysis
 Job Safety Analysis

***Authorizations** Section 4
 Request for Lower – Tiered Subcontractor
 Energized Electrical Work Authorization

Permits and Notices Section 5
 Trench and Excavation Permit
 Confined Space Entry Permit
 Welding and Cutting Permit
 Environmental Permits

Audits, Logs, and Checklists Section 6
 Subcontractors’ ESH&S Audit Forms
 Utility Locate Tracking Log
 Pre-Lift Safety Checklist
 Capstan Operation Checklist
 Gin Pole Operation Checklist
 Suspended Personnel Platform Operation Checklist
 Chemical Storage Area Inspection Log

Plans Section 7
 Personnel Work Platform Lift Plan
 Controlled Descent Plan
 Rooftop Control Plan
 Tower Rescue Plan
 Environmental Action Plan
 Storm Water Pollution Prevention Plan
 Materials Management Plan

Authorized Traffic Control Plan
 Utility Avoidance Plan
 Critical Lift Plan

Inspections

Section 8

Excavation Trenching Inspection
 Annual Crane Inspection
 Crane Operator Inspection
 Annual Base Mounted Drum Hoist
 Base Mounted Drum Hoist Inspection
 Capstan Daily Inspection
 Annual Gin Pole Inspection
 Gin Pole Inspection
 Mobile Equipment Operator Inspection
 Aerial Lift Operators Inspection
 Chemical Storage Area Inspection
 Fall Protection Equipment
 Operator’s Daily Inspection

***Injury/Illness Recordkeeping**

Section 9

Injury/Illness Log

Emergency Planning

Section 10

Site-Specific Emergency Action Plan

Hazardous Communication

Section 11

Hazardous Material Inventory
 Safety Data Sheets

***Telecom Project Environmental,
 Safety, Health & Security Program**

Section 12

*Digital equivalent is acceptable for these items.

1.23 PESHSP Updates

Subcontractors are to ensure that, at a minimum they adhere to the following requirements on Telecom project sites:

- From time to time, as the need is identified, Telecom will issue PESHSP memoranda that will affect Telecom projects.
- PESHSP memoranda will be identified by a number and a specific safety subject, such as PESHSP Memorandum 1 (Scaffolding).
- PESHSP memoranda will be issued to all persons who have received a PESHSP. The memoranda are to be inserted into and be considered part of the PESHSP. All changes are to be communicated to the Subcontractor and its subcontractors’ crew members.

- The PESHSP memorandum is to be reviewed with subcontractor's field supervisors and crew members.

1.24 Housekeeping Program

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Telecom project sites are to be kept clean and orderly.

1.24.1 Cord, Lead, and Hose Management

Leads, hoses, and cords are to be removed from the work area when the work is completed or when they are no longer intended to be used.

Leads, hoses, and cord "roll-ups" will be required if an excessive amount of equipment accumulates in a work area and creates housekeeping or trip hazards.

Whenever possible and feasible, leads, hoses, and extension cords are to be hung up (approximately 7 feet) with a nonconductive material and are to be off all floors, stairways, and walkways or routed in a way to prevent tripping hazards and exposure to vehicles and equipment, which may cause damage. Cords and welding leads shall not be wrapped around steel structures and components.

Flexible cords and cables are to be protected from damage. Sharp corners and projections are to be avoided. Flexible cords and cables may pass through doorways or other pinch points, if protection is provided to avoid damage.

Extension cord sets used with portable electric tools and appliances are to be of the three-wire type and are to be designed for hard or extra-hard usage.

1.24.2 Material, Dunnage, Equipment, and Trash Management

Tools, scaffolding, and materials are to be removed upon the completion of work. Scrap, waste material, and rubbish are to be removed from the work area at least daily.

Trash such as drinking cups, cans, and scraps from lunch are to be disposed of properly. Styrofoam, cardboard, and other packing material shall be immediately cleaned up and disposed of properly to avoid tripping hazards if unpacking new equipment on jobsites.

Material, equipment, concrete forms, pipe, etc., are to be orderly and stacked out of walkways and from in front of doors, stairways, and ladders.

Liquid spills are to be cleaned up at the time of the spill and are not to be left unattended.

Protruding rebar and anchor bolts that could create impalement or a tripping hazard are to be properly protected.

Trash barrels and 55 gallon drums are not to be hoisted by holes cut in the sides.

1.25 PPE Program

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.25.1 Eye and Face Protection

Safety glasses are to be worn at all times. Safety glasses are to meet the requirements of ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices.

Welders are to wear safety glasses under their welding hoods with correct tinting based on the type of welding or cutting being performed.

Field supervisors or crew members who wear prescription or corrective eyeglasses are to wear prescription safety glasses with side shields, goggles, or over-the-glass (OTG) safety glasses.

Prescription safety glasses must meet the requirements of ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices. Prescription safety glasses wearers are to be provided with side shields meeting the requirements of ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices.

Tinted lenses are not to be used inside buildings or other structures with limited illumination - this includes prescription glasses.

Full-face shields are to be used if there are risk of face injury (i.e., grinding, chipping concrete) or when possible eye and face hazards are present. Safety glasses are required to be worn under the face shields. Face shields are to meet the requirements of ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices.

1.25.2 Hearing Protection

A hearing protection program is to be established in accordance with OSHA requirements for affected field supervisors and crew members.

The program is to include the mandatory use of PPE when sound levels reach 90 decibels (dBa) (time weighted average [TWA]) and implementation of other requirements associated with 85 dBa TWA action levels.

Hearing protection is to be worn in designated areas. Designated areas are to be posted with appropriate signage.

Field supervisors and crew members are to be provided with at least two different hearing protection options.

1.25.3 Respiratory Protection

A respiratory protection program is to be established in accordance with OSHA requirements (29 CFR 1910.134) for affected field supervisors and crew members.

National Institute for Occupational Safety and Health (NIOSH) authorized respirators are to be worn when field supervisors and crew members are exposed to hazardous levels of gas, vapor, or particulate contaminants in the atmosphere.

Field supervisors and crew members are to be medically qualified prior to wearing respirators.

Field supervisors and crew members are to complete a qualitative fit test to ensure the respirator fits the correctly prior to wearing the respirator.

Respiratory equipment is to be selected on the basis of the hazards to which field supervisors and crew members are exposed and is to be in accordance with ANSI standards.

Sampling is to be performed to determine the chemicals to which field supervisors and crew members are being exposed and the concentrations of these chemicals, to select the appropriate respirator.

Respiratory equipment is to be used, stored, and maintained in accordance with the manufacturer's requirements and the Subcontractor's respiratory protection program requirements. N95 paper dust masks are also considered to be respirators.

1.25.4 Head Protection

Hard hats are required to be worn at all times, except as follows:

- During lunch and break periods, provided no work is in progress in the immediate break area.
- When operating equipment with fully enclosed cabs.

Hard hats are to meet the requirements of ANSI Z89.1-2003, American National Standard for Personnel Protection – Protective Headgear for Industrial Crew Members Requirements.

ANSI Z89.1-2003 Type 1, Class E hard hats are to be used by field supervisors and crew members conducting electrical work/work in proximity to electrically energized equipment.

Climbing helmets are permitted to be used in place of hard hats if they meet the requirements of ANSI Z89.1-2003.

Hard hats are to be used in combination with face shields and welding hoods.

Hard hat chinstraps are to be used when performing elevated work exceeding 6 feet, or when safety head gear is exposed to high winds or other conditions that may cause its loss.

Damaged hard hats or hard hats with missing, mismatched, or modified components are not to be used.

Bump caps or metallic hard hats are not to be used.

Hard hats are not to be altered in any way.

1.25.5 Foot Protection

Consideration is to be given to the following factors when determining the appropriate foot protection to be utilized during the course of work:

- Slipping.

- Uneven terrain.
- Abrasion.
- Ankle protection and foot support.
- Crushing potential.
- Temperature extremes.
- Corrosive substances.
- Puncture hazards.
- Electrical shock.
- Any other recognized hazard.

Tennis shoes, dress shoes, flip flops, etc., are not to be worn.

Base level foot protection is considered to be a good quality work boot with 6 inch tops that support the ankle.

Additional foot protection, such as shin protection, metatarsal protection, puncture resistant soles, dielectric protection, or any combination of these, is to be worn any time the job being performed creates additional hazards (e.g., jackhammers, pavement breakers) and there is the possibility of injury to the foot or lower leg/ankle extremity. This footwear must meet the requirements of ANSI Z41.1-1991, American National Standard for Personal Protection – Protective Footwear.

1.25.6 Hand Protection

Gloves are to be worn while performing work where hands may be subject to injury from a work-related task as follows:

- Base level hand protection is considered to be a leather work glove.
- Gloves should of the appropriate type to protect the user from the known hazard. Proper and appropriate fitting hand protection is to be worn at all times. Hazards in the area are to be evaluated using the JSA/STA, to ensure the proper types of gloves are being utilized.
- Gloves are to be in good condition, free of holes or fraying.
- Cut-resistant gloves, according to ANSI/ISEA 105-2005 or EN 388 are to be worn during the following activities:
 - Using razor knives/blades.
 - Using utility knives.
 - Handling sharp material.

- Working around material that may cause a hand laceration.
- Cutting, stripping, or grounding wire or coaxial cable.
- Thermal gloves are to be worn when there is extreme exposure to heat and cold.
- Chemical-resistant gloves are to be worn while handling liquids/chemicals; leather gloves are not to be used.
- Nitrile or latex gloves are to be worn when there is a risk of exposure to bloodborne pathogens.
- Electrically insulated gloves are to be used, in accordance with NFPA 70E, when required.
- Leather gloves are considered to be base level hand protection for electrical work.

1.25.7 Leg Protection

Leg protection is to be used as follows:

- Leg protection is required to be worn while operating chain saws.
- Leg protective devices must meet the requirements of B Standard, PPE 1-1997, Leg Protective Devices.
- Every leg protective device must have a label permanently affixed to the outer surface of the device indicating the standard it meets.

1.25.8 Dress Requirements

Personal clothing is to be of a type and in a condition that will not expose the field supervisor or crew members to any unnecessary or avoidable hazards.

Base level clothing is to consist of the following:

- 100 percent natural fiber clothing is to be worn while performing electrical or welding work, as well as working in flammable areas.
- Shirts covering the full trunk and shoulders, including sleeves that are 4 inches or greater in length.
- Full length, good quality work pants or jeans.
- Clothing is to be free of holes and fraying.
- Clothing is to fit closely to the body.
- Dangling neckwear, bracelets, wristwatches, or similar articles are not to be worn when working around moving parts or when these items pose a hazard.

- Clothing soiled with grease, paint, thinners, solvents, fuels, or similar materials is not to be worn.

Flame retardant (FR) clothing is to be worn, in accordance with NFPA 70E, while working on or near energized lines, equipment, or when working on lines and equipment that could possibly become energized.

High visibility apparel that meets ANSI/ISEA 107-2010 is to be worn when working near vehicle/equipment traffic. ANSI/ISEA guidelines are as follows:

- Class 1--Intended for locations where the worker is separated from traffic, which is traveling no faster than 25 mph.
- Class 2--Intended for workers whose tasks divert their attention from approaching traffic and for those who must work near vehicles exceeding 25 mph.
- Class 3--Provides maximum visibility for workers who have tasks that place them in imminent danger from approaching traffic.

1.26 Illumination

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Work is to be planned as far in advance as practicable to limit the need for night work.
- Points of exit, pathways, and muster points are to be clearly illuminated and marked.
- Ladder access and egress areas are to be clearly illuminated.
- Lighting is to be located in a manner that illuminates all work areas.
- Lighting is to be provided in confined spaces, and backup lighting is provided in case of power failure.
- Lighting poles and other metal poles are to be earthed (grounded) and the circuit fitted with ground fault circuit interrupters.
- Cables supporting temporary lighting are to be routed to ensure that they do not present a hazard.
- Lighting fixtures are to be installed in a secure manner to prevent accidental movement or falling.
- Lighting fixtures are to be certified (e.g., Underwriters Laboratories Inc. [UL] listed).
- Temporary installations are to meet the requirements of the National Electrical Code or applicable local code.

- Bulbs attached to lighting strings and extension cords are to be protected by lamp guards.
- Broken or defective bulbs are to be promptly replaced.
- Metal case sockets are to be grounded.

1.27 Hand and Power Tools

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Field supervisors and crew members using hand or power tools, which may be exposed to the hazards of falling, flying, abrasive and splashing objects, or exposed to harmful dusts, fumes, mists, vapors, or gases, are to be provided with the appropriate PPE necessary to protect them from the hazards.
- Tools are to be fitted with adequate safeguards, which will accomplish the following:
 - Protect the field supervisor and crew members from contact with hazardous power transmission parts.
 - Ensure that the field supervisor and crew members cannot access a hazardous point of operation.
 - Safely contain any material ejected by the work process that could be hazardous to the field supervisor and crew members.
- Proper tools are to be used for the job performed.
- Tools are to be maintained in a good condition.
- Tools are to be used only for the purposes for which the manufacturer intends.
- Defective tools are to be tagged to prevent their use and are to be removed from service.
- Tools are not to be thrown from place to place or from person to person:
 - Tools that must be raised or lowered from one elevation to another are to be placed in tool buckets or firmly attached to load lines.
- Tools are not to be left unsecured on elevated surfaces.
- Tools are not to be left lying around where they may cause a person to trip or stumble.
- Tool tethers are required for elevated work; this shall be a best practice and encouraged whenever feasible.

1.27.1 Hand Tools

Suitable holders or tongs are to be used while holding chisels, drills, punches, ground rods, and pipes being struck by another crewman. They are not to be held by hand.

Tools with sharp edges are to be used and stored in a manner so they will not cause injury or damage. They are not to be carried in pockets.

Guards are to be kept on cutting tools such as saws, wood chisels, drawknives, or axes when not in use.

Electrically insulated hand tools and the appropriate level of PPE are to be used when working around electricity.

Impact tools such as chisels, punches, drift pins, etc., are not to be used if they have become mushroomed or cracked.

Hammers with metal handles, screwdrivers, knives with metal continuing through the handle, and metallic measuring tapes are not to be used on or near energized electrical circuits or equipment.

Shims are not to be used to make a wrench fit.

Wrenches with sprung or damaged jaws are not to be used.

Cheater pipes are not to be used to extend a wrench handle for added leverage unless the wrench was designed for such use.

Wooden handles that are loose, cracked, or splintered are not to be used. The handle is not to be taped or lashed with wire.

1.27.2 Portable Electric Tools

Portable electric tools with noncurrent-carrying metal parts are to be effectively grounded when connected to a power source unless the following occurs:

- The tool is an authorized double-insulated type.
- The tool is connected to the power supply by means of an isolating transformer or other isolated power supply, such as a 24 volt direct current (VDC) system.

Portable electric tools are to be inspected before use to ensure general serviceability and the presence of all applicable safety devices:

- The electric cord and electric components are to be given an especially thorough examination.

Portable electric tools are to be used within their capability and are to be operated in accordance with the instructions of their manufacturer.

Portable electric tools are to be kept in good repair.

Portable electric tools are to be disconnected from the power source while repairs are being made.

Portable electric tools and cord sets are to be plugged into ground fault circuit interrupters.

Portable electrical tools are not to be used in areas where there is a hazard of flammable vapors, gases, or dusts.

1.27.3 *Pneumatic Tools*

Caution is to be used when making use of compressed air and pneumatic tools.

Pneumatic power tools are to be secured to hoses by using a whip or another positive means to prevent the tool from becoming accidentally disconnected.

Safety clips or retainers are to be used on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.

The manufacturer's safe operating pressure is to be followed for hoses, pipes, valves, filters, and other fittings.

Safety devices are to be used at the source of the supply or branch line to reduce pressure on all hoses exceeding 1/2 inch inside diameter to reduce pressure in case of hose failure or disengagement of a connection.

Air is to be shut off at the air supply valve ahead of the hose before adjustments are made or air tools are changed, unless they are equipped with quick-change connectors. The hose is to be bled at the tool before the connection is broken.

Eye protection, foot protection, and other protective devices are to be used when their use could reduce the possibility of injury.

Field supervisors and crew members are to be deemed competent and trained in the use of pneumatic tools.

Nonconductive hoses and an accumulator are to be used to collect moisture in areas they may contact exposed live electrical parts.

Body parts are not to be used to locate or attempt to stop an air leak.

Compressed air is not to be used for cleaning purposes except where reduced to less than 30 pounds per square inch (psi) and then only with effective chip guarding and PPE.

Compressed air is not to be used to blow dust or dirt from clothing.

Compressed air hoses are not to be used for hoisting or lowering tools.

Pneumatic tools are not to be pointed at other crewman or third parties.

1.27.4 *Fueled Tools*

Fuel is to be stored and dispensed from UL/Factory Mutual (FM) authorized metal safety cans as follows:

- Plastic fuel cans **are not** to be used.

- Fuel cans are to be properly labeled.
- Cans are to have a spill proof lid.
- Cans are to have a spark arrestor in the lid.

Engines are to be shut off and allowed to cool before refueling the tool, to prevent accidental igniting of hazardous vapors.

Fire extinguishers are to be readily available in the area of the tool's use.

Fueled tools are not to be used in unventilated area.

Fuel is to be handled, transported, and stored in accordance with proper procedures for flammable liquids.

1.27.5 Powder-Actuated Tools

Powder-actuated fastening systems, consisting of the tool, power loads, and fasteners, are to meet the requirements of ANSI A10.3-1995, -- Safety Requirements for Powder-Actuated Fastening Systems.

Field supervisors and crew members using powder-actuated fastening systems are to be properly trained and considered to be qualified in the handling and use of powder-actuated tools and powder loads.

Manufacturer's operating instructions for the tool, a copy of the powder load and fastener charts, and accessories are to be immediately available in the area of the tool's use. Powder-actuated tools are to be clearly marked with the manufacturer's name or trademark, model number, and serial number.

Guards or accessories are only to be used if they are designed for use with that tool and are clearly marked with the manufacturer's name or trademark, model number, and serial number.

Powder-actuated tools are to be inspected before use to ensure that all moving parts operate freely.

Hands are to be kept clear of the barrel end of the tool.

Powder-actuated tools are to require two separate motions for firing: one to bring the tool into position and another to pull the trigger.

Powder-actuated tools are to be of a type that will not operate until they are pressed against a work surface requiring a force of at least 5 pounds greater than the total weight of the tool.

Safety glasses and face shields are to be used when using powder-actuated tools.

The muzzle end of the powder-actuated tools must have a protective shield or guard centered perpendicularly on the barrel to confine any flying fragments or particles that might otherwise create a hazard when the tool is fired.

Powder-actuated tools are to be a type that will not fire unless equipped with safety devices.

Powder-actuated tools are to be designed for varying powder charges so that the user can select a powder level necessary to do the work without excessive force.

Control is to be maintained over powder-actuated charges. Each cartridge is to be accounted for and properly stored.

Spent cartridges are to be disposed of in authorized disposal containers.

Powder-actuated tools are not to be used in explosive or flammable atmospheres.

Powder-actuated tools are not to be pointed at another party.

Powder-actuated tools are not to be loaded unless it is to be used immediately.

Powder-actuated tools are not to be left unattended.

Live or spent cartridges are not to be left on the ground. Defective or damaged tools are to be taken out of service immediately.

The operator shall be certified by the manufacturer for training.

1.28 Safe Use of Ladders and Stairways

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Portable ladders are to be made out of fiberglass.
- Wooden or metal portable ladders are not to be used.
- Job-made ladders are to meet or exceed all ANSI requirements.
- Multifunction ladders, such as Little Giant, Versa, and Gorilla ladders, are not to be used.
- Ladders are to be inspected prior to each use.
- Industrial grade portable ladders are to be sufficiently strong enough for their intended use.
- Ladders are to be faced while ascending or descending.
- Three points of contact are to be maintained while ascending or descending.
- Field supervisors and crew members are to be trained in the use of the ladder prior to their use.
- Ladders are to be used for their intended purpose in accordance with manufacturer requirements.
- Ladders are to be tied off or secured prior to their use.

