

# SAFETY 360

## VERTEK<sub>LLC</sub>

# EMPLOYEE AND CONTRACTOR SAFETY MANUAL

NOTE: The term “VerTek, LLC” is meant to describe VerTek LLC and/or its contractors. This document is meant to be used between VerTek LLC and both its employees and its contractors. If there are any questions, contact VerTek LLC HR [rhealey@vertekllc.com](mailto:rhealey@vertekllc.com)

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## SAFETY POLICY STATEMENT

### PURPOSE

The purpose of this manual is to cover the policies and procedures related to the various areas of the business operations where injury or death is possible.

We are a construction company, working aerially, on poles which in most cases also carry utility power and underground, installing conduit and pulling cable near water, gas, sewer, and electrical services. We build pedestals and cabinets for coaxial and fiberoptic cable and services.

**The Occupational Safety and Health Act of 1970 clearly states our common goal of safe and healthful working conditions should be the first consideration in operating our business.**

Safety and health in our business must be part of every operation. Without question, it is every employee's responsibility.

It is the intent of VerTek, LLC, Inc. to comply with all laws. To do this, we must constantly be aware of conditions in all work areas that can result in injuries. No employee is required to work at a job he/she knows is not safe or healthful. We require your cooperation in detecting hazards and, in turn, controlling them.

### REPORTING UNSAFE CONDITIONS

Inform your Project Manager immediately of any situation beyond your ability or authority to correct.

### SAFETY OVER PRODUCTION

The personal safety and health of each VerTek, LLC contractor is of primary importance. Prevention of occupationally induced injuries and illnesses is of such consequence that it will be given precedence over operating productivity, whenever necessary. To the greatest degree possible, management will provide all mechanical and physical activities required for personal safety and health, in keeping with the highest standards.

### SAFETY PROGRAM MAINTENANCE AND TRAINING

We will maintain a safety and health program conforming to the best practices of organizations of this type. To be successful, such a program must embody proper attitudes toward injury and illness prevention on the part of supervisors and workers. It also requires cooperation in all safety and

health matters, not only between Project Manager and contractor, but also between each contractor and those individuals the contractor employs. Only through such a cooperative effort can a safety program in the best interest of all individuals be established and preserved.

Our objective is a safety and health program that will reduce the number of injuries and illnesses to an absolute minimum, not merely in keeping with, but surpassing, the best experience of operations like ours. VerTek, LLC goal is zero accidents and injuries.

## SAFETY AND HEALTH PROGRAM

### THE VERTEK, LLC SAFETY AND HEALTH PROGRAM INCLUDES:

- Providing mechanical and physical safeguards to the maximum extent possible
- Conducting safety and health inspections to find, eliminate or control safety and health hazards as well as unsafe working conditions and practices, and to comply fully with the safety and health standards for every job
- Providing necessary personal protective equipment, and instructions for use and care
- Developing and enforcing safety and health rules and requiring that contractors cooperate with these rules
- Investigating, promptly and thoroughly, every accident to find out what caused it and correct the problem so it will not happen again

### RESPONSIBILITIES

- VerTek LLC accepts the responsibilities for leadership of the safety and health program, for its effectiveness and improvement, and for providing the safeguards required to ensure safe conditions.
- Supervisors are responsible for developing proper attitude toward safety and health in themselves and in those they supervise, and for ensuring that all operations are performed with the utmost regard for the safety and health of all personnel involved, including themselves.
- Employees and contractors are responsible for wholehearted, genuine operation of all aspects of the safety and health program, including compliance with all rules and regulations and for continuously practicing safety while performing their duties.