- One-hundred percent fall protection is to be maintained while working off of ladders when over 6 feet. One crewman at a time is to work from a portable ladder. If two crew members are required, a second portable ladder is required to be used.
- Fixed ladders with fall exposure greater than 12 feet are to be protected by an authorized cage; ladder climbing device; or by the use of a body harness, lanyard, or lifeline system. In the case where the 12 foot requirement is unable to be met, the Subcontractor is to create a JSA describing how it will access the ladder up to 24 feet. Anything above 24 feet will comply with all state and federal regulations.
- Ladders with weakened, broken, or missing steps; broken side rails; or other defects are not to be used and are to be taken out of service.
- Portable ladders are not to be placed in front of a door that opens towards the ladder unless the door is locked or guarded.
- Ladders are not to be used as scaffold platforms.

1.28.1 Portable Straight/Extension Ladders

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Portable straight/extension ladders are to have nonskid bases.
- A 4 to 1 ratio is to be used when setting up a portable straight/extension ladder.
- For every 4 feet the ladder is in height, it should come out 1 foot at the base.
- Portable straight/extension ladders are to be secured in place to prevent slipping or falling prior to its use.
- Portable straight/extension ladders are to be positioned so side rails extend at least 3 feet beyond the landing surface to allow for an adequate handhold while mounting or dismounting the ladder.
- Portable straight/extension ladders are not to be spliced together to form a longer ladder.
- Portable straight/extension ladders are not to be placed against an unsafe support surface.
- Field supervisors and crew members are not to ascend beyond the third step from the top of a portable straight/extension ladder.

1.28.2 Portable Step Ladders

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Portable step ladders are to be in a fully open/spread position with spreading bars locked in place.
- Field supervisors and crew members are not to use the top two steps of a portable step ladder.
- Portable step ladders are not to be folded flat and used as straight/extension ladders.
- Step ladders are not to be used to gain access to another level, including but not limited to, the top of shelters, an ice bridge, and monopole legs.

1.28.3 Stairways

Stairways or ladders are to be provided at all personnel points of access where there is a break in elevation of 19 inches or more, and no ramp, runway, sloped embankment, or personnel hoist is provided.

Double-cleated ladders or two or more separate ladders are to be provided when ladders are the only means of access or exit from a working area for 25 or more crew members, or when a ladder is to serve simultaneous two-way traffic.

A building or structure that has only one point of access between levels is to be kept clear to permit free passage of crew members. When work must be performed or equipment must be used in such a manner that free passage at that point of access is restricted, a second point of access is to be provided and used.

Stairways are to be free of hazardous projections, such as protruding nails.

Stairways having four or more risers or rising more than 30 inches, whichever is less, are to be equipped with at least one handrail and one stair rail system along each unprotected side or edge.

Handrails and the top rails of stair rail systems are to be capable of withstanding, without failure, a force of at least 200 pounds applied within 2 inches of the top edge, in any downward or outward direction, at any point along the top edge.

Height of handrails is not to be more than 37 inches or less than 30 inches from the upper surface of the handrail to the surface of the tread, in line with the face of the riser at the forward edge of the tread.

1.29 Barricades

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Tags are to be hung on the barricade tape that indicates the hazard, duration of hazard, subcontractors' names, and name and phone number of the person erecting the tape.
- Barricades are to be erected far enough back from the hazard to allow for adequate warning and protection.

- Barricades are to be constructed so that they will stand up against adverse weather conditions and traffic.
- Additional protection is to be provided, as well as the barricade tape, if the magnitude of the hazard warrants it.
- Barricades are to be maintained as long as the hazard is present.
- Barricades are to be immediately removed when the hazard is removed.
- Barricades are to be 42 inches in height.
- Barricade tape is to be tied to vertical support posts.
- Barricades are to be complete; the hazard area is to be entirely isolated. A permanent structure that prevents entry into the hazard area may be used as part of the barricade.
- Barricaded areas are to be of sufficient size to afford adequate protection.
- Barricade gates are to remain closed when personnel or material are not passing through.
- Barricades are not to block emergency equipment, such as fire extinguishers, safety showers, power panels, etc.
- Barricades are to be erected around the swing radius of rotating equipment.
- Barricades are to be erected immediately beneath any overhead work.

1.29.1 Warning Barricades

“CAUTION” yellow barricade tape is to be used as follows for isolating an area, passageway, equipment, etc., while providing a warning to personnel in the area that an abnormal condition exists:

- Yellow barricade tape is to be printed with the word “Caution” and additional language related to the non-serious hazard situation.
- Individuals not involved in the activities related to the application of the yellow barricade tape may enter or cross the area if they know the nature of the hazard and how to avoid it.

“DANGER” red barricade tape is used as follows for barricading an area, passageway, etc., that contains or may present a serious safety hazard and prohibiting access to unauthorized personnel.

- Red barricade tape is to be printed with the word “Danger” and additional language related to the hazardous condition.
- Only authorized individuals directly involved with the activities associated with the application of the red barricade tape are to cross and/or enter the area.

1.29.2 Protective Barricades

Protective barricades are to be used to provide personnel with physical protection from the hazard in addition to providing warning of the hazard. Examples of hazards requiring protective barricades are trenches and excavations, openings in grating or platforms, or any other exposure where personnel may fall to a lower level.

The top rail of a protective barricade is to be made from 2 by 4 lumber, 1-1/2-inch metal handrail, or wire rope material, arranged so that the top rail is 42 inches from the ground, floor, or platform level.

The midrail of a protective barricade is to be made from 2 by 4 lumber, metal handrail, or wire rope material located at the midpoint between top rails and the ground, floor, or platform level.

A toe plate is to be used on all barricades for floor holes, floor openings, or wall openings. It is to be made from 1 by 4 or 2 by 4 lumber and is to be installed to prevent tools or material from falling to the lower level.

The vertical support posts are to be 2 by 4 lumber or 1-1/2-inch metal or larger and located at distances not to exceed 8 feet.

Protective barricades are to be used in combination with the appropriate colored barricading tape.

1.29.3 Road Barricading

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Protective barricades are to be used next to roadways.
- Appropriate signs or equivalent flashing lights are to be part of protective barricades along roadways.
- Protective barricade systems installed in public and/or private roadways are to have a documented written traffic control plan, submitted to and authorized by the controlling roadway authority.
- Protective barricades along roadways are to have flaggers. Appropriate road closure and flagger training is performed.
- All traffic devices must meet the Manual of Uniform Traffic Control Devices (MUTCD) requirements.

A copy of the Authorized Traffic Control Plan is to be maintained by the Subcontractor in Section 7.0 of the crew's jobsite binder and made available to Telecom upon request.

1.30 Utility Avoidance

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Site drawings are to be reviewed to attempt to identify underground utilities.
- Local underground utility identification services are to be contacted at least 3 days prior to excavation to mark the utilities.
- A third party locate company or internally equipped and trained field supervisor and crew members are to locate and mark utilities on private property where the state provided service does not enter.
- Ticket numbers are to be documented on the [Trench and Excavation Permit \(TCOM-FM-0086-0109\)](#).
- Utilities are to be marked by a utility locate service prior to excavation as follows:
 - All utility crossings are to be located.
 - Identified utilities are to be marked with the appropriate color and symbol.
 - After utilities are located, a detailed utility avoidance plan is to be developed by the Subcontractor to ensure contact is avoided.
- Potholing is to be used to physically expose a marked utility to verify existence and determine its exact location.
- Hand digging is to be performed with nonconductive hand tools.
- Utility companies, emergency response agencies, and Telecom are to be contacted if any utilities are damaged. All utility hit incidents are to be reported and investigated in accordance with the requirements found in Section 1.14 of this PESHSP.
- Exposed utilities are to be braced, sheeted, or shored to eliminate damage to underground utilities. Underground utilities should always be supported in trenches to minimize strain on the system.

Utility avoidance plans are to be maintained by the Subcontractor in Section 7 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.31 Excavating and Trenching

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Excavation activities are not to commence until the requirements found in Section 1.31 of this PESHSP have been met.
- Jobs involving excavations or trenching are to be carefully planned, and the proper permits and other documents are completed.
- All standards associated with 29 CFR OSHA 1926, Subpart P, regarding trenching and excavation work are to be followed.
- A competent person is to be maintained on-site during the excavation or trenching activities.
- Excavation or trenching work is to be done in accordance with the written instructions and design of a professional engineer under the following circumstances:
 - If the excavation is more than 20 feet deep.
 - If an improvement or structure is adjacent to the excavation.
 - If the excavation is subject to vibration or hydrostatic pressure likely to result in ground movement hazardous to crew members.
 - If the ground slopes away from the edge of the excavation at an angle steeper than 3 horizontal to 1 vertical.
- Surface hazards and spoil piles are to be at least 2 feet from the edge of the excavation.
- All underground utilities are to be located and protected, supported, or removed.
- All excavations and trenches are to be appropriately identified with signs, warnings, and barricades. Barricades are kept at least 6 feet from open edges of trenches and excavations.
- Safe means of entry and exit are to be provided for excavations more than 4 feet deep, and access ladders, ramps, or stairs are to be no more than 25 feet from the crew members.
- Walkways, bridges, or ramps with standard guardrails are to be provided where personnel or equipment are required to cross over excavations or trenches.
- Surface obstacles, such as trees, rocks, and sidewalks that may create a hazard, are to be removed or secured.

- Field supervisors and crew members are to wear warning vests or other high-visibility garments when exposed to public vehicular traffic in accordance with the requirements of Section 1.26 of this PESHSP.
- A warning system is to be established when the operator of mobile equipment does not have a clear direct view of the edge of the excavation while the equipment is being operated adjacent to or near the excavation's edge.
- Excavations greater than 5 feet (shallower if identified by a competent person) are to utilize sloping, benching, shielding, or shoring.
- Excavations and trenches 4 feet or deeper that have the potential of developing a hazardous atmosphere are to be classified as a confined space and are to be in accordance with Section 1.42 of this PESHSP.
- Adequate protection is to be provided before anyone works in an excavation where water accumulates.
- Adjacent structures are to be shored, braced, or underpinned when their stability may be endangered by the excavation operations.
- Protection is to be provided from loose rock or soil that could fall or roll into the excavation.
- Excavations/trenches left open are to be covered or properly barricaded.
- Field supervisors and crewmen are to maintain their distance from mobile equipment being used to dig or hoist material.
- If excess water accumulation exists inside of a trench/excavation, it must be removed prior to entry.

1.31.1 Trench and Excavation Permit

[Trench and Excavation Permits \(TCOM-FM-0086-0109\)](#) are required to be completed prior to the commencement of any excavation or trenching activities. This shall be completed for all excavations and trenches regardless of depth.

A competent person, as defined in the governing body (29 CFR 1926, Subpart P), is to complete the notice and monitors all trench and excavation work. The competent person is to be identified on the notice.

Utility avoidance plans, site drawings showing the location of the utilities, and utility locate records are to be attached to the notice.

Written instructions and designs of a professional engineer, or certified by a professional engineer, are to be attached to the notice if circumstances are warranted.

If trench boxes are used, manufacturer's tabulated data and designs approved by a professional engineer are to be attached to the notice.

[Trench and Excavation Permits \(TCOM-FM-0086-0109\)](#) are to be maintained by the Subcontractor in Section 5 of its crew’s ESH&S jobsite binder and made available to Telecom upon request.

1.31.2 Inspection

Daily inspections of excavations, the adjacent areas, and protective systems are to be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions.

An inspection is to be conducted by the competent person prior to the start of work and as needed throughout the shift using the [Excavation/Trench Inspection \(TCOM-FM-0086-0063\)](#) or equivalent.

Inspections are also to be made after every rainstorm or other hazard-increasing occurrence.

Field supervisors and crew members are to be removed from excavations if a situation could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, until the necessary precautions have been taken to ensure their safety.

[Excavation/Trench Inspections \(TCOM-FM-0086-0063\)](#) are to be maintained by the Subcontractor in Section 8 of its crew’s ESH&S jobsite binder and made available to Telecom upon request.

1.31.3 Sloping and Benching

Maximum allowable slopes for excavations less than 20 feet, based on soil type and angle to the horizontal, are as follows:

Soil Type	Bench Height/Depth Ratio	Slope Angle
Solid rock	Vertical	90 degrees
Type A	3/4:1	53 degrees
Type B	1:1	45 degrees
Type C	1-1/2:1 (cannot bench – prohibited)	34 degrees

1.31.4 Shoring

Shoring or shielding is to be used when the location or depth of the cut makes sloping back to the maximum allowable slope impractical.

There are two basic types of shoring: timber and aluminum hydraulic.

All shoring is to be installed from the top down and removed from the bottom up.

Hydraulic shoring is to be checked at least once per shift for leaking hoses and/or cylinders, broken connections, cracked nipples, bent bases, and any other damaged or defective parts.

The top cylinder of hydraulic shoring is to be no more than 18 inches below the top of the excavation.

The bottom of the cylinder is to be no higher than 4 feet from the bottom of the excavation.

1.31.5 Shielding (Trench Box)

All manufactured shielding systems are to be accompanied by tabulated data that outlines the conditions and configurations in which the device may be used.

The excavated area between the outside of the trench box and the face of the trench is to be as small as possible.

The space between the trench box and the excavation side is to be backfilled to prevent lateral movement of the box.

Shields are not to be subject to loads exceeding those that the system was designed to withstand.

Trench boxes are to extend at least 18 inches above the surrounding area if there is sloping toward the excavation.

No one is to remain in the shield while it is being moved.

Tabulated data for shielding must be maintained by the Subcontractor in Section 5 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.32 Scaffolding

1.32.1 Scaffolding Tagging

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Scaffolding is not to be used unless inspected and tagged accordingly by the Subcontractor's competent person for scaffolding.
- Scaffold tags are to be installed and maintained by the Subcontractor's competent person for scaffolding and are to conform to the following color codes and wording:
 - Green Tag--This scaffold was built to meet governing body scaffold regulations; it is safe to use.
 - Yellow Tag--This scaffold does not meet governing body scaffold regulations; safety harness is to be worn.
 - Red Tag--Warning--This scaffold is not complete; **Do Not Use**.

1.32.2 Scaffolding Inspection

Scaffolding is to be checked by the Subcontractor's competent person for scaffolding before each shift use to ensure that it is of sufficient strength and rigidity to safely support the weight of crew members and material to which it will be subjected.

1.32.3 Scaffolding Erection and Use

Scaffolding planks are to be secured in place and extend over their end supports by not less than 6 inches (unless cleated) and no more than 12 inches.

Footing or anchorage points for scaffolding are to be sound, rigid, and capable of carrying the maximum intended load without settling or displacement.

Unstable objects such as barrels, boxes, loose brick, or concrete blocks are not to be used to support scaffolding or planks.

Scaffolding is to be erected level and plum and rigidly braced to prevent swaying and displacement.

The width of all scaffolding, ramps, and platforms is to be sufficient to prevent congestion of persons, materials, or equipment; in no case is it to be less than 18 inches wide.

Crew members working on suspended scaffolds are to be protected by an independent lifeline, body harness, and a lanyard.

Safe access is to be provided for all scaffolds.

The following hierarchy is to be followed to prevent objects falling to another level and applies to all work aloft, including aerial lifts:

- Tool lanyards.
- Screen or mesh from toe board to handrail.
- Barricading below (as a last resort; must prove the above are infeasible).

Fall protection is required when crew members are working on scaffolds at or in excess of 6 feet in height.

Scaffolding over 6 feet in height is not to be used unless a standard guardrail, with midrail and toe board, is present to provide adequate professional protection. Alternate means of a fall protection systems may be used if a guardrail/midrail/toe board is deemed infeasible.

Scaffolding is not to be moved without first removing all loose tools, materials, and equipment resting on the scaffolding deck.

Scaffolding is not to be altered or moved while being used or occupied except when specifically designed for such use. Movable scaffolds are to have the casters or wheels locked to prevent movement.

Synthetic or natural fiber rope is not to be used as a guardrail.

Structural members are not to be used as means of access.

1.33 Material Handling and Storage

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.33.1 Material Handling

Aisles and passageways are to be kept clear to provide for the free and safe movement of material handling equipment or crew members. Such areas are to be kept in good repair.

Crew members working on stored material in silos, hoppers, tanks, and similar storage areas are to be equipped with required personal fall arrest equipment.

Crew members are to obtain assistance in lifting heavy objects or use powered equipment to lift them as needed.

A prearranged signal is to be used for releasing or lowering the load that is being carried by multiple crew members. Crew members are to face the direction in which the object is being carried.

The right way to lift is easiest and safest. Crouch or squat with the feet close to the object to be lifted, secure good footing, take a firm grip, bend the knees, keep the back vertical, and lift by bending at the knees and using the leg and thigh muscles. Crew members are not to attempt to lift beyond their capacity. Caution is to be taken when lifting or pulling in an awkward position. Crew members are to avoid twisting or excessive bending when lifting or setting down loads. When moving a load horizontally, crew members are to push the load rather than pull it. When a task is performed that requires repetitive lifting, the load is to be positioned to limit bending and twisting.

When using tools such as screw drivers and wrenches, crew members are to avoid using their wrists in a bent (flexed), extended, or twisted position for long periods of time.

When gripping, grasping, or lifting an object such as a pipe or a board, crew members are to use their whole hand and fingers. Gripping, grasping, and lifting with just the thumb and index finger is to be avoided.

Material is to be raised or lowered one item at a time (if larger than a bag) to prevent overloading.

While climbing, crew members are to maintain three-point contact.

1.33.2 Material Storage

Materials stored in tiers are to be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.

The maximum safe load limits of floors within buildings and structures, in pounds per square foot, are to be conspicuously posted in all storage areas, except for floor or slab on grade.

When a difference in road or working levels exist, means such as ramps, blocking, or grading are to be used to ensure the safe movement of vehicles between the two levels.

Non-compatible materials are to be segregated in storage.

When masonry blocks are stacked higher than 6 feet, the stack is to be tapered back one-half block per tier above the 6 foot level.

Nails are to be withdrawn before stacking used lumber. Lumber is to be stacked on level and solidly supported sills. Lumber is to be stacked to be stable and self-supporting.

Structural steel, poles, pipe, bar stock, and other cylindrical materials, unless racked, are to be stacked and blocked so as to prevent spreading or tilting.

Storage areas are to be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage.

Vegetation control of storage areas is to be exercised when necessary.

Material and equipment is to be secured, as required, to prevent falling hazards.

Canvas bags or suitable and secure alternatives are to be used for raising and lowering tools/equipment.

1.34 Compressed Gases

1.34.1 Handling and Storage

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Care is to be exercised in handling all compressed gas cylinders.
- Cylinders are not be dropped, jarred, or exposed to temperature extremes.
- Cylinders are to have the valve cap or valve protection device in place at all times, except when in actual use or connected to a welding set.
- Cylinders are not to be rolled and are not to be lifted by the valve or valve cap; a suitable cradle or other device is to be used.
- Cylinders are not to have fixed hand wheels that have keys, handles, or nonadjustable wrenches on the valve stems while the cylinders are in service.
- Cylinders, whether full or empty, are to be stored and transported in an upright position and chained or otherwise secured so they cannot fall or be upset.
- Oxygen cylinders in storage are to be separated from fuel-gas cylinders or combustible materials (especially oil or grease) by a minimum distance of 20 feet or by a 5 foot high noncombustible barrier.
- Cylinders are not to be placed where they might become part of an electric circuit or within 5 feet of an electrical outlet.
- Acetylene cylinders are to be properly secured and always used, transported, or stored in a vertical position.
- Gas cylinders are to be brought into or stored within confined spaces.

1.34.2 Identification and Labeling

Cylinder contents are to be properly identified with their contents and labeled with complete Hazardous Material Identification System (HMIS) or NFPA information and the Subcontractor's name.

1.34.3 Usage

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Regulators are not to be removed unless the valve is closed and the pressure is released from the regulator.
- When an oxygen cylinder is in use, the valve is to be opened fully in order to prevent leakage around the valve stem.
- Cylinders are to be protected from sparks, flames, and contact with energized electrical equipment.
- Connections that do not fit are not to be forced.
- Safety relief devices of cylinder valves are not to be tampered.
- Leaking cylinders are not to be used.
- Flames are not to be used to detect gas leaks.
- Recessed tops of the cylinders are not to be used for tool storage.
- Oil, grease, or similar materials are not to come in contact with any valve, fitting, or gauge of oxygen cylinders.
- Oxygen is not to be used as a substitute for compressed air.
- Acetylene cylinder valves are not to be opened more than 1-1/2 turns of the spindle and preferably no more than 3/4 of a turn.
- Acetylene is not to be used in a free state at pressures higher than 15 psi.