## CODE OF SAFE PRACTICES

### GENERAL

- All persons shall follow these safe practice rules, render every possible aid to safe operations, and report all unsafe conditions or practices to the Project Manager or designated supervisor.
- Supervisors shall insist on workers observing and obeying every rule, regulation, and order as is necessary ensure that all work is performed safely and shall take such action as is necessary to obtain observance.
- Anyone known to be under the influence of drugs or intoxicating substances that impair the employee's ability to safely perform the assigned duties shall not be allowed on the job while in that condition.
- Horseplay, scuffling, and other acts that tend to have an adverse influence on the safety or well-being of individuals shall be prohibited.
- Work shall be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment.
- No one shall knowingly be permitted or required to work while an individual's ability or alertness is so impaired by fatigue, illness, or other causes that it might unnecessarily expose the individual or others to injury.
- Employees and contractors and their workers shall not enter manholes, underground vaults, chambers, tanks, silos, or other similar places that receive little ventilation, unless it has been determined that is safe to enter.
- Employees and contractors and their workers shall be instructed to ensure that all guards and other protective devices are in proper places and adjusted and shall report deficiencies promptly to the supervisors or superintendent.
- Employees and contractors and their workers shall not handle or tamper with any electrical equipment, machinery, or air or water lines in a manner not within the scope of their duties, unless they have received instructions from their supervisors.
- All injuries shall be reported immediately to the Project Manager or designated supervisor so that arrangements can be made for medical or first aid treatment.
- When lifting heavy objects, the large muscles of the leg instead of the smaller muscles of the back shall be used.
- Inappropriate footwear or shoes with thin or badly worn soles shall not be worn.

## REDUCTION OR ELIMINATION OF RISK – HIERARCHY OF CONTROL

VerTek, LLC will continually strive to eliminate workplace injuries. We utilize the following Hierarchy of Control to reduce or eliminate the risk of injury to our employees and the public:

- Elimination
- Substitution of a less hazardous material, processes, operations, or equipment
- Engineering Controls
- Warnings
- Administrative Controls
- Personal Protective Equipment (PPE)



Safety, Productivity, and Quality are not placed in priority order; they are equal cornerstones, which support our safety programs and our organization.

It is foremost in our minds to have a safe workforce. The true measure of success will be every one of our employees going home every day to families and loved ones, in the same condition he or she came to work.

## RESPONSIBILITIES OF ALL PARTIES

If you have any questions or concerns regarding health and safety, contact your Supervisor or Risk Management Director. Violations of the Safety and Loss Control Program will result in disciplinary actions.

The employee and contractor agree that they will:

- Follow all applicable safety rules, policies, procedures, and safe work practices
- Prohibit smoking in the offices and at a customer's premises
- Use seatbelts while operating a vehicle on company business
- Prohibit the use or possession of or being under the influence of alcohol or drugs while on the job or in a company vehicle. Such use will be grounds for immediate termination
- Report all accidents and incidents to their Supervisor or Manager as soon as possible

## KEY SAFETY POINTS

### EMPLOYEE INJURIES

Over 95% of workplace injuries are the result of technician's unsafe act.

An unsafe act is defined as:

- An action taken by an individual who has both knowledge and control of an existing unsafe condition or action but chooses to perform the action or ignore the condition.
- Examples of an unsafe act include:
  - Failure to follow training,
  - Failure to follow safety precautions,
  - Failure to wear personal protective equipment (PPE),
  - Rushing,
  - Distraction.
- Vehicle Accidents – Distracted Driving
- Vehicle accidents are the leading cause of death of the American Worker.
- A leading cause of vehicle accidents is distracted driving caused using cellular phones and other electronic devices while driving.

## USE OF DEVICES IN THE FIELD

VerTek, LLC employees and contractors are not permitted to use handheld cell phones or any other mobile electronic devices while operating a motor vehicle on company business. This includes, but is not limited to:

- Answering or making telephone calls
- Engaging in telephone conversations
- Reading or responding to emails and text messages
- Adjusting a Global Positioning System (“GPS”)
- Adjusting a Satellite Radio System
- Working on a notebook computer
- Working on any type of mobile data device

These restrictions do not apply to calls made to report an emergency. However, in emergency incidents, drivers are still encouraged to pull safely to the side of the road when feasible. When needing to use communications devices

- Pull over to a safe place and place the vehicle in park if a call must be made or received while on the road.
- Pull over to a safe place and put the vehicle in park to make adjustments to a Global Positioning System (GPS) or other navigation devices.