1.35 Welding and Cutting

1.35.1 Welding and Cutting Requirements

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom Division project sites:

- Before performing welding, cutting, grinding, or any other "hot work" in a hazardous area, crew members are to complete a [Welding/Cutting Permit \(TCOM-FM-0086-0110\)](#). Hazardous areas are those areas where there is the presence or the potential of the presence of flammable or combustible materials, liquids, gases, vapors, or dusts.

- Welding and cutting is only to be performed by experienced and properly trained crew members.
- Before welding or cutting is started, the area is to be inspected for potential fire hazards.
- Precautions are to be taken when performing welding or cutting in elevated positions, to prevent sparks or hot metal from falling onto crew members or flammable material below.
- Suitable fire extinguishing equipment is to be immediately available at all locations where welding and cutting equipment is used.
- A fire watch is to be maintained whenever welding or cutting is performed in locations where combustible materials present a fire hazard.
- A fire check is to be made of the area not more than 1/2 hour after completion of welding.
- Combustible materials such as paper clippings, coal, or wood shavings are to be removed to a radius of 35 feet before welding or cutting is performed.
- Combustible floors are to be kept wet or protected by fire-resistant shields. Where floors have been wetted down, crew members operating arc welding or cutting equipment are to be protected from possible shock.
- Crew members are to protect their eyes, face, and body during welding and cutting by wearing the appropriate welding hood, face shield, goggles, safety glasses, gloves, torso, and foot protection.
- Crew members in the immediate area of welding or cutting operations are to wear proper eye protection.
- Proper eye protection is worn to guard against flying particles under welding hoods or face shields, to protect the crew members when they are raised.
- Machinery, tanks, equipment, shafts, or pipes that could contain explosive or highly flammable materials are to be thoroughly cleaned and decontaminated before heat is applied.
- In dusty or gaseous spaces where there is a possibility of an explosion, welding or cutting equipment is not to be used until the space is adequately ventilated.
- Welders are to place welding cable, hoses, and other equipment so that it is clear of passageways, ladders, and stairways.
- The welder is to be enclosed in an individual booth or enclosed with noncombustible screens. Crew members or other persons adjacent to the welding areas are to be protected from rays by shields or are required to wear appropriate eye and face protection.

- After welding or cutting operations are completed, the welders are to mark the hot metal or provide other means of warning other crew members.
- While welding or cutting, crew members are to use adequate ventilation or authorized respiratory protection equipment.
- Crew members are to take special precautions when using materials that contain cadmium, fluorides, mercury, chlorinated hydrocarbons, chrome, stainless steel, zinc, galvanized materials, beryllium, and lead. Crew members are to refer to their company's Hazard Communication Program for specific requirements pertaining to the above listed hazardous materials. Compliance with the hexavalent chromium standard is mandatory.
- Backflow check valves are to be used on gas welding rigs on both gas and oxygen lines.
- A friction lighter is to be used for cutting equipment.
- Electric welding machines are to be properly grounded before use.
- Manufacturer requirements are to be followed.
- Electrodes are to be removed from their holders and protected when they are to be left unattended. Pieces being welded are to be grounded.
- Matches are not to be carried by crew members when they are engaged in welding or cutting operations.
- Crew members are not to observe welding operations unless they use appropriate eye protection.
- Welding hoses are not to be repaired with tape.
- Matches are not to be used to light a torch.
- A torch is not to be lighted on hot work.
- Oxygen or fuel gas cylinders are not to be taken into confined spaces.

1.35.2 Exothermic Welding requirements

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Guidelines contained in the Safety Data Sheets (SDS) and manufacturer's instructions for both the starting materials and the welding materials are to be followed.
- Ignitor materials are to be stored in an authorized container and kept away from extreme heat, sparks, and moisture.

- When using ignitor materials, crew members are not to look directly into the “flash” as it could cause temporary blindness.
- Fire-resistant gloves and long sleeve protection are to be used to help prevent contact burns.
- At a minimum, a 10 pound capacity, ABC-rated fire extinguisher is to be readily available at each work area when performing exothermic welding operations.
- Moisture and contaminants are to be avoided in the mold and materials being welded. Contact of molten weld metal with moisture or contaminants may cause weld metal to spew out of the mold.
- Mud or other materials are not to be used to stop leakage from a mold. Only factory authorized sealers are to be used.
- A remote or flint igniter with extension is to be used to start a reaction. A match or open flame is not to be used to start a reaction.
- Molds are only to be used to weld items for which they are designed by the manufacturers. Material being welded is to fit in the mold properly, and that the mold is to close tightly around them.
- At a minimum, the following PPE is to be utilized: full face shield, fire-resistant gloves, long sleeve cotton shirt or jacket, etc.
- Incompatible weld materials and molds are not to be used.
- Broken or worn molds are not to be used.
- Molds or accessories are not to be altered.

1.36 Flammable and Combustible Liquids

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- “Danger, No Smoking” signs are to be posted around all flammable and combustible liquid storage areas.
- All aboveground tanks are to have impervious containment around them of adequate size to contain spills.
- Tanks are to be vented with a pipe not less than 1-1/4 inch inside diameter and are to be 12 feet high from the adjacent ground level.
- At least one 20 pound (4A60BC) ABC fire extinguisher is to be kept between 25 feet to 75 feet from tanks.
- All tanks are to be properly grounded.

- All tanks are to be labeled with the contents and the Subcontractor's name.
- Only UL/FM authorized metal safety cans are to be used for the handling and use of flammable and combustible liquids.
- Quantities of flammable and combustible liquid in excess of 25 gallons are to be stored in an appropriate cabinet.
- Flammable or combustible liquids are not to be stored in areas used for exits or stairways, or normally used for the safe passage of people.
- No more than 25 gallons of flammable or combustible liquids is to be stored in a room outside of authorized storage.
- No more than 60 gallons of flammable or 120 gallons of combustible liquids are to be stored in any one storage cabinet. No more than three such cabinets are to be located in a single storage area. Quantities in excess of this are to be stored in an inside storage room.

1.37 Fire Protection

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Work procedures that minimize fire hazards to the greatest extent practical are to be used.
- Fuels, solvents, and other volatile or flammable materials are to be stored in designated areas.
- Good housekeeping is to be practiced. Untreated canvas, paper, plastic, and other flammable flexible materials are not to be used inside buildings unless specified.
 - If such materials are on equipment or materials that arrive at the project site, they are to be removed and replaced with an acceptable covering before the equipment or material is stored or moved into the area.
- Permanent storage of flammable or combustible materials is to be in designated areas.
- Crew members are not to smoke in or near operations, which constitutes a fire hazard.
- Welding, cutting, or heating is not to be performed in areas where there is an application of flammable paints or the presence of other flammable compounds, or heavy dust concentrations.

1.37.1 Fire Extinguishers

Fire extinguishers are to be provided by the Subcontractor and maintained on project sites in the direct vicinity of the work being conducted. Fire extinguishers are to be conspicuously marked. It is

acceptable to use a fire extinguisher that has been provided in the shelter if it is in good working order.

Clear access to fire extinguishers is required to be maintained.

Fire extinguishers are to be inspected, tested, and maintained in accordance with NFPA standards.

Fire extinguishers are to be replaced immediately after discharge with another fire extinguisher that is fully charged and of the proper size and type.

1.37.2 Heaters

Only UL listed, portable type heaters are to be used on project sites. Job-made heaters, solid fuel salamanders, and open fires are not to be used.

Heaters are to be used in accordance with governing body requirements.

Heaters used in confined spaces are to be provided with sufficient ventilation in order to ensure proper combustion, maintain the health and safety of the professional, and limit temperature rise in the area.

Fresh air is to be supplied in sufficient quantities to maintain the health and safety of crew members. Where natural means of fresh air supply is inadequate, mechanical ventilation is to be provided.

Heaters are to be set horizontally level, unless otherwise permitted by the manufacturer's markings. Heaters are to be equipped with tip over safety shutoff devices.

1.38 Hazardous Communication (HAZCOM)

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Hazardous Communication Programs are to be implemented and maintained by the Subcontractor on project sites.
- Subcontractors are responsible for the safe storage, use, and disposal of all hazardous material they bring onto the project site.
- Crew members who may be exposed to hazardous chemicals/materials are to be trained on the safe use of hazardous chemicals/materials being used on the project site.
- If work with a hazardous material could affect the safety and health of others, subcontractors are to coordinate the work with other parties to ensure the safety and health of all crew members on the project site.

Hazardous Communication Programs are to be maintained by the Subcontractor and made available to Telecom upon request.

1.38.1 Chemical Inventory Page

Hazardous chemicals/materials being used on project sites are to be compiled using the [Hazardous Material Inventory \(TCOM-FM-0086-0096\)](#) or equivalent.

[Hazardous Material Inventories \(TCOM-FM-0086-0096\)](#) are to be maintained by the Subcontractor in Section 11 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.38.2 Safety Data Sheets (SDS)

SDS's are to be obtained for products being used on the project site.

Crew members are to be familiar with the contents of the SDS for the products they are using, location and access to SDS on the project site, and able to readily gain access to them.

SDS are to be maintained by the Subcontractor in Section 11 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.38.3 Labeling

Hazardous chemicals/materials are to be labeled with the following:

- Complete and legible HMIS/NFPA labels.
- Manufacturer markings.
- The name of the Subcontractor who is responsible for the item.

1.39 Chromium VI

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Written lists of chemicals/substances/products that contain Chromium VI, along with corresponding SDS, are to be provided to Telecom prior to their use on Telecom project sites.
- Baseline monitoring plans, in accordance with governing body regulations, are to be established if exposure to crew members is possible. Plans are to provide monitoring results that also include sampling strategies and standard industrial hygiene sampling documentation information (i.e., date of sample, weather conditions, work process, duration of sample, calibration information).
- Whenever there is a potential for exposure to Chromium VI, a crew member's exposure is to be assessed by representative sampling (worst case) or a combination of air monitoring data, historical data, and objective data. All sampling records used for professional exposure are to identify process, materials used, control methods, work practices, and environmental conditions. Copies of the documentation supporting the assessment must be provided to Telecom.
- Eating and drinking areas are to be as free as practicable of Chromium VI.

- Crew members are to be provided respiratory protection for exposures above the permissible exposure level (PEL) of 5 micrograms of Chromium VI per cubic meter of air.
- Written plans of action compliant with governing body requirements are to be submitted to Telecom whenever exposures are determined to be above the action limit of 2.5 microgram of Chromium VI per cubic meter of air. Plans must address notification of exposure, exposure determinations, protective clothing and equipment, respiratory protection, hygiene areas and practices, medical surveillance, labels, training, and recordkeeping.

1.40 Discovery of Hazardous Materials

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Crew members are to be made aware that during activities within existing structures, hazardous substances such as asbestos, asbestos-containing materials, and lead based paint may be encountered.
- Tables 1-1 and 1-2 are provided to help identify potential hazardous materials, in accordance with this section. These tables are not to be considered all-inclusive and may not specify all materials that may be encountered. Further analysis for specific hazardous materials may be needed on a case-by-case basis.
- If suspected hazardous substances are identified during activities, all work is to stop and Telecom is notified. The notification process is as follows:
 - Telecom will notify the Client that sampling and/or abatement is required before Telecom and its subcontractor resume work.
 - The Client is responsible for the identification and removal of known potential hazards.
 - The Client will be requested, in writing, to provide certification by a qualified party that the work areas are free of hazardous materials to a degree that removes Telecom from application of the relevant governmental professional protection regulations.
 - Upon the receipt of the Client certification, Telecom will have a qualified party verify the adequacy of the Client report.

Do not perform, contract, or manage any work associated with hazardous substances.

Table 1-1 Materials That May Contain Heavy Metals (Lead, Hexavalent Chrome, Arsenic, Cadmium, etc.)
<p>Paint and coatings (usually found on structures such as tanks, vessels, and equipment; also may be found on pipes, structural steel, walls, ceilings, ductwork, noise control materials, handrails, steps, etc.). Additionally, heavy metals may be found in batteries, solder, pottery glaze, window glazing, water and sewer piping, gasoline, cable coverings, stainless steel, high-pressure steel, cadmium coated metals, fluorescent bulbs, mercury vapor lamps, emergency lighting lamps, etc.</p>
<p>Lead-based paint was widely used in industrial environments to help the coating resist corrosion. In 1978, the Consumer Product Safety Commission (CPSC) banned lead in paints for residential use. Lead-based paint is more prevalent in the industrial community, especially in older facilities.</p>
<p>Ash from combustion or incineration may contain heavy metals. Ash and fly ash are commonly found in incinerators and burners that use various products as fuel or for volume reduction. If ash is encountered or suspected to be encountered, testing of the ash is to be conducted to identify its makeup and the concentrations of heavy metals.</p>
<p>Sludge may also contain heavy metals. If sludge is encountered or suspected to be encountered in the demolition or process, testing of the sludge is necessary to identify concentrations of heavy metals in the product.</p>

Acoustical plaster	Electrical cloth	Roofing felt
Adhesives	Electrical panel partitions	Roofing shingles
Material marked “stos”	Elevator brake shoes	Siding on old residential buildings
Asphalt floor tile	Elevator equipment panels	Spackling compounds
Electrical panel waffle board	Expansion joints	Spray-on insulation barrier
Base flashing	Fire blankets	Spray-applied insulation
Blown-in insulation	Fire curtains	Taping compounds
Boiler insulation	Fire doors	Textured paints/coatings
Breaching insulation	Fireproofing materials	Thermal paper products
Caulking/putties	Grout material	Tranboard duct bank
Ceiling tiles and lay-panels	Heating and electrical ducts	Vinyl floor tile
Cement pipes	High temperature gaskets	Vinyl sheet flooring
Cement wallboard	HVAC duct insulation	Vinyl wall coverings
Chalkboard	Interior fire doors	Wall penetrations-claymastic
Mastics	Joint compounds	Wall veiling texture
Cooling towers	Laboratory gloves	Wallboard
Decorative plaster	Laboratory hoods	Water diverter panels
Ductwork flexible fabric	Packing materials	
Electric wiring insulation	Pipe insulation	
Electrical cable	Power cable insulation	
Electrical cable “Rockbestos”	Putty caulks and cements	

1.41 Confined Spaces

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom Division project sites. During the normal course of Telecom construction, it is possible to come in contact with confined spaces, including but not limited to, water tanks, inside of monopoles, elevator shafts, etc. It is the Subcontractor's responsibility to identify and utilize the procedures in this policy.

1.41.1 *Confined Space Entry Permit*

All confined space work performed is considered permit-required and is performed under a Subcontractor-issued confined space permit only. Refer to the [Confined Space Permit \(TCOM-FM-0086-0060\)](#) or equivalent.

Crew leads are to fill out the permit in full and post a copy of the form in a conspicuous location at the entrance to the confined space. If there is more than one entrance to the confined space, all entrances are to be posted with a copy of the permit.

[Confined Space Permits \(TCOM-FM-0086-0060\)](#) are to be maintained by the Subcontractor in Section 4 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.41.2 *General Requirements*

Only crew members who have been properly trained on the hazards associated with confined space work are to be allowed to enter a confined space.

An attendant trained in the duties mentioned in this section is to be maintained outside of a confined space at all times when entrants are performing work in the space.

Safe access to the confined space is to be maintained at all times. If possible, all cords, hoses, leads, etc., are to be routed through an entrance other than the access point into the confined space.

Before crew members are allowed to enter a confined space, all electrical and mechanical energy sources that could affect the crew members working in the space are to be physically rendered inoperative, locked out, and tagged. If required, the space is to be drained, vented, and cleaned.

Before any entrance cover to a confined space is removed, it is to be determined that there are no temperature or pressure differences, or other hazardous conditions that may injure the crew members removing the cover.

When covers are removed from confined spaces, the opening is to be guarded by a railing, temporary cover, or other temporary barrier.

While work is being performed in the confined space, a person with basic first aid training is to be immediately available to render emergency assistance if there is reason to believe that a hazard may exist in the space or if a hazard exists.

Electric welding, gas welding, cutting, or any other hot work is not to be performed on the interior or exterior, or near the openings of any confined space that may contain flammable or explosive gases or vapors until the space has been properly cleared.

Compressed gas bottles are not to be taken into a confined space.

1.41.3 Atmospheric Monitoring

Crew members are to be supplied with proper atmospheric monitoring equipment.

Confined spaces are to be monitored, as necessary, to determine if acceptable entry conditions exist before beginning entry operations. Initial testing of the atmosphere must be done from outside the confined space prior to any entry.

Confined spaces are to be monitored, as necessary, to determine if acceptable atmospheric conditions are being met while entrants are occupying the space. If isolation of the space is infeasible because the space is large or part of a continuous system (such as a sewer), entry conditions are to be continuously monitored where entrants are working.

The parameters for nonhazardous atmospheres are as follows:

- Oxygen between 19.5 and 23.5 percent.
- Flammability less than 10 percent of the lower flammability limit (LFL).
- Toxicity less than the PEL.

Forced ventilation is to be used to maintain oxygen at a safe level and prevent a hazardous concentration of flammable or toxic gases and vapors if flammable or toxic gases or vapors are detected or if an oxygen deficiency is found.

Entry into a confined space with an unsafe atmosphere is to be avoided if at all possible. Crew members required to enter a confined space with an unsafe atmosphere are to be trained on and equipped with a fresh air breathing apparatus, body harness, and attended lifeline.

1.41.4 Rescue and Emergency Services

If a rescue should become necessary, the attendant is to perform the following:

- Notify and summon the rescue team/service.
- Attempt rescue procedures to the extent possible by the circumstances.
- Monitor the situation and be ready to give rescuers information on how many victims and their status, what hazards, chemical types, concentrations, etc., are present.

Non-entry rescue, retrieval systems or methods are used whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase overall risk of entry or would not be of value to any rescue. Non-entry rescue system requirements are as follows:

- Authorized entrants are to wear a full body harness, with a retrieval line attached at the center of the back near shoulder level, or other appropriate point.
- Retrieval lines are to be attached to a mechanical device or fixed point outside of the permit space enabling immediate use.

Entry rescue is only to be performed by designated trained personnel. Each designated rescue team member is to be trained on the following:

- Use of personal protective and rescue equipment necessary for making the entry rescue from the confined space.
- Performance of assigned rescue duties and also training required of authorized entrants.
- Basic first-aid and CPR. At least two members of the entry rescue team are to hold current certifications in first aid and CPR.

1.41.5 Duties

Authorized entrants are to perform the following:

- Be trained on the hazards that may be faced, including the mode, signs or symptoms, and consequences of the exposure.
- Properly use equipment as required.
- Communicate with the attendant, as necessary, to enable the attendant to monitor entrant status and to alert entrants of the need to evacuate the space.
- Alert the attendant whenever the entrant recognizes any warning signs or symptoms of exposure to a dangerous situation, or detects a prohibited condition.
- Exit from the permit space as quickly as possible whenever the following occurs:
 - An order to evacuate is given by the attendant or the entry supervisor, or an evacuation alarm is activated.
 - The entrant recognizes any warning signs or symptoms of exposure to a dangerous situation, or detects a prohibited condition.

Attendants are to perform the following:

- Be trained on the hazards that may be faced during entry, including the mode, signs or symptoms, and consequences of the exposure.
- Be aware of possible behavioral effects of hazard exposure.
- Continuously maintain an accurate count and identity of authorized entrants.
- Remain outside the permit space during entry operations until relieved by another attendant.
- Communicate with entrants, as necessary, to monitor entrant status and to alert entrants of the need to evacuate.

- Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space; order evacuation when necessary.
- Summon rescue and emergency services when assistance is needed for an emergency exit.
- Take the following actions when unauthorized persons approach or enter a permit space while entry is underway:
 - Warn them to stay away, or exit immediately if they have entered.
 - Inform the entrants and entry supervisor if unauthorized persons enter the permit space.
- Perform non-entry rescues as specified by company procedure.
- Perform no duties that might interfere with their primary duty to monitor and protect authorized entrants.

Entry supervisors are to perform the following:

- Be trained on the hazards that may be faced during entry, including the mode, signs or symptoms, and consequences of the exposure.
- Verify that acceptable conditions for entry exist before endorsing the permit and allowing entry to begin.
- Terminate the entry and cancel the permit when entry operations are complete or a prohibited condition arises.
- Verify that rescue services are available and the means for summoning them are operable.
- Remove unauthorized individuals who enter or who attempt to enter the permit space.
- Determine, whenever responsible and at appropriate intervals, that acceptable entry conditions are maintained.

1.42 Electrical Requirements

The following definitions are provided to better ensure requirements are met.

- Electrically Safe Work Condition--A state in which an electrical conductor or circuit part has been disconnected from energized parts, locked/tagged in accordance with established standards, tested to ensure the absence of voltage, and grounded if determined necessary.
- Qualified Person--One who has skills and knowledge related to the construction and operation of the electrical equipment and installations, and has received safety training to recognize and avoid the hazards involved.

1.42.1 De-Energize

The subcontractor shall ensure that all energized electrical conductors and circuit parts are put into an electrically safe work condition before an employee performs work on that circuit.

1.42.1.1 Exception

If the subcontractor cannot place the equipment in an electrically safe work condition and must perform the work energized, one of the following three justifications must be met:

- Greater Hazard--Energized work shall be permitted where the subcontractor can demonstrate that de-energizing introduces additional hazards or increased risk i.e., interruption of life support systems, deactivation of emergency alarm systems, or shutdown of hazardous location ventilation systems.
- Infeasibility--Energized work shall be permitted where the subcontractor can demonstrate that the task to be performed is infeasible in a de-energized state due to equipment design or operational limitations i.e., performing diagnostics and testing of electrical circuits that can only be performed with the circuit energized.
- Less than 50 volts--Energized electrical conductors and circuit parts that operate at less than 50 volts shall not be required to be de-energized where the capacity of the source and any over-current protection between the energy source and the worker are considered and it is determined that there will be no increased exposure to electrical burns or to explosion due to electrical arcs.

1.42.2 Energized Electrical Work Authorization Permits

Where one of the three exceptions are met and the work must be done energized, an [Energized Electrical Work Authorization permit \(TCOM-FM-0086-0107\)](#) must be completed and sent to OCI for approval.

1.42.3 Working While Exposed to Electrical Hazards

Only qualified persons shall be permitted to work on electrical conductors or circuit parts that have not been put into an electrically safe work condition. An incident energy analysis must be conducted, or the subcontractor can refer to the table below to determine what level of PPE is needed.

Tasks Performed on Energized AC Equipment	Hazard/Risk Category	Rubber Insulating Gloves	Insulated and Insulating Hand Tools
Panel boards or other equipment rated at 240 V and below			
Perform infrared thermography and other non-contact inspections	0	N	N
CB or fused switch operation with covers on or off	0	N	N
Work on energized electrical conductors and circuit parts, including voltage testing	1	Y	Y
Remove/Install CBs or fused switches	1	Y	Y
Removal of bolted covers	1	N	N
Open hinged covers	0	N	N
Work on energized electrical conductors and circuit parts of utilization equipment fed directly by a branch circuit of the panel board	1	Y	Y

For voltages above 240 v AC, please contact OCI Safety.

Tasks Performed on Energized DC Equipment	Hazard/Risk Category	Rubber Insulating Gloves	Insulated and Insulating Hand Tools
Storage batteries, DC switchboards and other DC supply sources > 100 V < 250 V			
Work on energized electrical conductors and circuit parts, including voltage testing where arcing current is >1kA and < 4 kA	1	Y	Y
Work on energized electrical conductors and circuit parts, including voltage testing where arcing current is >4 kA and < 7 kA	2	Y	Y
Work on energized electrical conductors and circuit parts, including voltage testing where arcing current is >7 kA and < 15 kA	3	Y	Y

For voltages above 250 VDC, please contact OCI Safety.

Hazard/Risk Category	Protective Clothing and PPE
0	Long sleeve shirt, long pants, natural fiber, hard hat, safety glasses, hearing protection
1	4 cal arc rated long-sleeve shirt and pants or coverall, arc rated face shield, hard hat, safety glasses, hearing protection

2	8 cal arc rated long-sleeve shirt and pants or coverall, arc rated hood or face shield, and arc rated balaclava, hard hat, safety glasses, hearing protection
3	25 cal arc rated flash suit, arc rated hood and balaclava, hard hat, safety glasses, hearing protection

1.42.4 Rubber Insulating Gloves

When rubber insulating gloves are required, the gloves must be tested before the first use and every 6 months thereafter to the ASTM F 496 standard. Leather protectors must be worn over the rubber insulating gloves at all times.

1.42.5 Other Precautions for Personnel Activities

Be sure to consider the following precautions.

- Employees shall be instructed to be alert at all times when they are working on energized equipment.
- Employees shall be instructed not to reach blindly into areas that might contain exposed energized electrical conductors or circuit parts where an electrical hazard exists.
- Conductive articles of jewelry and clothing shall not be worn where they present an electrical contact hazard with exposed energized electrical conductors or circuit parts.

1.42.6 Overhead Power Lines

Subcontractors must ensure that they keep all mobile equipment, scaffolds, tools and equipment at a minimum of 10 feet from all overhead power lines 50kv and greater. For every 1000v over 50kv, add .4 inches to the 10 feet approach distance. If a subcontractor must encroach on these approach distances, engineering controls, such as line hose and insulating buckets, must be used. A qualified person must also be on-site.

1.42.7 Energy Isolation Training

The electrical training program covers the following basic elements:

- Lockout and tagging of conductors and parts of electrical equipment.
- Safe procedures for de-energizing circuits and equipment.
- Application of locks and tags.
- Verification that the equipment has been de-energized.

- Procedures for re-energizing the circuits or equipment.
- General safe work practices when working around electricity.

1.43 Hazardous Energy Control (LOTO)

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Subcontractors make sure that trained, skilled, and qualified personnel perform tagging and lockout.
- Crews verify that all safety precautions and adequate protections are in place to perform the work tasks safely.
- Crews re-establish system configuration and remove lockout/tagout devices following completion of the work protected by lockout/tagout.
- Contractors may use their own procedure for lockout/tagout with prior review from Telecom, but in no case is more than one procedure be used on a single site. Tagging or lockout is required for hazardous energy in the presence of an energy source or a future potential source while working on the equipment.
- Locks are the preferred means of isolation. If possible, isolation points are to be locked safely without causing interference with adjacent equipment (e.g., multiple breakers in a distribution panel). Disconnecting a cable and tagging is acceptable as long as exposed energized cables or terminals are properly insulated/isolated. Where operational procedures prohibit locks, or in situations where no physical means of locking devices may exist, tagging only is acceptable.
- The secure placement of a tag or lock on an energy isolating device, disconnect switch, or circuit breaker indicates that the equipment or system being controlled may not be operated until the lockout/tagout device is removed. Push buttons, selector switches, and other control circuit devices are not energy isolating devices.

1.43.1 Construction in an Energized Work Environment Excluding Radio Frequency/Electromagnetic Energy (RF/EME)

Crews are to assess the equipment or system boundary and identify locations of the recommended protective measures, safety tagging, and lockouts. Hot work is to be discouraged in all cases. Special attention is to be given to uninterruptible power supply (UPS) backup systems, as they may energize when the normal power source is cut off. The Subcontractor is to establish the tagging/lockout boundary and isolation points.

No work may proceed within the boundary of the system/component safety tagging until the isolation points are verified, the Subcontractor has implemented tagging/lockout, and the responsible person for the working group has signed the tag accepting the responsibility.

Crews implement the specified protective measures, hang safety tags, and place locks, as required. The Subcontractor is to independently verify that all tags/locks are in place and the boundary area

is acceptable. All other subcontractors and lower-tiered subcontractors are to independently verify the safety tags, energized status, and install their required tags and locks.

1.43.2 Construction in an Energized Work Environment Including RF/EME

A written plan is required for all service affecting work to be performed on any EME/RF feed line system component and/or equipment.

The plan is to consist of the following:

- Annotated drawings showing isolation boundaries.
- A list of actions, or another form that clearly identifies the safe work requirements.
- A list of telephone contacts.
- A list of active sectors that must be shut down.

Client imposed requirements for an approved method of procedure (MOP) for service affecting work must satisfy the previously mentioned requirements for a written plan.

The plan for EME/RF work is to be provided by the Subcontractor, reviewed by Telecom, and posted at the work site prior to commencing work.

Personal RF monitor requirements are to be identified. Use of these devices is recommended whenever possible and is mandatory where existing EME/RF systems may be energized. Use of a personal RF monitor is not a substitute for a planned test program to verify that energy sources are shut down.

Use of voltage monitoring equipment is recommended whenever UPS and/or battery systems are installed and energized.

1.43.3 RF Feed line Isolation Criteria

Actively transmitting RF feed lines and RF system equipment are to be powered off when possible.

Verbal verification is to be made that the transmitter at the site has been taken out of service or that it will continue to operate in specific sectors and the cutover is to be made in the operating energized condition. Clearly defined status is to be received from the Network Operations Control Center (Operator) or equipment provider responsible for energizing of the system. These issues are to be defined in the formal plan.

Insulating covers are to be installed on all coaxial connections that are exposed and ready for connection/reconnection. This includes the jumper, feed line, equipment ports, and antenna leads.

Prior to breaking any connections at the antenna or any other location on transmit or receive RF feed lines, positive identification is to be made that the correct feed line is being worked. Once identified, transmit lines and dual-purpose transmit/receive lines are to be marked with tags containing the label "Danger Do Not Operate." Receive lines are to be marked with tags containing the label "Caution, Restricted Operation."

1.43.4 Cutovers with Sectors Transmitting and Receiving

Transmit/receive lines are to be tagged as “Danger” whenever connected to a radio or transmission cabinet and their status is not verified as de-energized.

When the cutover is complete and all of the Subcontractor’s equipment is removed, the tags are to be removed and operations notified that the work is complete. Where more than one subcontractor has placed a tag, each subcontractor is responsible to remove only its tag.

1.43.5 Routine Work Completion

Each crewman verifies that planned work is complete, the system configuration is safe to be energized, and all tags under their jurisdiction have been removed.

1.43.6 Danger - Do Not Operate/Do Not Remove Tag and Caution - Restricted Operation Tag

The following tag examples or other tags that provide the same information are to be used upon concurrence by Subcontractor crews:

- “Danger – Do Not Operate” and “Caution – Restricted” tags are not to be hung on the same component.
- “Do Not Remove tag.
- Caution-Restricted Operation tag.

1.44 Lifting and Hoisting

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- All lifting and hoisting operations are in accordance with following sections:
 - 1.45 Rigging Requirements
 - 1.46 Crane Requirements
 - 1.47 Base-Mounted Drum Hoist Requirements
 - 1.48 Helicopter Requirements
 - 1.49 Capstan Requirements
 - 1.50 Gin Pole Requirements
 - 1.51 Suspended Personnel Work Platform Requirements

1.44.1 Critical Lifts

A critical lift plan is developed and submitted to Telecom for authorization 48 hours prior to the following planned lifts:

- Complete and submit a critical lift worksheet 48 hours prior to commencement of a lift using the [Critical Lift Worksheet \(TCOM-FM-0086-0105\)](#) for the following conditions:
 - Any lift where the payload weight is 20 tons or greater.
 - Any lift over an occupied building. Documented verification that the building is vacant must take place immediately prior to lift.
 - Utilization of a gin pole.
 - Any lift utilizing a suspended personnel work platform.
 - Any lift requiring the hoisting equipment to be set up over parking structures, underground building, or tunnels.
 - Any lift in which the hoisting equipment encroaches on highways, roadways, or railroad right of ways, unless the corridor is shut down to traffic.
 - Any lift exceeding 90 percent capacity of the manufacturers load chart.
 - Any lift requiring the use of more than one piece of hoisting equipment.
 - Any lift utilizing drifting operations.
 - Any lift where the equipment, load line, or load could encroach within 20 feet from a power line. For work around lines above 350 KV, increased distances must be recognized in accordance with 29 CFR 1926.1400.
 - Helicopter lifts.

Critical lift plans are submitted to Telecom for authorization, as well as the following, as applicable to the hoisting equipment being utilized:

- A copy of the hoist capacity chart.
- A plan view sketch, to scale and dimensioned, indicating location of the following:
 - The hoisting equipment in relation to the load pick site/location and set location.
 - Any above ground or underground utilities, buildings, or other obstacles, interferences, etc.
 - Swing or travel path of boom.

- Boom and payload clearances to obstructions, utilities, buildings, interferences, etc.
- Hoisting equipment mat and outrigger locations.
- Hoisting equipment assembly/disassembly area or requirements.
- An elevation view sketch, to scale, indicating clearances between boom and the payload and the boom and any obstructions, such as buildings.
- A list of rigging gear, and a sketch of the rigging arrangement.
- A description of the communications or signaling method to be used by equipment operators and rigging crews.

A description of the payload to be lifted including the following:

- Description and location of the rigging attachment points.
- Payload weight, including weight of any attachments.
- Payload dimensions.
- Any special considerations such as the following:
 - The effects of the wind.
 - Soil or ground bearing considerations.
 - Rigging calculations.
 - Other special precautions.
- Applicable qualifications or certificates such as the following:
 - Hoist operator qualification documentation.
 - Crane operator certification.
 - Rigger competency documentation.
 - Hoist annual inspection certificate.
 - Original spreader bar or lift beam test certificate.
 - Certification that man basket is in compliance with 29 CFR 1926.1400, along with the [Suspended Personnel Platform Operation Checklist \(TCOM-FM-0086-0092\)](#).

1.44.2 *Lift Supervision*

All lifting operations are conducted under the on-site direction of a competent person. The competent person may have other duties assigned but is not to be the hoist operator. The competent person is to be responsible for the following:

- Completing a pre-lift safety check using the [Pre-Lift Safety Checklist \(TCOM-FM-0086-0088\)](#), or equivalent, for all critical lifts.

[Pre-Lift Safety Checklists \(TCOM-FM-0086-0088\)](#) are to be maintained by the Subcontractor in Section 6 of its ESH&S jobsite binder and made available to Telecom upon request.
- Identifying existing and predictable hazards in the surroundings or working conditions and taking prompt corrective measures.
- Planning the lifting operation and providing such planning, selection of equipment, instruction, and supervision as is necessary for the task to be undertaken safely.
- Ensuring that adequate inspection and maintenance of the equipment has been carried out.
- Identifying defects and incidents and ensuring that necessary corrective action is taken.
- Coordinating, directing, and controlling the lifting operations.
- Stopping the operation whenever an unsafe condition is identified or suspected, or if the operation is inconsistent with the plan.
- Complying with applicable OSHA standards and federal, state, county, or local regulations and the contents of this PESHSP and SESHIPP.
- Ensuring that rigging hardware and materials are inspected before use, configured correctly, and properly attached to the lifting equipment.
- Ensuring the availability of information, procedures, and equipment necessary to move loads without injury to personnel and without damage either to the site or the equipment.
- Ensuring that substandard or unsafe equipment or methods are not used to move loads.
- Ensuring that all loads are dogged off (positive hoist latching device engaged) until unsafe equipment is repaired or methods are revised so that the lift can be completed in a safe manner.
- Ensuring that all signal persons are qualified through a training and competency examination as specified in 29 CFR 1926.1400.

- Ensuring that ground and supporting materials are adequate.

1.45 Rigging Requirements

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Only qualified riggers, as designated by the Subcontractor, are to attach rigging from the load to the mechanical lifting equipment. The qualified rigger is to accomplish the following in accordance with 29 CFR 1926, Subpart CC:
 - Be present at the work project and authorized to take prompt corrective action to ensure that substandard or unsafe equipment or methods are immediately eliminated or corrected.
 - Comply with applicable governing body standards and regulations, including customer restrictions and site specific requirements, as necessary.
 - Ensure that rigging hardware and materials are inspected before use, configured correctly, and properly attached to the lifting equipment.
 - Ensure the availability of information, procedures, and equipment necessary to move loads without injury to personnel and without damage either to the site or the equipment.
 - Ensure that substandard or unsafe equipment or methods are not used to move loads.
 - Ensure that all loads are dogged off (positive hoist latching device engaged) until unsafe equipment is repaired or methods are revised so that the lift can be completed in a safe manner.

1.45.1 Rigging Inspections

Before each use, all slings, fastenings, and attachments are inspected for damage or defects.

Damaged or defective equipment is to be immediately removed from service.

1.45.2 Rigging Selection and Usage

Rigging is to be supplied and performed in accordance with governmental regulations.

Slings are to be in accordance with ANSI B30.9, Slings:

- Slings are to not be shortened with knots, bolts, or other makeshift devices.
- Slings used in a basket hitch are to have the load balanced to prevent slippage.
- Slings are to be securely attached to the load by the use of hooks with retaining devices or the use of shackles or other positive latching devices.
- Slings are to be padded or protected from the sharp edges of their loads.

- A sling is to not be pulled from under a load when the load is resting on the sling.
- Slings are to be long enough to provide the maximum practical angle between the sling leg and the horizontal plane of the load.
- Each sling, including steel and chain slings, is to have a legible capacity tag.

All lift beams and spreader bars are designed, fabricated, and used in accordance with the governing body and ANSI Section B-30.20 requirements or applicable local code. The following requirements apply:

- Be designed by a qualified engineer with a 3:1 Factor of Safety (FOS) against yield strength.
- Have capacity and self-weight indicated on the bar.
- Are load tested to 125 percent of rated capacity upon initial manufacturing or major repair.
- Are subject to annual visual inspection.

All rigging equipment is of sufficient strength and of proper type and is to be safe for its intended use.

Only hooks with authorized retaining devices are used. Hooks are never to be rigged so that they are point loaded at the tip of the hook unless they are designed for that purpose. The load is to be securely seated in the saddle of the hook.

Eye bolts are used in accordance with manufacturer specifications.

Chain falls, come-alongs, and other such devices are not loaded beyond their rated capacities.

Chain or hoist cable for chain falls, come-alongs, or other such devices are not wrapped around a load and used in place of a sling unless specifically designed for that purpose.

Do Not replace shackle pins with bolts or other non-authorized devices.

Do Not load rigging equipment beyond its rated capacity.

Do Not use makeshift lifting devices formed from bolts, rods, or reinforcing steel.

1.46 Crane Requirements

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.46.1 Crane Operator Certification

All crane operators are to possess a valid certification card from a national accredited certifying agency or an audited employer program for the type of equipment being operated. Additionally, for those states or jurisdiction where licensing is required, the crane operator is to possess a license valid within that jurisdiction.

A copy of the Crane Operator's Certification Card is to be maintained by the Subcontractor in Section 2 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.46.2 Crane Inspections

Annual crane inspections are to be submitted to Telecom prior to placing each crane in service on the project. The annual inspection is to be performed by a third party inspection service certified for such using the [Annual Crane Inspection \(TCOM-FM-0086-0057\)](#) or equivalent.

[Annual Crane Inspections \(TCOM-FM-0086-0057\)](#) are to be submitted to Telecom for review prior to its use on a Telecom project site and must be maintained by the Subcontractor in Section 8 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

Before use of any crane, the operator is to perform and document a daily crane inspection to ensure that the equipment is in good working condition using the [Crane Operators Inspection \(TCOM-FM-0086-0061\)](#) or equivalent.

[Crane Operators Inspections \(TCOM-FM-0086-0061\)](#) are to be maintained by the Subcontractor in Section 8 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.46.3 Crane Operation Requirements

During crane assembly and disassembly, the crane is not to be closer than 20 feet from overhead power lines unless written authorization is given by Telecom.

The use of anti-two block devices is mandatory on all cranes.




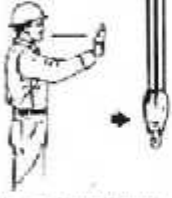
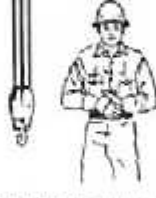




The use of functioning load movement indicators is required on all cranes.