## SAFETY BELT USE

VerTek, LLC employees, contractors, and their technicians are required to use safety belts while operating or riding in company vehicles or any motor vehicle while on company business. The proper use of seat belts is the single most important thing you can do to prevent an injury in a motor vehicle.

## SLIPS, TRIPS, AND FALLS

Falls are a leading cause of traumatic occupational injury and account for 8% of all occupational fatalities. Slip, trip and fall injuries are always preventable and are often the result of rushing to complete a task.

## CONDUCT A PRE-JOB SURVEY

- Inspect the job site to locate hazards such as debris, wet surfaces, ice, and other situations that may cause an injury.
- Wear proper footwear consisting of a slip resistant sole, over the ankle coverage, a defined heel and constructed using a steel shank. A steel or composite toe is recommended at some locations and required at others.
- Make sure footwear has treads and are free of dirt, mud, snow and other materials that may cause you to slip and lose your footing.

## EMPLOYEE AND CONTRACTOR SAFETY RESPONSIBILITIES

### GENERAL

- Learn and follow all applicable safety rules, policies, and procedures.
- Abide by the company's Personal Protective Equipment ("PPE") policies stated in the Safety Manual and communicated during safety training.
- Use tools and equipment for their designed purpose and do not use defective or broken tools or equipment.
- Violations of the Safety and Loss Control Program will result in disciplinary actions.

### HAZARD IDENTIFICATION / ACCIDENT PREVENTION

- Immediately report unsafe conditions to your Supervisor, Manager, and/or the Safety Director.
- Identify unsafe behavior of others and intervene by stopping the unsafe acts that are witnessed.
- Inform the Supervisor, Manager or Safety Manager of employees not willing to follow safety rules and procedures.
- Inspect vehicles, equipment and tools that are used daily.

### TRAINING

- Attend and actively participate in required safety training. Ask questions if clarification is needed.
- Ask their supervisor or manager if they do not know how to conduct a task
- Provide feedback to the manager as to how safety training can be improved.
- Make safety suggestions to the supervisor or manager.
- Participate in safety incentive programs and safety awareness promotions.
- Provide positive reinforcement to fellow employees that are conducting their jobs in a safe manner. This will let them know that you appreciate their efforts to keep a safe work environment for everyone.

## ACCIDENT INVESTIGATION

Immediately report and provide information regarding accidents and near misses to the supervisor. This will help implement effective corrective actions and reduce the potential for other accidents.

## CASE / MEDICAL MANAGEMENT

- Immediately seek needed medical attention in the event of a workplace accident.
- Provide your Manager upon your return to work paperwork provided by your medical provider.
- Make certain that there is an understanding of modified duty assignments, medical restrictions, and any related safety procedures, policies, or safe work practices.

## PROTECTION OF THE PUBLIC

- You will be working in public areas; thus, protection of the public is one of your responsibilities. Work areas where public traffic is possible must be barricaded or coned off to prevent entry to the work area by the public.
- Upon leaving a work area, you must ensure that all waste materials, tools, and equipment have been accounted for and disposed of properly if necessary.

## UNSAFE WORKERS

- Safety is a critical component of our business. Therefore, we will constantly review accidents to determine common causes or factors that can prevent similar circumstances from occurring in the future.
- We will examine our processes, equipment, and employees to locate problem areas, and take corrective action as needed.
- If during the examination we identify an employee who is unsafe, we will remove this employee from the work environment.
- We will not allow unsafe workers to occupy positions of responsibility when they have demonstrated through their actions that they pose a threat to themselves or others.
- Options available to us include but are not limited to retraining, suspension, and/or termination. We will act quickly and consistently for the safety of all involved.

## TRAINING AND INSTRUCTION SHALL BE PROVIDED TO THE FOLLOWING:

- All new employees, contractors, and technicians.
- Whenever new substances, processes, procedures, or equipment are introduced into the workplace and represent a new hazard.
- Whenever VerTek, LLC is made aware of a new or previously unrecognized hazard
- To familiarize supervisors with hazards to which employees or contractors under their immediate direction and control may be exposed.
- Supervisory contractors shall conduct Tailgate Safety Meetings with their crews weekly to emphasize safety.