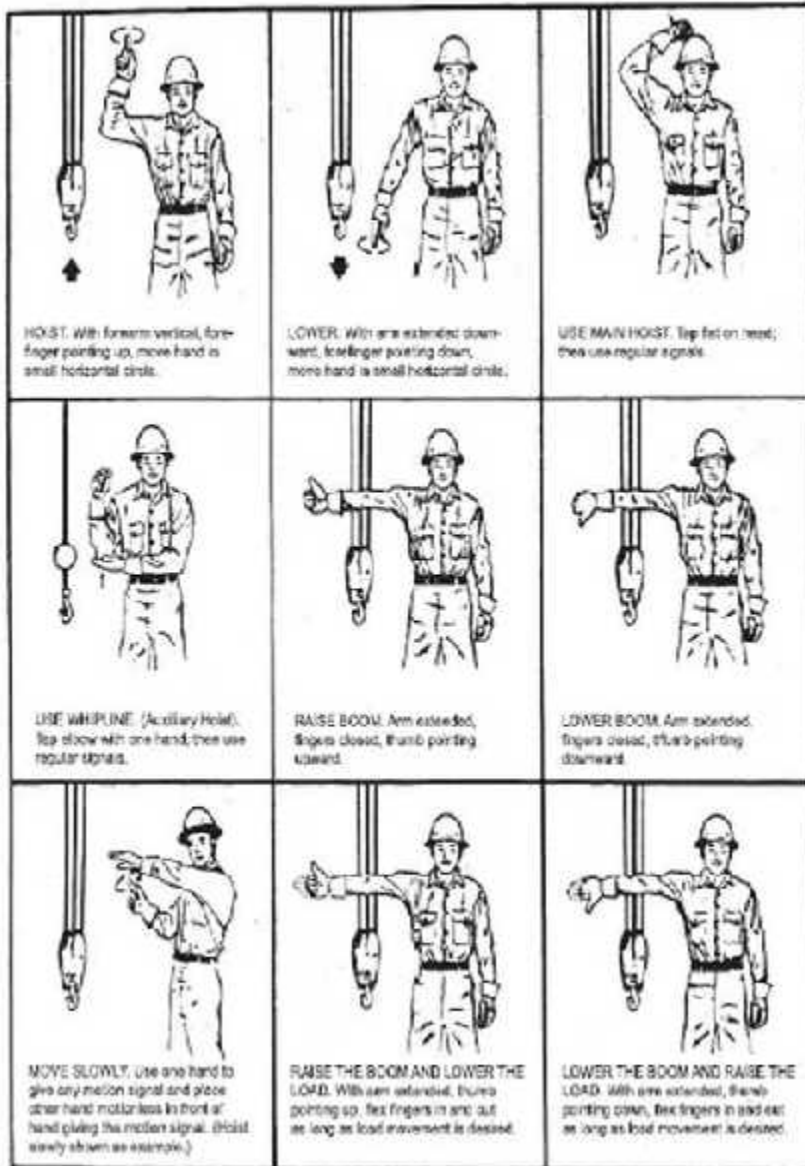
Crane operations are to be completed in accordance with ANSI B30.5.

Operators are to avoid moving loads over the heads of crew members.

Operators are to have a designated and qualified signal person but will take a stop signal from anyone.

- A designated and qualified signal person is to use standard hand signals to relay directions to the operator. The hand signals are shown below.
- Only one crew member is to be designated to give direction to the operator; That crew member is to have no other duties when materials handling equipment is in motion under their direction.
- Alternate communications such as radios are to be used when hand signals cannot be utilized.

 <p>SWING Arm extended, palm with finger in direction of swing of boom.</p>	 <p>STOP Arm extended, palm down, move arm back and forth horizontally.</p>	 <p>EMERGENCY STOP Both arms extended, palms down, move arms back and forth horizontally.</p>
 <p>TRAVEL (One Track) Arm extended forward, hand down and slightly raised, make pulling motion in direction of travel.</p>	 <p>DIG EVERYTHING Clasp hands in front of body.</p>	 <p>TRAVEL (Both Tracks) Use both feet in front of body, making a circular motion about each other, forward and backward. (For hand cranes only.)</p>
 <p>TRAVEL (One Track) Use the hook on one end, followed by second foot. Travel opposite track in direction indicated by circular motion of other foot, rotated vertically in front of body. (If hand cranes only.)</p>	 <p>EXTEND BOOM (Telescoping Booms) Both feet in front of body with thumbs pointing outward.</p>	 <p>RETRACT BOOM (Telescoping Booms) Both feet in front of body with thumbs pointing toward each other.</p>



Rated load capacities, recommended operating speeds, special hazard warnings, and operating instructions are to be permanently attached to all equipment and visible to the operator.

When a crane is required to lift in excess of 90 percent of its manufacturer load chart rated capacity or to lift personnel, a pre-lift meeting is to be held, with the meeting minutes documented.

Selection and replacement of wire rope is to be in accordance with manufacturer's recommendations.

A cable used for craning is to meet the following conditions:

- Be steel wire rope of the proper type, size, and grade and capable of supporting the maximum load to which it is likely to be subjected.
- Be compatible with applicable sheaves.
- Be lubricated to prevent corrosion and wear.
- Have its end connections securely fastened.
- Have a minimum of three full wraps left on the drum.
- Have a minimum of 2 inches from the top of the drum flange when full.

Cable used by a crane or similar hoisting device is not to be used if it has the following properties:

- Contains six or more randomly broken wires in one rope lay or three or more broken wires in one strand in one rope lay.
- Is smaller than its nominal rope diameter; has wire worn by more than one-third of the original diameter.
- Shows evidence of kinking, bird-caging, corrosion, electric arcing, or other damage resulting in distortion of the rope structure.

Note: Subcontractor is to ensure and require its lower-tiered subcontractors ensure that rotation-resistant wire rope is only used when specified by the manufacturer.

The outrigger of the crane or boom truck is to meet the following conditions:

- Be barricaded or visibly marked.
- Be fully extended on every lift to meet load capacity chart requirements.
- Have crane matting able to support the crane without deformation or settlement that affects its stability.

A fire extinguisher with a minimum of a 5 pound ABC rating is to be carried on the crane.

All exposed moving parts of cranes and hoists, such as gears, projecting screws, set screws, chain, cables, chain sprockets, and reciprocating or rotating parts, which constitute a hazard, are to be guarded.

Cranes with telescoping booms are to be clearly marked to indicate the extension length.

After the slack is taken up, crew members are to stand clear of the load before the actual lift is started, except as required by the job.

Before traveling, the boom storage position is to be checked to ensure that the PTO is not engaged.

Cranes are not to be used on Telecom project sites unless the following conditions are met:

- The operator meets the requirements of Subsection 1.46.1, Crane Operator Certification.
- The operator has a clear and unobstructed view of the area in which the equipment is being operated or is in direct communication at all times with a qualified signalperson.
- The operator is familiar with the operator's manual for the crane he/she is operating.
- Requirements of this section and any applicable standard are adhered to, as a minimum

Crew members are not to guide a load with their hands. A nonconductive tag line is to be used for controlling a load.

Crew members other than the operator are not to ride anywhere on the crane.

Modifications or additions are not to be made to the crane without the manufacturer's written approval.

Ride-the-line practices are prohibited on Telecom project sites.

Operators are not to leave cranes cabs while loads are in a suspended state.

1.47 Base-Mounted Drum Hoist Requirements

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.47.1 Base-Mounted Drum Hoist Operator Qualifications

Operators are to be qualified in accordance with the governing body requirements and ASME B30.7-1994.

The operator is to have classroom training, a minimum of 40 hours experience as a hoist operator, not less than 8 hours experience in the operation of the specified hoist or one of the same type, and a demonstrated ability to safely operate the hoist.

Operators are to possess a current Department of Transportation (DOT) medical exam certificate.

Operators are to provide evidence or experience record of substantial experience operating a base-mounted drum hoist, or have passed a written and practical exam covering the operation of base-mounted drum hoists.

Operators must requalify every 3 years.

Hoist operator training documentation is to be maintained by the Subcontractor in Section 2 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.47.2 Base-Mounted Drum Hoist Required Inspections

Annual drum hoist inspections are to be conducted by the Subcontractor using the [Annual Double Drum Hoist Inspection \(TCOM-FM-0086-0058\)](#) or equivalent.

[Annual Double Drum Hoist Inspections \(TCOM-FM-0086-0058\)](#) are to be submitted to Telecom for review prior to their use and are to be maintained by the Subcontractor in Section 8 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

During each shift, before use of any drum hoist, the operator is to perform and document a drum hoist inspection to ensure that the equipment is in good working condition using the [Operator Base-Mounted Double Drum Hoist Inspection \(TCOM-FM-0086-0065\)](#) or equivalent.

[Operator Base-Mounted Double Drum Hoist Inspections \(TCOM-FM-0086-0058\)](#) are to be maintained by the Subcontractor in Section 8 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.47.3 Base-Mounted Drum Hoist Requirements

Anti-two block devices are required to be used on all base-mounted drum hoists.

Drum hoists are to meet the applicable requirements for design, installation, testing, inspection, modification, repair, and operations as referenced in this section and as prescribed by the manufacturer.

Where manufacturer's specifications are not available, the limitations assigned to the equipment are to be based on determinations of a registered professional engineer.

The drum hoist is to be positioned so that it is level and the distance between the drum and the heel block at the base of the tower will allow for proper spooling of the wire rope.

The heel block is to be anchored to prevent displacement and is supported to maintain proper alignment.

Any drum hoist that has been modified or repaired is to be proof tested to 125 percent of its rated capacity.

Rated load capacities, recommended operating speeds, and special hazard warnings or instructions are to be conspicuously posted on all hoists.

Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other rotating parts, where exposed, are to be totally enclosed.

Drum hoists are to be equipped with a functional hour meter and line speed limiter.

Drum hoists are to be designed for and make use of power lowering.

Drum hoist components are to be maintained in alignment in accordance with the manufacturer's specified limits to prevent deterioration of gear teeth, bearings, spines, bushings, and any other parts of the hoist mechanism.

Drum hoist exhaust pipes are to be guarded to prevent contact.

Drum hoists are to be equipped with 5 pound ABC or greater fire extinguishers within reach of the operator's station.

Drum hoists are to be serviced and maintained in accordance with the manufacturer's recommendations.

Drum hoist manufacturer's operating manuals are to be readily available on-site.

Drum hoists are to be installed following the manufacturer's mounting procedures to prevent excessive distortion of the hoist base as it is attached to the mounting surface:

- The flatness of the mounting surface is to be held to tolerances specified by the drum hoist manufacturer.

Drum hoists are to be anchored to resist at least two times any reaction induced at the maximum attainable line pull.

Drum hoists are to be anchored so that the hoist will not twist or turn.

If the drum hoist is mounted to a truck chassis, it is to be properly aligned and anchored in at least two corners to prevent movement, and the wheels are to be properly chocked.

Drum hoists are to be capable of raising or lowering 125 percent of the rated load of the hoist.

Drum hoists are to have a positive means of attaching the wire rope to the drum.

Three full layers of wire are to be maintained on hoist drums at all times.

During operation, the flange is to be two times the wire rope diameter higher than the top layer of wire rope at all times.

Brakes and clutches are to be capable of arresting any overspeed descent of the load.

Drum hoists are to be provided with a primary brake and at least one independent secondary brake, each capable of stopping and holding 125 percent of the lifting capacity of the drum hoist.

Brakes and clutches are to be adjusted, where necessary, to compensate for wear and to maintain adequate force on springs where used.

- Powered lowering is to always be used.

When power brakes having no continuous mechanical linkage between the actuating and braking mechanism are used for controlling loads, an automatic means is to be provided to set the brake to prevent the load from falling in the event of loss of brake actuating power.

Static brakes are to be provided to prevent the drum from rotating in the lowering direction and are to be capable of holding the rated load indefinitely without attention from the operator.

- Brakes are to be automatically applied upon return of the control lever to its central (neutral) position.

Brakes applied on stopped hoist drums need to have sufficient impact capacity to hold 1.5 times the rated torque of the drum hoist.

Power plant controls are to be within easy reach of the operator and include a means to start and stop, control speed of internal combustion engines, stop prime mover under emergency conditions, and shift selective transmissions.

All controls used during the normal operation of the drum hoist are to be located within easy reach of the operator at the operator's station.

Controls are to be clearly marked (or be part of a control arrangement diagram) and easily visible from the operator's station.

Foot-operated pedals, where provided, are to be constructed and maintained so the operator's feet will not readily slip off, and the force necessary to move the pedals can be easily applied.

The controls are to be self-centering controls (i.e., "dead man" type) that will return the machine to neutral and engage the drum brakes if the control lever is released.

Drum hoist operators are responsible for those operations under their direct control.

Whenever there is any doubt as to safety, the operator has the authority to stop and refuse to handle the load until safety has been assured.

An operator is to remain at the controls at all times when a load is attached to the hoist line.

Before starting the drum hoist, the operator is to ensure that the following occurs:

- The daily drum hoist inspection has been conducted.
- All controls are in the "off" position.
- All personnel are in the clear.

Ride-the-line practices are prohibited on Telecom project sites:

- Suspended personnel work platforms may be used upon written permission from the Telecom Lead Construction Manager and the Regional ESH&S Manager.

The primary brake is to be directly connected to the drive train of the hoisting machine and is not to be connected through belts, chains, clutches, or screw type devices.

The secondary brake is to be an automatic emergency type brake that, if actuated during each stopping cycle, is not to engage before the hoist is stopped by the primary brake. When a secondary brake is actuated, it is to stop and hold the load within a vertical distance of 24 inches.

1.48 Helicopter Requirements

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

The Telecom Lead Construction Manager and the Regional ESH&S Manager are to be notified in advance of helicopter lifting operations.

Telecom is to be on-site during all helicopter operations.

The following permits are to be submitted to Telecom prior to helicopter lifting operations:

- Copy of the operator's Federal Aviation Authority (FAA)-issued Rotorcraft External-Load Operator Certificate, including the name of the chief pilot who is approved by the FAA for conducting Rotorcraft External-Load operations.
- Registration number(s) of the rotorcraft operator candidate(s) that will be used for lifting.
- Copy of the local permit (or application) required to perform the helicopter operation, if one is required.

All helicopter lift operations are to be performed in accordance with the following:

- 29 CFR 1926.551, Helicopters.
- 14 CFR 133, Rotorcraft External Load Operations.
- ANSI/ASME B30.12, Handling Loads Suspended from Rotorcraft.

All helicopter lift operations being performed in congested areas as defined by the FAA are to be treated as critical lifts and are to meet the requirements of Subsection 1.44.1 of this PESHSP and include the following:

- A copy of the operation plan approved and signed by the FAA Flight Standards District Office.
- A copy of the approved city or local permit required to perform the helicopter operation, if such permit is required.
- The maximum gross weight of the rotorcraft-load combination.
- The FAA approved hook load rating for the helicopter to be used for this operation, in accordance with the flight manual.
- The load rating for the hook that will actually be used.

- The rated load of hoist and load line, if a hoist is used.
- A sketch of the rigging arrangement, with dimensions.
- The size and rated capacity of all slings, shackles, spreaders.
- A written statement regarding how static charge protection will be provided.
- A preflight inspection checklist form specifically indicating hoist, hook, pendant, sling inspection, and criteria.

1.48.1 Usage Requirements

A daily briefing is to be held with all people using the helicopter involved in the discussion.

Loads are to be properly slung.

Tag lines are to be of a length that will not permit their being drawn up into rotors.

Pressed sleeve, swedged eyes, or equivalent means are to be used for all freely suspended loads to prevent hand splices from spinning open or cable clamps from loosening.

All electrically operated cargo hooks are to have an electrical activating device so designed and installed as to prevent inadvertent operation:

- Cargo hooks are to be equipped with an emergency mechanical control for releasing the load.
- Cargo hooks are to be tested prior to each day's operation to determine that the release functions properly, both electrically and mechanically.

PPE for crew members receiving the load is to consist of complete eye protection and hard hats secured by chinstraps.

Every practical precaution is to be taken to protect crew members from flying objects in the rotor downwash:

- All loose gear within 100 feet of the place of lifting the load, depositing the load, and all other areas susceptible to rotor downwash is to be secured or removed.

Good housekeeping is to be maintained in all helicopter loading and unloading areas.

The helicopter operator is responsible for size, weight, and manner in which loads are connected to the helicopter.

Crew members required to perform work under hovering craft are to have a safe means of access to reach the hoist line hook and engage or disengage cargo slings.

Static charge on the suspended load is to be dissipated with a grounding device before ground personnel touch the suspended load, or protective rubber gloves are to be worn by all ground personnel touching the suspended load.

Hoist wires or other gear, except for pulling lines or conductors that are allowed to “pay out” from a container or roll off a reel, are not to be attached to any fixed ground structure or allowed to foul on any fixed structure.

When visibility is reduced by dust or other conditions, crew members are to exercise special caution to keep clear of main and stabilizing rotors.

Whenever approaching or leaving a helicopter with blades rotating, all crew members are to remain in full view of the pilot and keep in a crouched position.

Sufficient ground personnel are to be provided when required for safe helicopter loading and unloading operations.

There is to be a constant, reliable communication between the pilot and a designated professional of the ground crew, who acts as a signalman during the period of loading and unloading. The signal person is to be distinctly recognizable from other ground personnel.

Signal systems between aircrew and crew members are to be understood and checked in advance of hoisting the load. This applies to either radio or hand signal systems. Hand signals are as follows:

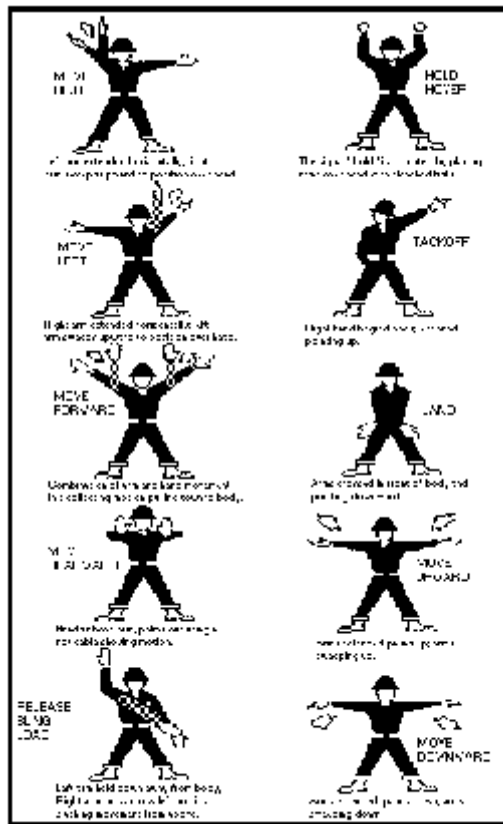


FIGURE 1 HELICOPTER HAND SIGNALS

Loose-fitting clothing is not to be worn by crew members as it is likely to flap in the downwash and be snagged on hoist line.

Lifts are not to be attempted if the pilot believes that the lift cannot be made safely.

Work is not to be performed under hovering craft except when necessary to hook or unhook loads.

Unauthorized persons are not to be allowed to approach within 50 feet of the helicopter when the rotor blades are turning.

Crew members are to avoid the area from the cockpit or cabin rearward unless authorized by the helicopter operator to work there.

Open fires are not to be in an area that could result in such fires being spread by the rotor downwash.

1.49 Capstan Requirements

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.49.1 Capstan Operator Qualification

Capstan operators are to have at least 40 hours of on-the-job training/experience in the proper use and maintenance of a capstan hoist under the direct supervision of an experienced capstan hoist operator.

1.49.2 Capstan Inspections

Each day, before use of any capstan hoist, the operator is to perform a capstan hoist inspection using the [Capstan Daily Inspection \(TCOM-FM-0086-0089\)](#) or equivalent.

[Capstan Daily Inspections \(TCOM-FM-0086-0089\)](#) are to be maintained by the Subcontractor in Section 8 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.49.3 Capstan Operations

Crew members are to have experience and be able to demonstrate proficiency in operating a capstan hoist.

Trainee capstan hoist operators are to be under the direct supervision of an experienced capstan operator.

When trainee capstan hoist operators are operating the capstan hoist, the qualified operator/trainer is to be physically present on the ground, continually instructing and monitoring the trainee and able to immediately intervene should a problem arise.

All capstan hoist setups are to be equipped with a sufficient anchor to prevent the rope from releasing.

1.50 Gin Pole Requirements

Gin pole: A jin pole or gin pole (the more common spelling) is a rigid pole or tower like section with a pulley or block and tackle on the end used for the purpose of lifting.

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.50.1 Gin Pole Inspections

Gin poles are to have an annual documented inspection performed by a qualified person. An annual gin pole inspection is to be completed by the Subcontractor prior to its use on the project using the [Annual Gin Pole Inspection \(TCOM-FM-0086-0059\)](#) or equivalent.

[Annual Gin Pole Inspections \(TCOM-FM-0086-0059\)](#) are to be submitted to Telecom for review prior to their use. They are to be maintained by the Subcontractor in Section 8 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

In addition to the annual inspection, the Subcontractor is to designate a competent person who is to visually inspect the gin pole and rigging prior to each use, to make sure it is in a safe operating condition, using the [Gin Pole Inspection \(TCOM-FM-0086-0064\)](#) or equivalent.

[Gin Pole Inspections \(TCOM-FM-0086-0064\)](#) are to be maintained by the Subcontractor in Section 8 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.50.2 Gin Pole Usage Requirements

Gin pole operations are to be preplanned using the [Gin Pole Operation Checklist \(TCOM-FM-0086-0091\)](#) prior to commencing lifting operations.

[Gin Pole Operation Checklists \(TCOM-FM-0086-0091\)](#) are to be maintained by the Subcontractor in Section 6 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

Any special engineered pick, which is outside of the load chart, is only allowed at the direction of a licensed professional engineer.

Monitoring and measuring conditions, as specified by a licensed professional engineer, are to be provided and used during all special engineered picks.

Modifications or repairs of a gin pole are to be made with like or similar materials to meet or exceed the original specifications. Modifications or repairs are to be recertified by a licensed professional engineer.

A mechanism is to be in place to prevent the gin pole from tipping during the jumping process.

Wire rope, slings, chains, shackles, turnbuckles, links, hooks, sheaves, rotating rooster heads, blocks, and hoists used in a gin pole lifting arrangement are to meet the manufacturer's safe working load limits;

- In addition, each component is to have a nominal breaking strength of no less than five times the static load applied.
- Consideration is to be given for end fitting losses and actual positioning of connecting parts.

Lugs or other devices for lifting or attaching the gin pole in position are to be designed with load and resistance factors appropriate for their intended use.

If alloy chains are used, they must be marked by the manufacturer with an 8, T, or an A, rated for lifting.

Only quenched and tempered hooks and shackles are to be used.

The manufacturer's load rating is to be stamped on the product.

The breaking strength of the sheave is to be equal to or exceed the breaking strength of the wire rope intended for the sheave.

Wire rope is to be compatible with the sheaves of the rooster head and hoisting blocks.

Wire rope is to be lubricated in accordance with manufacturer specifications to prevent corrosion and wear.

Wire rope end connections are to be terminated in accordance with the industry's and manufacturer's specifications.

Wire rope wedge sockets are to have a minimum tail length of one rope lay with a properly torqued clip attached to prevent accidental disengagement.

Wire rope flemish eyes are to contain heavy-duty thimbles of appropriate size for the wire rope diameter and have a minimum tail length of one rope lay secured with a properly torqued clip at its end.

1.51 Suspended Personnel Work Platform Requirements

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

[Personnel Work Platform Lift Plans \(TCOM-FM-0086-0086\)](#) are to be submitted to Telecom for authorization prior to the lift. Authorized plans are to be maintained by the Subcontractor in Section 7 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.51.1 Hoisting Equipment

An anti-two block device is to be used on all hoists, except where a subcontractor can demonstrate that ambient RF precludes that use:

- In such case, a site-specific safety and health program will be established and maintained on-site to ensure that two blocking cannot occur and that effective communication between the hoist operator and personnel being hoisted is maintained.
- This program could include a cable marking system, a professional situated on the tower in a position to observe the top block, or any other system that will adequately ensure communication. **(Alternatives for ensuring anti-two blocking other than an anti-two block device require Telecom authorization prior to their use.)**

Rigging, hoist line, and slings have a factor of safety of 10 against failure during personnel lift(s). The hoist line used to raise or lower crew members is to be equipped with a swivel to prevent any rotation of the crew members. The use of spin-resistant wire rope is prohibited when hoisting crew members.

When hoisting personnel in a suspended work platform (versus material), the hoist capacity load rating is to be derated by a factor of 2 (reduced by half). All crew members are to be provided with and required to use the proper PPE (including fall protection equipment) that is to be inspected before each lift.

Except where the Subcontractor can demonstrate that specific circumstances or conditions preclude its use, a guide line (tag line) is to be used to prevent the crew members or the platform from contacting the tower during hoisting.

The gin pole is to be thoroughly inspected before use by a competent person to determine that it is free from defects, including but not limited to, damaged and/or missing members, corrosive damage, missing fasteners and broken welds at joints, and general deterioration.

The gin pole is to be attached to the tower as designed by a registered professional engineer. There are to be a minimum of two attachment locations at the bottom of the gin pole and near the top of the tower being erected.

Personnel load capacity and material capacity of the lifting system in use is to be posted on-site near the location of the hoist operator. If the system is changed (for example, if the gin pole angle is changed), the posted capacity is to be changed accordingly.

1.51.2 *Suspended Personnel Work Platform (Crane or Hoist)*

The Subcontractor is to ensure that its crews require the following:

- Personnel platform and suspension system is designed by a qualified engineer or a qualified person competent in structural design.
- Suspension system is designed to minimize tipping of the platform due to movement of crewmen occupying the platform.
- Once the rigging is attached to the headache ball, the latch is pinned locked to prevent accidentally opening.
- The personnel platform itself, except the guardrail system and personnel fall arrest system anchorages, is capable of supporting, without failure, its own weight and at least five times the maximum intended load.
- Platform specifications are clearly identified on the platform.
- Each personnel platform is equipped with a guardrail system that meets the requirements of Subpart M and is enclosed at least from the toe board to midrail with either solid or expanded metal having openings no greater than 1/2 inch.
- A grab rail is installed inside the entire perimeter of the personnel platform.
- Access gates, if installed, do not swing outward during hoisting.

- Access gates, including sliding or folding gates, are equipped with a restraining device to prevent accidental opening.
- Headroom is provided that allows crewmen to stand upright on the platform.
- In addition to the use of hard hats, crewmen are protected by overhead protection on the personnel platform. (Platforms must have overhead protection; no exception under the revised 29 CFR 1926.1400.)
- All rough edges exposed to contact by crewmen are surfaced or smoothed in order to prevent injury to crewmen from punctures or lacerations.
- All welding of the personnel platform and its components are performed by a qualified welder familiar with the weld grades, types, and material specified in the platform design.
- The personnel platform is conspicuously posted with a plate or other permanent marking that indicates the weight of the platform and its rated load capacity or maximum intended load.

1.51.3 Trial Lift Meeting

A pre-lift meeting is to be held prior to the trial lift. The meeting is to accomplish the following:

- Be attended by the hoist operator, crew members to be lifted, and the crew chief.
- Review the procedures to be followed and all appropriate requirements contained in this guideline.
- Be repeated for any professional newly assigned to the operation.
- Ensure pre-lift meeting document is completed and submitted to Telecom.

1.51.4 Trial Lift Proof Testing

A trial lift of the maximum intended personnel load is to be made from ground level to the location to which personnel are to be hoisted.

The trial lift is to be conducted immediately prior to placing personnel on the hoist line.

The hoist operator is to determine that all systems, controls, and safety devices are activated and functioning properly.

A single trial lift is to be performed for all locations that are to be reached from a single set-up position.

The hoist operator is to determine that no interference exists and that all configurations necessary to reach those work locations remain under the limit of the hoist's rated capacity, and additionally maintain a 10:1 factor of safety against failure.

Trial lifts are to be repeated prior to hoisting crew members whenever the hoist is moved and set up in a new location or returned to a previously used position.

After the trial lift, crew members are not to be lifted unless the following conditions are met:

- Hoist wire ropes are determined to be free of damage.
- Multiple part lines are not twisted around each other.
- The proof testing requirements have been satisfied.
- If the hoist wire rope is slack, the hoisting system is inspected to ensure that all wire ropes are properly seated on drums and in sheaves.

A visual inspection of the hoist, rigging, base support, and foundation is to be made by a competent person immediately after the trial lift to determine whether testing has exposed any defect or adverse effect upon any component of the structure.

Any defects found during the inspection that may create a safety hazard are to be corrected. Another trial lift is to be performed before hoisting personnel.

Prior to hoisting crew members and after any repair or modification, the personnel rigging is to be proof tested to 125 percent of the greatest anticipated load by holding it in a suspended position for 5 minutes with the test load evenly distributed (this may be done concurrently with the trial lift).

After proof testing, a competent person is to inspect the rigging. Any deficiencies found are to be corrected and another proof test is to be conducted.

1.51.5 Communication

Crew members being hoisted are to remain in continuous sight of and/or in direct communication with the operator or signal person.

If the use of a signal person would create a greater hazard for the person being hoisted, direct communication alone, such as by radio, is to be used.

When radios are used, they are to be nontrunking, closed, two-way selective frequency radio systems.

When hand signals are used, the crew members are to use industry standardized hand signals.

1.51.6 Weather Conditions

In the case of wind, a suspended personnel platform is not to be used if the wind is 25 mph or higher.

Crew members are not to be hoisted during adverse weather conditions (high winds, electrical storms, snow, ice, sleet, etc.) or other impending danger, except in the case of emergency professional rescue. This determination will be made by the competent person.

1.51.7 Energized Power Lines

The gin pole and its base hoists used to raise and lower crew members on the hoist line is not used unless the clearance distances required by the following table are maintained at all times during the lift:

Power line voltage phase to phase (kV)	Minimum safe clearance (feet)
50 or below	10
Above 50 to 200	15
Above 200 to 350	20
Above 350 to 500	25
Above 500 to 750	35
Above 750 to 1,000	45

1.52 Construction Equipment

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.52.1 Mobile Equipment

All mobile operators are trained and certified by their employer for the type of mobile equipment (i.e., excavator, mini excavator, skid loader, mini skid loader) to be used.

Mobile Operator Training Qualifications are to be maintained by the Subcontractor in Section 2 of its crew’s ESH&S jobsite binder and made available to Telecom upon request.

The Operator’s Daily Inspection Checklist form is to be completed before each shift and any hazardous condition corrected before use. The Operator’s Daily Inspection Checklist form should be available from the mobile equipment manufacturer.

Operator Daily Inspections are to be maintained by the Subcontractor in Section 8 of its crew’s ESH&S jobsite binder and made available to Telecom upon request.

At all times ensure that safe mobile equipment work practices are used on Telecom project sites.

Training will include both formal instruction and practical training. At a minimum, formal training is to include instruction on the following:

- Hazards associated with the type of truck.
- Hazards of the workplace.
- General hazards that apply to most trucks.
- Safe operation and maintenance.

- Manufacturer's operating instructions.
- Operators wearing seatbelts at all times when operating any piece of mobile equipment.

Crew members in the vicinity of the operating mobile equipment are to wear high visibility vests.

Mobile equipment is to be equipped with automatic backup alarms.

Retraining is required after an accident or a near miss.

Do not ride on the mobile equipment unless the mobile equipment is provided with an approved passenger/demonstrator seat equipped with seatbelt protection.

1.52.2 Aerial Lifts

All aerial lift operators are trained by their employer for the type of aerial lift used.

Aerial Lift Operator Training Qualifications are to be maintained by the Subcontractor in Section 2 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

The Operator's Daily Inspection is completed before each shift and any hazardous condition corrected before use.

Operator Daily Inspections are to be maintained by the Subcontractor in Section 8 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

Lift controls are to be tested each day prior to use, to determine that such controls are in safe working condition.

Only authorized persons are to operate an aerial lift.

Crew members are to always stand firmly on the floor of the basket.

A full body harness is to be worn with a lanyard (Preference shall be given to self-retracting lifelines that limit the potential fall distance.) attached to the appropriate attachment point when working from an aerial lift. This includes scissor lifts.

Brakes are to be activated and, when outriggers are used, they are to be positioned on pads or a solid surface. Wheel chocks are to be installed before using an aerial lift on an incline, provided they can be safely installed.

Articulating boom and extensible boom platforms, primarily designed as personnel carriers, are to have both platform (upper) and lower controls as follows:

- Upper controls are to be in or beside the platform within easy reach of the operator.
- Lower controls must provide for overriding the upper controls.
- Controls are to be plainly marked as to their function.

Before moving an aerial lift for travel, the boom(s) is to be inspected to see that it is properly cradled and outriggers are in the stowed position.

Do not belt off to an adjacent pole, structure, or equipment while working from an aerial lift.

Do not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

Do not exceed boom and basket load limits specified by the manufacturer.

Do not move an aerial lift truck when the boom is elevated in a working position with men in the basket, except for equipment that is specifically designed for this type of operation.

Do not operate lower level controls unless permission has been obtained from the professional in the lift, except in case of emergency.

1.53 Fall Protection

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Fall protection is required 100 percent of the time when crew members are exposed to a fall exposure of 6 feet or greater, or when required by additional rules.
- A positioning lanyard used by itself does not meet the 100 percent fall protection requirement. Fall arrest lanyards/devices must be used at all times in conjunction with positioning lanyards at 6 feet or greater.
- Controlled descent practices are permitted upon written authorization of Telecom and, at a minimum, are to meet the requirements detailed in Subsection 1.54.3 of this PESHSP.
- Suspended personnel work platform practices are permitted upon written authorization of Telecom and, at a minimum, are to meet the requirements detailed in Section 1.51 of this PESHSP.
- Tower climbing scopes of work are to be performed by competent tower climbers and, at a minimum, are to meet the requirements detailed in Subsection 1.54.2 in this PESHSP.
- **No professional or work operation** is exempt from the 100 percent fall protection requirement:
 - Free climbing practices are prohibited.
 - Riding hoist line practices are prohibited.
 - Repelling practices are prohibited.
 - The use of safety monitors as a fall protection system is prohibited.

1.53.1 Fall Protection Plan

A fall protection plan is to be documented if work is being done at a location where crew members are exposed to a fall at or in excess of 6 feet. The fall protection plan is to describe the systems that are going to be utilized to protect the crew members from the fall exposure.

1.53.2 Personal Fall Arrest Systems (PFAS)

PFAS are to be used when there is a fall exposure of 6 feet or greater and when other fall protection systems are deemed unfeasible for crew members' use based on the scopes of work being performed.

PFAS are to consist of the following, at a minimum:

- A full body harness.
- Two shock absorbing lanyards or a Y legged lanyard.
- Double locking snap hooks.

PFAS are to be rigged to limit a crew member's freefall to 6 feet and prevent them from making contact with a lower object.

PFAS are to be secured to anchorage points that meet the following:

- Capable of supporting 5,000 pounds per crew member attached.
- Be located above the crew members' body harness attachment point where practicable. Where the anchorage point cannot be located above the crew members' body harness attachment point, a shorter lanyard is required to be used to prevent the crew members' free fall from exceeding 6 feet.
- Be independent of any anchorage being used to support other suspended objects such as scaffolds or platforms.

PFAS are to adhere to the following:

- Be inspected and documented using [Daily Fall Protection Inspection \(TCOM-FM-0086-0106\)](#), or equivalent, prior to each use for issues that may compromise the equipment such as cuts, cracks, tears or abrasions, undue stretching, overall deterioration, mildew, operational defects, heat damage, or acid or other corrosion.
 - Defective equipment is not to be used; it should be removed from service and replaced.
- Be stored in a cool dry place where it is not subjected to direct sunlight.
- Be removed from service if it has been subject to an impact caused by freefall.

Personal fall arrest equipment is not used for any other purpose, such as tow ropes or hoist lines.

1.53.3 Temporary Horizontal and Vertical Lifelines

Vertical lifelines are used for fall protection as follows:

- Each crew member is to be protected by a separate vertical lifeline.
- Vertical lifelines are to be properly weighted at the bottom and terminated to preclude a device such as rope/cable grab systems from falling off the line.

Horizontal lifelines used for fall protection are to adhere to the following:

- Are to be designed, installed, and used under the direction of a qualified person.
- Are to be designed to maintain a safety factor of at least two.

1.53.4 Guardrails

Guardrails being used for fall protection are to be able to resist a force of 200 pounds applied within 2 inches of the top edge.

Guardrails being used for fall protection are to be erected as follows, at a minimum:

- On all open sides of walkways and runways where a fall exposure of 6 feet or greater exists.
- Along all leading edges where a fall exposure of 6 feet or greater exists.
- Around all floor holes or openings where a fall exposure of 6 feet or greater exist

Guardrails being used for fall protection are to consist of the following, at a minimum:

- A top rail at a vertical height of 42 inches, plus/minus 3 inches. NOTE: Some state OSHA plans may be more stringent and must be complied with accordingly.
- A mid rail at a vertical height of 21 inches or half the distance from top rail to work surface.
- A toe board of 3-1/2 inches in height or greater

Wood guardrails are to be erected out of the following, at a minimum:

- 2 x 4 inch post set at a spacing interval of 6 feet or less.
- 2 x 4 inch top rails.
- 1 x 6 inch intermediate/mid rails.

Pipe guardrails are to be erected out of 1-1/2 inch nominal diameter pipe, at a minimum.

Structural steel guardrails are to be erected out of 2 x 2 x 3/8 inch angle iron or equivalent, at a minimum.

Wire rope guardrails are to be erected out of 1/2 inch rope, at a minimum:

- Wire rope guardrails are to be flagged at no more than 6 feet intervals with a highly visible material.
- Wire rope guardrails are to be taut to allow no more than 3 inches of deflection when a force is applied.

Guardrails **are not** to be made out of manila/synthetic rope.

Guardrails **are not** to be sat, stood, or leaned on.

1.53.5 Warning Line System

A warning line system that provides practical, effective fall protection for rooftop work and many low-sloped roofs can be used.

Warning line systems are to consist of ropes, wires or chains, and supporting stanchions that warn crew members they are near an unprotected roof side or edge.

Warning line systems are to mark off an area within which a person may do work without using guardrails, body harness, or safety nets.

Warning line systems are to adhere to the following:

- Be stretched or erected around the entire work area, not less than 15 feet from the edge.
- Be visibly flagged every 6 feet with red/orange material.
- Be supported so that it stays between 34 to 39 inches from the walking surface.
- Have a minimal tensile strength of 500 pounds. **Caution tape does not meet this requirement.**
- Be attached to the stanchion so that pulling on it does not pull up slack in other sections.
- Be constructed so that points of access, hoisting areas, and storage areas are connected to the work area by designing the warning line system to include a safe access path.
- Be erected so that the stanchions are capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion, 30 inches above the walking work surface, perpendicular to the warning line and in the direction of the surface edge.

1.53.6 Rooftop Requirements

Rooftop work is to meet or exceed the requirements detailed in Section 1.53, Fall Protection, when on roofs that are not equipped with a parapet with a height of 39 inches that fully encompasses the

work zone. (Certain states may be more restrictive.) A written fall protection plan, when fall protection is required, must be on-site using the [Rooftop Control Checklist \(TCOM-FM-0086-0108\)](#).

Do not use warning lines as a default for rooftop work.

1.53.7 Tower Climbing Requirements

Crew members required to perform tower climber work activities are to adhere to the competent/qualified tower climbing requirements contained in Section 1.54 of this manual.

1.54 Competent/Qualified Climber

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.54.1 Training and Certification Requirements

Crew members performing tower climbing activities are to be certified as competent/qualified tower climbers by a recognized training authority that has been approved by Telecom.

Competent/Qualified Tower Climber Certifications are to be maintained by the Subcontractor in Section 2 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

A train-the-trainer approach is allowed to be utilized by Subcontractor provided the trainer has successfully completed the advanced requirements to qualify as a competent trainer through one of the recognized training authorities approved by Telecom:

- A company developed in-house training program may be allowed by the Subcontractor after the training program content is submitted to and thoroughly vetted by Telecom.

Certifications may be accepted from previous employers, as long as the training provided to a crewman originated from one of the recognized training authorities approved by Telecom, and in addition, the Subcontractor is to perform the following:

- Verifies that the competent/qualified tower climber training certification from the authorized training provider is still valid.
- Verifies each crew member's skills and deems them as competent skills through a demonstrated competency evaluation conducted by the Subcontractor's designated competent person and authorizes them to perform tower climbing activities on behalf of its company.
- Provides training on the Subcontractor's policies, procedures, and equipment to ensure that each crewman has the ability to comply with all regulations and guidelines and is able to perform safe climbing and rescue techniques in accordance with the Subcontractor's policies and provided equipment.
- Instructs each crew member performing, participating, or supervising tower climbing in competent climber work practices.