## TAILGATE SAFETY TRAINING

- **Weekly**, VerTek, LLC managers are to conduct tailgate safety talks.
- These safety discussions shall be on relevant subjects that encompass your day to day job tasks and operations.
- Employees are required to attend these safety talks whenever they are conducted and if you are absent on that day, you are responsible and required to contact your Supervisor to ensure you have been included in all of the relevant safety activities that VerTek, LLC has conducted.

## SAFETY INSPECTIONS (JSOS)

- Safety inspections (JSOs) are conducted by management on a regular basis of our employees, vehicles, and facilities to identify hazardous conditions and unsafe acts.
- Hazardous conditions shall be corrected immediately.
- Unsafe acts are those that are committed by employees and significantly contribute to employee injuries.
- Employees are always expected to perform their duties in a safe manner.
- Safety inspections ensure that hazardous conditions have been controlled and all employees are working safely.
- Employees found performing an unsafe act are subject to disciplinary action.

## JOB SAFETY ANALYSIS (JSA)

This procedure establishes guidelines to effectively plan work; locate hazards associated with each assignment, and the measures necessary to protect against the identified hazards. This shall be accomplished through a Job Safety Analysis (“JSA”).

### CONDUCTING THE JOB SAFETY ANALYSIS (JSA)

To ensure that employees review hazards and develop appropriate control measures before each task is performed, a JSA shall be completed at least daily and more frequently as needed based on changes to tasks, conditions, or the location of the work. The JSA shall also be used to communicate the hazards and control measures to crewmembers at the start of each day and more frequently when conditions and activities warrant.

### IDENTIFIED HAZARDS

The elimination or control of hazards should be implemented first by engineering methods, then by administrative methods and, as a last resort, by the proper use of personal protective equipment (PPE).

### JSA REVIEW

The following specific areas are to be included in all JSAs and discussed at least daily:

- Health and safety hazards associated with the job/task.
- Controls needed to eliminate the hazards.
- Hazardous energy isolation as needed (lockout/tag out).
- Special work procedures required by the job.
- Special precautions related to the equipment or assignment.
- PPE required by the work environment (fall protection/restraint).
- Emergency response.

## VERIFICATION OF SAFETY PREPAREDNESS

The daily (pre-work) JSA is the final checkpoint for verifying the safety preparedness of the crew at the job- site. As such, the discussion must verify that:

- Crew members feel physically and medically capable of safely performing assigned tasks.
- Tools and machinery are in good condition and properly equipped with safeguards.
- Ladders are appropriate and in good condition.
- First aid or medical provisions are available on the Emergency Contact Sheet.
- High-risk activities/jobs are specifically reviewed.
- Documentation of JHA shall be maintained on site while work is being performed.

## STOP WORK AUTHORITY

All employees have the right to a safe and healthy work environment. In the event of imminent danger to the safety and health of employees, the public, or the environment, all employees have both the right and responsibility to stop the work activity. Work activity will resume following concurrence of those employees that stopped the work; management; and the Safety Manager that appropriate measures have been implemented to facilitate safe work.

## RECORD KEEPING

All JSA's shall be maintained on site while work is being performed. Upon completion of the work assignment, the JSA shall be filed with the job file in the local office, if maintained. If a job file is not maintained, all JSA's shall be stored in a central file in the local office.

## ACCIDENT INVESTIGATION

### PURPOSE

The purpose of this policy is to define the critical tasks involved when an accident or injury occurs.