Certifications are not to be grandfathered for crewmen who obtained their certification from a previous employer utilizing an in-house training approach.

1.54.2 Competent/Qualified Climber Work Requirements

All tower climbers are to be certified as competent/qualified tower climbers by a recognized training authority that has been approved by Telecom.

Competent/qualified climbers are to be determined fit for duty by the Subcontractor.

Standardized fall protection equipment is to meet the requirements of the current revision of ANSI Z359.

Tower rescue plans are to be developed and implemented on-site. Plans are to allow for prompt rescue of competent/qualified tower climbers in the event of an emergency.

Tower rescue plans are to be maintained by the Subcontractor in Section 7 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

Tower rescue plans are to include, but not be limited to, the following:

- Having at least two competent/qualified climbers on-site who are trained in tower rescue and first aid/CPR. One of the two is to be on the ground at all times while tower climbing scopes of work are being performed.
- Having a tower rescue kit readily available on-site, accessible, and in satisfactory working condition when tower climbing scopes of work are being performed.

Competent/qualified climbers are to inspect the tower for damage, deterioration, structural deficiencies, functionality of safety features, and available anchor points prior to performing any tower climbing scopes of work.

Competent/qualified climbers are to inspect all PFAS components prior to performing any tower climbing scopes of work to make sure that they are in safe working condition and being worn appropriately. Any defective PFAS components are to be replaced prior to commencing the tower climbing scope of work.

Competent/qualified climbers are to perform/participate in a pre-climb safety meeting prior to performing tower climbing scopes of work.

Competent/qualified climbers are to wear clothing that does not interfere with safe climbing.

Competent/qualified climbers are not to connect fall protection equipment to step bolts, pegs, and other nonrated anchorages for fall protection unless engineering documentation exists to support acceptable use.

Competent/qualified climbers **are not** to utilize repelling practices.

Competent/qualified climbers **are not** to utilize free climbing practices.

Competent/qualified climbers **are not** to utilize riding the line practices.

Competent/qualified climbers **are not** to utilize controlled descent practices without prior written authorization from Telecom in accordance with the requirements found in section 1.54.3 of this manual.

Competent/qualified climbers are to utilize a full body harness as part of their PFAS. Body belts and seat harnesses **are not** to be used.

1.54.3 *Controlled Descent*

A written authorization is to be obtained from Telecom using the [Controlled Descent Plan \(TCOM-FM-0086-0049\)](#), or equivalent, prior to commencing the work activity.

Authorized [Controlled Descent Plans \(TCOM-FM-0086-0049\)](#) are to be maintained by the Subcontractor in Section 7 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

The controlled descent plan is to include a detailed fall protection plan outlining rigging, anchorage points, hardware, ropes, work activity, and competent climber personnel.

Preferences are to be given to use of other mechanical means (i.e., man lift, crane, and man basket) prior to using controlled descent methods.

Controlled descent systems are to include at least two independent anchor point attachment for adequate protection: one line for work positioning and one for fall arrest.

Controlled descent methods are to incorporate the use of at least one automatic fall arrest device to arrest a fall.

Rope lines utilized in controlled descent applications are to be used for personnel only; these rope lines are not to be used to hoist materials.

Crew members observed utilizing a single line for fall protection are to be removed from the Telecom project immediately. The use of a single line is considered the same as free climbing.

1.55 EME/RF

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

Subcontractors are to immediately notify the Telecom Lead Construction Manager and the Regional ESH&S Manager if engineering and work practices controls are not sufficient to mitigate crew members' exposure, requiring them to wear the RF suit to perform the required task.

Safe EME/RF awareness and hazard avoidance work practices are to be used by crews performing work on all Telecom project sites.

1.55.1 *Training*

Field supervisors and crew members staffed to Telecom project sites are to be trained in an EME/RF awareness course prior to commencing work on Telecom project sites.

EME/RF Awareness Training Certifications are to be maintained by the Subcontractor in Section 2 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.55.2 Monitoring Exposure

At a minimum, each crew staffed to a Telecom project site is to be equipped and trained in the use of an EME/RF personal protective monitor.

EME/RF personal protective monitors are to be the appropriate type and frequency range to alert crew members to the hazards at the project site.

At a minimum, EME/RF assessments are to be performed as follows:

- Upon each arrival to the project and assigned work location.
- Upon powering down antennas.
- For continuous monitoring for tower climbers.
- Upon completion of work.
- During EME/RF lockout/tagout practices.

EME/RF assessments are to be reviewed with crew members prior to the commencement of work activities at the project site.

Barricades/signs are to be erected/posted in areas that exceed the maximum permissible exposure (MPE) to alert crew members of the hazard.

1.55.3 Exposure Mitigation Measures

At a minimum, the following hazard mitigation measures are to be met:

- Obey all posted signs.
- Assume all antennas are active.
- Notify carrier/tower clients and disable appropriate transmitters.
- Maintain a minimum 3 feet clearance from all active RF sources.
- Work with Telecom/Carrier/Tower Client to power down antennas to a safe working level or identify maintenance windows in which antennas can be or are powered down to a safe working level.
- Secure work locations to prevent unauthorized entry.
- Allow only qualified crew members into/onto site locations.
- Utilize lockout/tagout procedures to control power levels on transmitters.

- Do not stop in front of antennas.
- Do not operate transmitters without shields during normal operation.
- Do not operate base station antennas in equipment room.

1.55.4 PPE Usage

The use of PPE, such as an RF suit, is to be the last resort in performing work in areas in which EME/RF levels exceed the MPE limits. Engineering and work practices controls are to be established to mitigate the hazard prior to having crew members outfitted in PPE to perform work in areas that exceed the MPE.

Crew members performing work in areas requiring the use of specialized PPE are to be provided with and trained in the selection, use, maintenance, and limitations of the appropriate PPE.

1.56 Working Alone or in Isolation

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.56.1 Hazard Identification, Elimination, and Control

Before a crew member is assigned to work alone or in isolation, the Subcontractor is to identify any hazards to that crewman.

Before a crew member starts a work assignment with a hazard identified, the subcontractor is to take measures to eliminate the hazard and, if it is not practical to eliminate the hazard, to minimize the risks from the hazard.

Crew members are to minimize the risks from the hazard to the lowest level practical using engineering controls, administrative controls, or a combination of engineering and administrative controls.

Tower climbing/erection/maintenance/construction/inspection activities are not to be performed by a lone crewman.

1.56.2 Procedures for Checking the Well-Being of the Professional

A procedure is to be developed and implemented for checking on the well-being of a crew member assigned to work alone or in isolation as follows:

- The procedure is to include the time intervals between checks and the steps to follow in case the crew members cannot be contacted, including provisions for emergency rescue.
- A coworker is to be designated to establish contact with the crew members at predetermined intervals, and the results must be recorded by the coworker.
- High risk activities are to require shorter time intervals between checks.

1.56.3 Training

The crew members and any coworker assigned to check on the crew members are to be trained in the written procedure for checking the crew members' well-being.

1.57 Severe Weather Procedures

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Weather conditions are to be monitored for impending severe conditions by using local weather stations, the internet, or other reliable means.
- If it is found that severe weather may hit the site, work activities are to be suspended, the site is to be secured, and crew members are to be instructed to seek shelter at a designated muster area until an all clear is provided.
- When severe weather is imminent, the following procedures, at a minimum, are to be followed:
 - Thunderstorm/Lightning--In the event of a thunderstorm, crew members are to be informed to seek shelter. Upon hearing the announcement, crew members are to assemble in a muster area and remain there until the all clear is communicated by the subcontractors.
 - Tornado--In the event of a tornado warning, crew members are to assemble at the designated muster area. The Subcontractor is to communicate the notice to them by verbal or audible notification methods and crew members are to remain there until the all clear is communicated by the subcontractors.

1.58 Environmental Permit Conditions and Approval Requirements

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Relevant federal, state, and local permits or permit modifications or certifications needed are to be obtained by the Subcontractor prior to performing the scope of work.

Environmental permits (copies) must be maintained by the Subcontractor in Section 5 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

- Environmental action plans are to be developed to comply with the identified permits.

Environmental action plans are to be maintained by the Subcontractor in Section 7 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.59 Vegetation and Clearing

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Subcontractors are to notify the Telecom Lead Construction Manager and the Regional ESH&S Manager of damage to trees or shrubs within 24 hours of discovery.
- Areas that are not to be disturbed during activities are to be marked with temporary fencing or substantial barriers that prevent entry by vehicles or heavy equipment.
- The temporary fencing or substantial barrier is to be set back a sufficient distance to protect the root systems of trees and shrubs that are not to be disturbed.
- Heavy equipment, vehicular traffic, or storage of materials is not permitted within the protected areas.

Temporary roadways, stockpiles, and lay-down areas are to be located to limit damage to trees, shrubs, and grass.

1.60 Threatened and Endangered Species

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Subcontractors are to immediately notify the Telecom Lead Construction Manager and Regional ESH&S Manager if a threatened or endangered species has been identified on a Telecom project site.
- Work activities are to cease if they impact the environment of a threatened or endangered species. Telecom will not permit work to continue until it has been determined that the subcontractors' activities will not impact threatened or endangered species, including nesting locations.

1.61 Protection of Historic and Archaeological Resources

The Subcontractor is to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Subcontractors are to immediately notify the Telecom Lead Construction Manager and the Regional ESH&S Manager if a historic or archeological site has been identified on a Telecom project site.
- Work activities are to cease in the event that historic or prehistoric archaeological resources, such as arrowheads, pottery, and structures, are discovered during trench excavations, demolition, or other disturbing activities.
- The areas where the artifacts are discovered are to be secured and flagged as being off limits for work.

- The artifacts are not be touched, moved, or further disturbed.
- Work is not to recommence in the affected area until after Telecom and the Client give authorization.

1.62 Human Remains Discoveries

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Subcontractors are to immediately notify the Telecom Lead Construction Manager and the Regional ESH&S Manager if suspected human remains have been identified on a Telecom project site.
- Work activities are to cease if bones or other evidence of human remains are identified during work.
- The area where the remains are discovered is to be secured and flagged as being off limits for work.
- The remains are not be touched, moved, or further disturbed.
- Due care is to be taken to ensure that the remains, regardless of origin, are afforded the utmost respect and protection.
- Telecom is to be notified immediately. Telecom is to notify the Client and determine if there is a need to make further notifications.
- Work is not to recommence in the affected area until after Telecom and Client give authorization.

1.63 Erosion and Sediment Control

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Storm drains, open ditches, water bodies, or wetlands are to be protected from receiving sediment-laden runoff through the use of sediment control devices such as hay bales or silt fences.
- Washouts in seeded areas and riprap are to be repaired in a timely manner.

1.64 Noise Control

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Consideration is to be given to the effects of noise on people working in operations at the project site, and on nearby residents, businesses, and institutions.
- Control measures are to be implemented to limit the noise associated with activities, including earth moving, excavating, blasting, pile driving, use of pneumatic tools, fabrication and assembly of structural steel, and operation of heavy equipment and vehicles. Control measures are to include, but not be limited to, the following:
 - Properly maintaining equipment and using mufflers whenever possible.
 - Performing certain noisy operations only during the day or during normal work hours for the project.
 - Adopting and implementing work practices to mitigate the effects of noise, such as shutting off equipment when not in constant use and avoiding unnecessary revving of vehicles.
 - Shifting noisy equipment and operations away from sensitive noise boundaries when possible. When not possible, controlling noise by the erection of acoustic shielding or shifting behind spoil heaps as appropriate.
 - Loading and unloading vehicles; dismantling project equipment, such as scaffolding; or moving equipment or materials around the project to minimize noise generation and, when possible, these activities will be conducted away from noise sensitive areas.
 - Using electrically-powered equipment instead of diesel-powered equipment whenever feasible.

1.65 Air Emissions Control

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Vehicles and equipment are to be in good repair and conform to the relevant regulatory requirements for emissions standards. The use of equipment that fails to meet current emissions limits is not permitted until it has been serviced and retested.
- Vehicle exhausts are to be directed vertically upwards where possible and directed away from the ground, at a minimum.

- Wherever possible, equipment is not to be left running for long periods when not directly in use.
- Where appropriate, electrically-powered equipment is to be used in place of diesel-powered equipment.

Vehicle and equipment maintenance records and defect reports are to be maintained by the Subcontractor in its office and made available to Telecom upon request.

1.66 Fugitive Dust Control

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Fugitive dust control measures are to be implemented if fugitive dust can be generated from activities such as demolition, site preparation, excavation, earth moving, and vehicular traffic associated with project site ingress and egress and equipment delivery.
- Work activities that have the potential to generate dust or smoke are to be planned, located, and controlled, so that nearby sensitive receptors are not adversely affected.
- Fugitive dust control measures, such as water or chemical dust suppression, are to be implemented when conditions are conducive to dust migrating from the project site.
- Enclosed chutes are to be used during demolition while dropping material to ground level that has the potential to cause dust. Vehicles transporting materials capable of generating dust to and from the project site are to be suitably sheeted on each journey to prevent release of materials and particulate matter. The sheeting material is to be maintained in good order and will be free from excessive rips and tears.
- A maximum speed of 10 mph is to be strictly enforced over all unpaved surfaces. Reductions to this speed limit may be applied at the discretion of Telecom or the Client where dust problems dictate.
- Unpaved roads are to be routinely damped down, especially during dry periods and according to weather conditions.
- Stockpiles are to be kept to the minimum size practicable, and gentle slopes will be used.
- Stockpiles are to be kept out of the wind, if possible, and if necessary, compacted and the surface bound.
- Burning of wastes or unwanted materials will is not permitted on project sites.

1.67 Odor Control

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- The release of objectionable odors is to be minimized in residential areas or other locations where the public would be exposed.

1.68 Spill and Release Control

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Storm water pollution plans are to be developed if the project site involves disturbing more than 1 acre of land.
- Storm drains, open ditches, water bodies, or wetlands are to be protected from receiving contaminated liquids through the use of flow control devices such as absorbents and dikes.

Storm Water Pollution Prevention Plans are to be maintained by the Subcontractor in Section 7 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.69 Project Access Control

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Points of entrance and exit to a project site are to be stabilized to reduce the tracking of mud and dirt onto public or clean roads by vehicles.
- Mud and dirt tracked onto public roads or adjacent public rights-of-way are to be swept or vacuumed to remove the mud, dirt, or sediments.

1.70 Hazardous Materials Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.70.1 Receiving Hazardous Materials

Crew members who receive hazardous materials regulated under the United States Department of Transportation (DOT) Hazardous Materials Shipping Regulations are to be trained in accordance with 49 CFR 172.704(a) of the USDOT Hazardous Materials Regulations.

Training records are to be maintained by the Subcontractor in its office and made available to Telecom upon request.

1.70.2 Hazardous Material Profile

A hazardous material profile is to be completed for all hazardous materials brought on to, generated, or likely to be generated as a result of a release on the project site.

Releases are defined as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance. This definition includes water discharges and sediments that leave the control of the project site.

Hazardous material profiles are to be submitted to Telecom by the Subcontractor prior to the material being brought onto or removed from a site.

1.70.3 Hazardous Material Containers

Containers of hazardous materials are to be closed during storage, except when it is necessary to add or remove contents.

Containers of hazardous materials are to be marked or labeled with the material, the Client's company name, and a chemical identity that refers to the Chemical Inventory and SDS file maintained in accordance with the governing body (29 CFR 1910.1200).

Containers in storage are to be positioned so that the label is visible upon approach.

Containers of hazardous materials are to be placed on foundations or bases capable of providing support without ill effects from settlement, compression, or uplift.

Containers that are deteriorating (e.g., cracked, rusted) or leaking are not to be used.

- Hazardous materials stored in defective containers are to be transferred to suitable containers in good condition.

Hazardous materials are to be managed to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents that could result from the mixing of incompatible wastes or materials if containers break or leak.

Hazardous materials are not to be placed in an unwashed container that previously held an incompatible waste or material.

Storage containers holding a hazardous material that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments is to be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

Hazardous materials are to be separated and protected from sources of ignition or reaction, including but not limited to, the following:

- Open flames.
- Smoking.
- Cutting and welding.
- Hot surfaces.
- Frictional heat.
- Sparks (static, electrical, or mechanical).
- Spontaneous ignition (e.g., from heat-producing chemical reactions).

- Radiant heat.

Incompatible materials are not to be placed in the same container.

Ignitable or reactive materials are to be stored away from smoking areas and open flames.

- “No Smoking” signs are to be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

1.70.4 Spill Response for Container Leaks

Material flowing from a container into a secondary containment system is to be stopped immediately, and the system is to be inspected to determine the cause of the release:

- Leaked material is to be removed from containment systems or the secondary containment system within 24 hours.
- Visible releases to the environment are to be contained, removed, and disposed of immediately after assessment and determination of the method of cleanup.

Spill response supplies are to be readily available for use in hazardous material storage.

- Spill response kits are to be of a size capable of collecting and containing 110 percent of the largest container.
- Crew members using hazardous materials are to be trained in the proper use of the spill response kit.

1.70.5 Secondary Containment

Containers of liquid or flowable hazardous materials in containers equal to or exceeding 30 gallons in capacity are to be provided with secondary containment. Deviations from this requirement require authorization from Telecom.

Secondary containment is to be designed, installed, and operated to prevent release and migration of materials or accumulated liquids out of the system to the soil, groundwater, or surface waters at any time during use or storage.

Secondary containment for tanks is to include, but not be limited to, the following:

- Capacity sufficient to contain 110 percent of the capacity of the largest container within the secondary containment area with sufficient free precipitation.
- External liner or material is to be impervious and free from cracks and gaps. It is to cover all surrounding earth likely to come into contact with material released from the tank.
- Double-walled tanks are to be designed as an integral structure, so that any release from the inner tank is contained by the outer shell. The tanks are to be protected against corrosion.
- Inspections for tank systems are to occur at least once each operating day. The tank system inspection is to include overflow/spill control equipment, aboveground portions of the tank system, and the area surrounding the tank system.

1.70.6 Storage

Areas used to store containers of hazardous material are to comply with the following criteria unless otherwise authorized in writing by Telecom:

- Posted with the type of materials and hazard present.
- Protected against entry of rain and snow.
- Protected from the sun.
- Protected with secondary containment.
- Located away from surface water or drainage systems.
- Located outside the 100 year flood plain.
- Located at least 50 feet from the facility property line or nearest building or storage structure or within a flammable storage cabinet.

Containers of incompatible hazardous materials are to be stored in a manner where they are separated or protected from each other by means of a dike, berm, wall, or other device.

1.70.7 Inspection

Hazardous material storage areas are to be inspected daily for leaks, container integrity, storage practices, spill prevention/control equipment and supplies, and fire extinguishers using the [Chemical Storage Area Inspection Log \(TCOM-FM-0086-0094\)](#) or equivalent.

[Chemical Storage Area Inspection Logs \(TCOM-FM-0086-0094\)](#) are to be maintained by the Subcontractor in Section 6 of its ESH&S jobsite binder and made available to Telecom upon request.

1.70.8 Inventory

Hazardous material inventories are to be maintained by the Subcontractor in Section 11 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.71 Fuel Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Drip pans, absorbent pads, or equivalent measures are to be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface.
- Absorbent spill cleanup materials and spill kits are to be available in fueling areas and on fueling trucks.
- Nozzles used in vehicle and equipment fueling are to be equipped with an automatic shutoff to control drips and releases.
- Vehicles and mobile equipment are not to be fueled within 50 feet of storm drains, open ditches, water bodies, or wetlands.

1.72 Oil Management

Subcontractors are to ensure that at a minimum they adhere to the following requirements on Telecom project sites.

- Storm drains, open ditches, water bodies, or wetlands are to be protected against a release of hydraulic fluid when mobile equipment with hydraulic reservoirs is being used within 50 feet.

1.73 Polychlorinated Biphenyl (PCB) Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Subcontractors are to immediately notify the Telecom Lead Construction Manager and the Regional ESH&S Manager upon the discovery of PCB-containing equipment or material.

1.73.1 Source Sampling

All potential sources of PCB-containing equipment or material are to be tested and proven to be PCB free prior to exposing crew members to materials and equipment that may contain PCBs.