### PROCEDURE

- All accidents, regardless of severity, shall be investigated. When an accident occurs, it is an indication that something has gone wrong. Accidents do not just happen, they are caused. The basic cause(s) of accidents are unsafe acts and/or conditions.
- The Supervisor must investigate every accident to determine the cause and to initiate corrective action to assure that similar type accidents will not recur from the same causes.
- Managers/Supervisors must complete the **Accident Investigation Report** and submit a copy to the Safety and Risk Departments. Safety will evaluate the corrective action suggested by the Manager/Supervisor and advise of modifications if necessary.
- Every accident has a cause. Carelessness is not a cause, but the result of some deficiency. Telling individuals to be more careful will not eliminate the real accident cause.
- An accident investigation is not a trial to find fault or to place blame. Its purpose is to find accident causes so that corrective measures may be taken to prevent future accidents.
- Most accidents result from a combination of human error (unsafe behavior) and a physical hazard (unsafe condition). Do not overlook the possibility of multiple errors and hazards.
- For instance, a missing machine guard does not cause an accident. The accident happened because the operator entered the point of operation. Determine why the operator did this and why the guard was off the machine. Only by correcting both problems can you prevent future accidents.
- The accident investigation should be conducted as soon after the accident as possible. Facts should be gathered while the accident is fresh in the minds of those involved. If possible, question every employee who was involved, or witnessed, the incident. However, delay interviewing injured employees until after medical treatment has been received.
- Other employees who did not witness the accident but work in the area may contribute information regarding the injured workers' activities prior to the accident and conditions at the time of the accident.

## REPORTING INJURIES

The purpose of this policy is to ensure the timely reporting, proper handling, and investigation of all accidents involving the injury of a VerTek, LLC employee or contractor.

### REPORTING

When an individual is injured while working on the job the following procedures shall be followed:

- The injured individual's Manager is to be contacted immediately, either by the individual or the nearest coworker if the injured individual is unable due to the injury.
- The Manager will report to the scene to make sure the individual is receiving the proper medical attention and the accident is properly investigated.
- If needed, the Manager or his designee will transport the injured worker to the company's designated medical facility to receive appropriate medical attention. When the designated medical facility is closed or too far from the accident scene, the individual should be taken to the nearest medical facility.
- If rescue personnel are summoned, the Manager will delegate an individual to wait for the rescue team at the entrance and escort them to the injured individual or treatment and/or transport to a medical facility.
- The Manager shall immediately contact the Safety Department to report the incident, provide a status on the employee's condition, if known, and provide a status on the investigation into the cause of the injury.
- The Manager shall interview the injured individual if the injury is not life threatening or urgent in nature as well as any witnesses of the incident.
- Photographs shall be taken of the scene and evidence collected that can be used to help determine the root cause of the incident to help prevent reoccurrence.
- The Manager shall document the incident and the results of the investigation that was conducted utilizing the most recent reporting documents as determined by the Safety and Risk Departments.
- Workers that fail to immediately report an injury to their immediate supervisor or in their absence another manager assigned to their facility are subject to disciplinary action up to and including termination.

## DRUG SCREENING

Following an injury, the individual shall submit to a drug screen to determine whether the individual was under the influence of any drugs or alcohol.

The following procedures shall be followed:

1. The injured employee shall complete a Urine Analysis (UA) screening immediately following the injury unless they are unable due to medical treatment.
2. Upon release from medical treatment the employee shall immediately submit to screening.
3. A Urine Analysis screening is required regardless of whether the employee seeks medical treatment or does not seek medical treatment and wants to classify the incident as a “matter of record”.
4. The “Post-Accident” check box on the Chain of Custody Form (COC) shall be check indicating that the reason for the analysis was the result of an employee injury.
5. Facilities utilized for post-accident screening are determined by the Risk Department. Local offices have been provided with the contact information for each facility.
6. Following the Urine Analysis screen, the worker may return to work immediately, based on medical provider authorization.

When Post-Accident Urine Analysis results are positive, the VerTek, LLC Drug Policy will be followed.

## MANAGEMENT REPORTING TO THE SAFETY AND RISK DEPARTMENTS

The Manager shall forward the required documentation associated with the incident to Human Resources within 24 hours of the occurrence.

The documents required are determined by Human Resources and are subject to change or modification.

## VEHICLE ACCIDENT REPORTING

The purpose of this policy is to ensure the timely reporting, proper handling, and investigation of all automobile accidents involving company owned vehicles or vehicles operated by contractors while on company business for VerTek, LLC.