1.73.2 Discovery of PCB-Containing Equipment or Material

Upon discovery of potential PCB-containing equipment or material, work is to cease.

1.74 Contaminated Soil Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

Subcontractors are to immediately notify the Telecom Lead Construction Manager and the Regional ESH&S Manager upon the discovery of soils that appear to pose an environmental concern.

1.74.1 Materials Management Plan

Materials management plans are to be developed when contaminated soils are known to exist at the project site. The plan is to describe how the Subcontractor will manage contaminated soils to prevent impact to the environment and the crew members.

The materials management plan is to address the following:

- Excavation.
- Professional protection.
- Storage and stockpiling.
- Sampling and analysis.
- Transportation.
- Disposal.

Materials management plans are to be maintained by the Subcontractor in Section 7 of its crew's ESH&S jobsite binder and made available to Telecom upon request.

1.74.2 Discovery of Contaminated Soils

Upon the discovery of contaminated soils, crews are to immediately stop all work in the area of concern.

Telecom will notify the Client and determine if there is a need to make further notifications.

Telecom will decide if the soils need to be sampled to determine the presence and degree of contamination.

The sampling performed by Telecom does not relieve the Subcontractor of its obligation to identify and evaluate the contaminants for the protection of crew members and the environment.

If the contamination exceeds the threshold for regulated soils, a materials management plan will be required to be developed by the subcontractor before work resumes and is to be maintained in accordance with Subsection 1.74.1, Materials Management Plan.

1.74.3 Stockpiles

Soils that appear to pose an environmental concern or are significantly different in composition and classification than those noted in boring logs or similar tests, are to be segregated from other soils until proper testing can confirm the nature of the soils.

Material is to be segregated into stockpiles of differing types and degrees of contamination to prevent cross contamination of uncontaminated material.

Stockpiles of excavated soils are to be stored in dry areas on a minimum 30 mils thick polyvinyl chloride (PVC) sheeting or equivalent:

- Joints in the underlying PVC sheeting are to be overlapped, with a minimum of 12 inches at the ends.
- Stockpiles are to be contained with sediment control devices, such as hay bales or silt fences, placed continuously at the perimeter of the stockpile.

Stockpiles are to be covered with minimum 30 mils thick PVC sheeting or equivalent:

- Sheeting is to be secured in place with tie-downs or heavy objects at the end of the workday and during adverse weather conditions.
- Joints in the cover are to have a minimum 12 inch overlap, and securing materials will be placed along the joints so that the cover will not be opened by wind action.
- Sheeting is to be repaired if damaged and replaced if displaced.

Stockpiles are to be protected against run-on or storm water, migration of contaminants, dusting, erosion, and unauthorized contact.

Stockpiled soils are to be sampled and analyzed for waste characterization to determine the proper disposal options.

1.75 Hazardous Waste Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Subcontractors are to immediately notify the Telecom Lead Construction Manager and the Regional ESH&S Manager if the amount of hazardous waste generated on-site in 1 calendar month exceeds 220 pounds of hazardous waste or 2 pounds of acute hazardous waste.
- Generated waste is defined as hazardous waste in accordance with governing body requirements.
- Solid waste is to be classified as a hazardous waste if it meets any of the following four conditions:
 - Ignitability.
 - Corrosivity.
 - Reactivity.
 - Toxicity.

- Waste is to be specifically defined as being a hazardous waste if it is in one of four lists:
 - Hazardous waste from specific sources.
 - Hazardous waste from nonspecific sources.
 - Acute hazardous waste.
 - Toxic hazardous wastes.
- The waste is to be defined as a hazardous waste if it is a mixture of a listed hazardous waste and a nonhazardous waste.
- The waste is declared as hazardous waste if so identified by the generator.
- The following are exempt from the hazardous waste rules:
 - Nuclear materials.
 - Fly ash.
 - Mining overburden.
 - Drilling fluids.
 - Ore processing waste.

The Subcontractor is to determine the type of waste that the Subcontractor generates and is to report that information in writing to Telecom prior to the creation of the waste stream.

The results of the determination are to be recorded using the Hazardous Material Profile, in accordance with the requirements defined in Subsection 1.70.2 of this PESHSP.

1.75.1 Generator Status

The Subcontractor is to work toward a goal of minimizing the generation of hazardous waste with the objective that the project does not allow the following:

- Generation of more than 220 pounds of hazardous waste or 2 pounds of acute hazardous waste in a calendar month.
- Accumulation of more than 2,200 pounds of hazardous waste at any one time.

When determining the quantity, all hazardous waste generated is to be included, except the following:

- Scrap metal.
- Empty containers.

- Waste managed immediately upon generation in an on-site elementary neutralization unit.
- Wastewater treatment unit.
- Totally enclosed treatment facilities.
- Used oil.
- Spent lead acid batteries.
- Universal waste.

The Subcontractor is to keep the monthly amount of hazardous waste generated to less than 220 pounds of hazardous waste or 2 pounds of acute hazardous waste.

Hazardous waste management plans are to address the following activities:

- Requirements for container labeling.
- Personnel training.
- Preparedness and prevention.
- Emergency procedures.
- Waste analysis plans when treating hazardous waste on-site to meet the land disposal restriction treatment standards.

Subcontractors are to develop and submit a hazardous waste management plan to Telecom if generated waste for the month exceeds 220 pounds of hazardous waste or 2 pounds of acute hazardous waste.

1.75.2 Identification Number

The Subcontractor is to obtain the required identification number.

At a minimum, the identification number is to be obtained from the governing body environmental agency when any of the following conditions exist:

- More than 220 pounds of hazardous waste or 2 pounds of acute hazardous waste are produced per month.
- Hazardous waste is disposed of.
- Hazardous waste is offered for transport.

EPA identification and license numbers are to be maintained by the Subcontractor in its office and made available to Telecom upon request.

1.75.3 Hazardous Waste Containers

Hazardous waste containers are to adhere to the following:

- Containers used to collect hazardous wastes are to be labeled with the Subcontractor's name and the date on which filling of the container began.
- Containers are to be marked as "hazardous waste" and must include the specific type of waste it contains.
- Containers used to store and transport hazardous waste are to be compliant with governing body regulations.
- Containers of hazardous waste are to be equipped with a cover and closure device that forms a continuous barrier over the container.
- When a defect is detected in the container, cover, or closure device, efforts are to be made to repair the defect within 24 hours. In no case will the defect be permitted to exist for longer than 5 days without removing the hazardous chemicals from the container.

1.75.4 Hazardous Waste Container Labels and Markings

Containers of hazardous waste offered for transport are to be marked with the following words and information:

- HAZARDOUS WASTE--Governing Body Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the governing body.
- Generator's name and address.
- Generator's governing body environmental agency's identification number.
- Manifest tracking number.

1.75.5 Hazardous Waste Secondary Containment

Hazardous waste secondary containment is to adhere to the following:

- Containers of hazardous waste are to be provided with secondary containment.
- Secondary containment is to be designed, installed, and operated to prevent the release and migration of materials or accumulated liquids out of the system to the soil, groundwater, or surface waters at any time during use or storage.

1.75.6 Hazardous Waste Empty Container Rule

A container is considered empty and not counted toward hazardous waste limits regardless of what the container previously held if the following occurs:

- All practical means are used to empty the container, such as pouring, pumping, aspirating, etc., and no more than 1 inch of residue remains on the bottom of the container or liner when the container is less than 110 gallons in capacity, or no more than 0.3 percent by weight of the total capacity of the container remains in the container or liner when the container is greater than 110 gallons in capacity.
- A container that held compressed gas is considered empty when the pressure in the container approaches atmospheric pressure.
- A container or liner of a container that held an acute hazardous material is empty following a triple rinse with a solvent capable of removing the hazardous material.

1.75.7 Hazardous Waste Storage

Full containers of hazardous waste are not to accumulate longer than 90 days before they are transported off the project site for proper disposal at a treatment storage or disposal facility.

At no time is there to be more than 1,600 pounds (200 gallons) of hazardous waste accumulated before arranging for transport, storage, or disposal. This upper limit may be less if the Client wants to maintain specific generator status or meet established goals.

Containers used to collect hazardous waste are to be at the point of generation. Containers are to be moved to the storage area when full or when the activity generating the waste is complete.

1.75.8 Hazardous Waste Inventory

Representative reports on the amount of hazardous waste generated from project site activities are to be reported on the [Loss Management Monthly Summary \(TCOM-FM-0086-0069\)](#) in accordance with the requirements defined in the Section 1.10 of this PESHSP.

1.75.9 Hazardous Waste Disposal

Hazardous wastes are to be shipped to a designated facility that treats, recycles, or disposes of a particular type of hazardous waste. Prior to sending a shipment of hazardous waste off the project site, the Subcontractor is to notify the receiving facility and secure an agreement of acceptance. The agreement is to be in writing.

Hazardous Waste Disposal Agreements are to be submitted to Telecom by the Subcontractor prior to shipping hazardous waste off-site.

1.75.10 Hazardous Waste Transportation

When hazardous waste is transported or offered for transport for off-site treatment, storage, or disposal, EPA Form 8700-22, or a manifest equivalent to this form is to be completed prior to transport. The signed manifest must identify when the material was shipped off the project site and when it was received at the designated facility.

Hazardous waste is to be packaged in accordance with governing body packaging requirements prior to removing it from the project site. Each package or container is to be labeled in accordance with governing body labeling requirements.

Copies of the Hazardous Waste Shipping Manifest and accompanying EPA identification and license numbers are to be submitted to Telecom by the Subcontractor upon delivery to the designated facility.

1.75.11 Waste Disposal Recordkeeping

Waste disposal recordkeeping is to include the following:

- Copies of each signed manifest.
- Copies of test results, waste analysis, or other hazardous waste determinations for 10 years.
- Copies of daily and weekly inspection reports.

Waste disposal records are to be maintained by the Subcontractor in its office and submitted to Telecom upon request.

1.76 Universal Waste Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Universal waste is to be managed in a way that will prevent a release to the surrounding environment. Universal wastes include batteries, pesticides, mercury-containing equipment, and lamps.

1.76.1 Containers

Universal wastes are to be stored in a container that remains closed; is structurally sound; is compatible with the contents; and lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

1.76.2 Labeling/Marking

Collection or storage containers or the individual items are to be marked as follows:

Universal Waste Type	Waste Label Wording
Batteries	Universal Waste - Batteries
Pesticide	Original FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) label, DOT label, or governing body equivalent Universal Waste - Pesticide(s)
Mercury-Containing Equipment	Universal Waste - Mercury-Containing Equipment
Lamps	Universal Waste - Lamp(s)

1.76.3 Storage

Storage for universal wastes is to be as follows:

- Universal wastes are not to be stored on-site for more than 1 year.
- Crews are to be able to demonstrate the length of time the universal waste has been accumulating by marking the collection start date on the collection or storage container or individually marking each item with the date it became a waste.

1.76.4 Training

Crew members who handle universal waste or have responsibility for universal waste are to be informed of proper handling and emergency procedures.

1.76.5 Disposal

Universal wastes are to be shipped to a designated facility that treats, recycles, or disposes of a particular type of universal waste. Prior to sending a shipment of universal waste off the project site, the Subcontractor is to notify the receiving facility and secure an agreement of acceptance. The agreement is to be in writing.

Universal Waste Disposal Agreements of Acceptance are to be submitted to Telecom by the Subcontractor prior to shipping universal waste off-site.

1.76.6 Batteries

With the exception of the following, batteries are to be managed as a universal waste:

- Spent lead acid batteries.
- Batteries that are classified as a characteristic hazardous waste.

Waste batteries that show evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions are stored in a container. The container must be closed; structurally sound; compatible with the contents of the battery; and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

The following activities are permitted as long as the casing of each individual battery cell is not breached and remains intact and closed (cells may be opened to remove electrolytes, but must be immediately closed after removal):

- Sorting batteries by type.
- Mixing battery types.
- Discharging batteries.
- Regenerating used batteries.
- Disassembling batteries or battery packs.
- Removing batteries from consumer products.
- Removing electrolyte from batteries.

A hazardous material profile is to be completed when handling waste or used batteries in accordance with the requirements defined in Subsection 1.70.2 of this PESHSP.

Spent lead acid batteries are to be sent to an authorized recycler for disposal.

Unsealed lead acid batteries that are not recycled are to be treated as a hazardous waste.

1.76.7 Pesticides

The following applies to pesticide management:

- Pesticides are to be managed as a universal waste.
- EPA or governing body restricted pesticides are to be applied by certified pesticide applicators.
- Pesticides stored on-site are to be managed in accordance with label directions and the following requirements:
 - Pesticide storage areas are to be in a dry, well ventilated, secured room or building, with spill containment and runoff retention systems.
 - Identification and warning signs are to be on the room or building and on movable equipment used to handle the pesticides (e.g., sprayers).
 - Pesticide containers are to have visible labels, be segregated according to formulation, and be inspected regularly for corrosion and leaks.

1.76.8 Lamps

Lamps are to be managed as a universal waste, including the following:

- Fluorescent bulbs.
- High intensity discharge lamps.
- Neon lamps.
- Mercury vapor lamps.
- High-pressure sodium lamps.
- Metal halide lamps.

Lamps, for the purpose of this section, do not include those that exhibit one or more characteristics of hazardous waste, including ignitability, corrosivity, reactivity, or toxicity.

Broken lamps are to be cleaned up immediately and disposed of in a container that is structurally sound and suitable for any waste lamp as follows:

- Containers are to be of a type to prevent the release of metal vapors (e.g., mercury, sodium) during storage and disposal.

Lamp drum-top crushing devices or similar devices that crush the lamp for volume reduction are not to be used.

1.76.9 Mercury-Containing Equipment

Mercury-containing equipment is to be managed as a universal waste and includes devices, items, or articles that contain varying amounts of elemental mercury. Mercury-containing equipment includes the following:

- Thermometers.
- Manometers.
- Barometers.
- Relay switches.
- Mercury regulators.
- Meters.
- Pressure gauges.
- Sprinkler system contacts.
- Silent switches.

1.76.9.1 Mercury Handling Procedures

Transfer of mercury is to be done over or in a containment device (e.g., tray or pan sufficient to collect and contain any released mercury).

Mercury cleanup kits are to be available at the following locations:

- The site of the transfer operation.
- In the storage area.

Mercury cleanup is not to include the following practices:

- Use of a vacuum or broom to clean up mercury. Doing so creates a greater hazard to exposure.
- Washing mercury contaminated clothing in home washing machines.

1.77 Solid Waste Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Solid waste is to be collected with sufficient frequency to inhibit the propagation or attraction of vectors such as animals or insects or the creation of a nuisance. Food waste is to be collected at least weekly.
- Solid waste, such as garbage, refuse, and sludge and solid, liquid, semi-solid, or contained gaseous materials is to be contained.
- Solid waste is to be stored in a manner that does not constitute a fire, health, or safety hazard and must be contained or bundled so as not to result in a spill.
- Bulk or non-containerized nonhazardous liquid wastes are not to be disposed at a solid waste landfill.

1.77.1 Waste Containers

Waste containers are to adhere to the following:

- Waste containers for garbage or recycling are to be of adequate size and number to handle the amount of waste being generated.
- Containers storing food wastes are to be covered, leak proof, and maintained to prevent a nuisance (e.g., odor, sight) and control vectors such as animals and insects.
- Containers are to be provided in areas where waste is generated to collect and segregate waste streams.
- Containers are to be labeled according to the type of waste for which they are intended.

- Containers are to be emptied at the end of each shift, at a minimum, with the exception of scrap metal waste containers and containers of hazardous waste, which do not need to be emptied until full.
- Liquids are not to be disposed of in the trash.
- Liquid wastes are to be limited to small containers such as those found in household trash (e.g., soda in a can or cups, hand washing detergent container with some residue).

1.77.2 Waste Piles

Waste piles are to adhere to the following:

- Waste piles are to be managed so that wind and water dispersal is controlled.
- Waste piles are to be located on a flat dry area with due consideration to security and public access.
- Waste piles are to be on an impervious surface such as a layer of 30 mil plastic sheeting or equivalent material:
 - The edges of waste piles are to be contained by a sediment barrier such as silt fences or hay bales.
 - The impervious surface is to extend at least 3 feet from the outside edge of the sediment barrier.
 - Joints of the impervious materials are to overlap at least 12 inches.
- The runoff management system is to be capable of collecting and controlling the water volume resulting from a 25 year, 24 hour rainfall event.
- Waste piles are to be covered with impervious materials, such as a tarpaulin or plastic sheeting, at the end of each day and during adverse weather conditions:
 - The cover is to have a 12 inch overlap at all joints and will be secured in place to prevent displacement during adverse weather conditions and wind action.
 - The cover is to be large enough to extend beyond the limits of the bottom layer and will be secured in place with tie-downs or ballasts.
- Drainage from the waste pile is to be controlled in a manner so that run-on or runoffs from the waste pile are minimized and mitigated.
- All wastes from the sediment barrier system are to be managed in accordance with this PESHSP.

- Waste piles are not to exceed 15 feet in height and are not to be sloped steeper than one vertical to two horizontal.
- Liquid or materials containing free liquids are not to be placed in the waste pile.

1.77.3 Recycling

Recycling is encouraged for paper products as well as other materials, such as chemicals, batteries, glass, metals, aluminum, and plastic, if it is economically feasible.

1.78 Used Oil Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.78.1 Prohibited Uses for Used Oil

Used oils are not to be used for the following:

- Used as dust suppressant (road oiling).
- Used as insect or weed control.
- Disposed of on land or to sewers and other water systems.
- Burned as a fuel or incinerated.
- Disposed of in public used oil collection centers.
- Mixed with oil generated from houses or other sources, since this would require further testing for halogens to counter the presumption of the used oil being a hazardous waste.

1.78.2 Container Labels and Markings

Tanks and containers holding used oil are to be labeled with the words "Used Oil," the initial date of accumulation, and the name and address of the generator.

1.78.3 Storage Period of Used Oil

Used oil is to be removed from the project site within 90 days of accumulating 200 pounds (25 gallons).

1.78.4 Presumption of Hazardous Waste

Used oil is presumed to be hazardous waste unless the Subcontractor can demonstrate that the used oil has been managed in a manner that prevented the introduction of halogenated hydrocarbons, or that the total halogen content of each used oil shipment does not exceed 1,000 parts per million (ppm) total halogen.

1.78.5 Disposal of Used Oil

Used oil is to be transported to a used oil collection center that is registered, licensed, permitted, or recognized by a state/county/municipal government to dispose of or recycle used oil. Transport vehicles are not to contain more than 55 gallons of used oil.

1.78.6 Used Oil Filter Management

The following activities are to be performed prior to disposing of used oil filters into the solid waste stream:

- Hot drain all free flowing oil from the oil filter.
- Properly contain the used oil filters.
- Properly label the container as "Used Oil Filters."
- Limit on-site storage to 90 days.
- Transport used oil filters to a licensed facility.
- Transport used oil filters under a bill of lading.
- Manage the oil removed from the filters as used oil.

1.79 Wastewater Management

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites.

1.79.1 Concrete Washout Area

Concrete washouts are to be performed off-site whenever possible.

On-site concrete washout areas are to be located at least 50 feet from storm drain inlets, open drainage facilities, watercourses, or wetlands in an area.

Washout areas are to be designed to prevent runoff from this area through the use of a temporary pit or bermed area large enough to contain the liquid and solid waste.

Washouts are to be performed in designated areas.

Concrete from mixer truck chutes is to be washed into the concrete washout.

Concrete washout from concrete pumper bins is to be washed into concrete trucks and discharged into the designated washout area or properly disposed of off-site.

Concrete wastes washed into the designated area are to be allowed to harden; the concrete is then to be broken up, removed, and disposed of as solid waste.

A sign is to be posted adjacent to each temporary concrete washout facility to inform concrete equipment operators of the proper facilities to utilize.

1.80 Concrete Grinding and Cutting Residue

Subcontractors are to ensure that, at a minimum, they adhere to the following requirements on Telecom project sites:

- Residue from saw cutting or grinding operations is to be picked up by means of a vacuum equipped with a high efficiency filter.
- Concrete saw cutting or grinding residue is not to be left on the surface of the pavement.
- Concrete slurry is not to be allowed to enter storm drains, open ditches, water bodies, or wetlands.