### DRIVER'S RESPONSIBILITIES AT THE SCENE OF THE ACCIDENT

All automobile accidents, regardless of fault, shall be reported to VerTek LLC Human Resources. Immediately following a vehicle accident, these procedures shall be followed by the individual operating the vehicle:

- Take precautions necessary to protect yourself and the scene of the accident from other accidents.
- Turn the emergency flashers on and use safety equipment available to alert oncoming traffic.
- Call 911 and request that the police respond.
- If someone is injured, request medical assistance.
- If fire is involved, request fire department aid.
- Immediately contact your Project Manager and Supervisor.
- **DO NOT DISCUSS THE ACCIDENT WITH ANYONE EXCEPT** with the Police, Project Manager/Supervisor, Safety Department or Risk Department.
- **DO NOT ADMIT FAULT/LIABILITY OR OFFER TO PAY FOR DAMAGES.**
- Do not offer any opinions as to how the accident occurred. These could be used against you as an admission of liability.
- Take photographs of the scene, all vehicles and property damage.
- Obtain facts about all property that was damaged.
- Do not move injured third parties unless necessary.
- Do not drive your vehicle until your Project Manager/Supervisor has approved it.
- Obtain name, badge number and address of investigating police officer.
- Obtain the police report or any paperwork the police provide at the scene.
- If the vehicle is towed from the scene, get the contact information for the storage facility.
- If the driver is injured or is unable to perform any of the tasks listed above, the Supervisor responding to the scene shall perform the tasks above, whenever possible.

## DRUG SCREENING

Following a vehicle accident, the individual(s) shall submit to a drug screen to determine whether the individual was under the influence of any drugs or alcohol.

The following procedures shall be followed:

1. The injured employee shall complete a Urine Analysis (UA) screening immediately following the injury unless they are unable due to medical treatment.
2. Upon release from medical treatment the employee shall immediately submit to screening.
3. A Urine Analysis screening is required regardless of whether the employee seeks medical treatment or does not seek medical treatment and wants to classify the incident as a “matter of record”.
4. The “Post-Accident” check box on the Chain of Custody Form (COC) shall be checked indicating that the reason for the analysis was the result of an employee injury.
5. Facilities utilized for post-accident screening are determined by the Risk Department. Local offices have been provided with the contact information for each facility.
6. Following the Urine Analysis screen, the worker may return to work immediately, based on medical provider authorization.
7. When Post-Accident Urine Analysis results are positive, the VerTek, LLC Drug Policy will be followed.

## MANAGER’S RESPONSIBILITIES

Following a vehicle accident, the following procedures shall be followed by the manager:

- The Manager will report to the scene to make sure the worker is receiving proper medical attention and the accident is properly investigated.
- If needed, the Manager (or designee) will transport the injured worker to the company’s designated medical facility to receive appropriate medical attention. When the designated medical facility is closed or too far from the accident scene the employee should be taken to the nearest medical facility.
- The Manager shall immediately contact the Safety Department to report the incident, provide a status on the employee’s condition, if known, and provide a status on the investigation into the cause of the injury.

- The Manager shall interview the injured employee if the injury is not life threatening or urgent in nature as well as any witnesses of the incident.
- The Manager shall analyze the photos, videos, and other documents to help determine the root cause of the incident to help prevent reoccurrence.
- The Manager shall document the incident and the results of the investigation that was conducted utilizing the most recent reporting documents as determined by the Safety and Risk Departments.
- Managers must convey to employees and contractors that failure to immediately report a traffic accident to their immediate supervisor, or in their absence another manager assigned to their facility, are subject to disciplinary action up to and including termination.

### MANAGEMENT REPORTING TO THE SAFETY AND RISK DEPARTMENTS

The Manager shall forward the required documentation associated with the incident to Human Resources within 24 hours of the occurrence.

The documents required are determined by Human Resources and are subject to change or modification.

## GENERAL LIABILITY INCIDENT REPORTING

The purpose of this policy is to ensure the timely reporting, proper handling, and investigation of all incidents involving another party making an allegation that one of our employees or contractors was involved in an incident that injured a person or caused property damage.

Definition of “Property.”

Property is defined in this procedure as any physical element that may be damaged or altered by either the normal use of tools and equipment such that the element is no longer in the same condition as it was before the work commenced or does not work as it did before the work commenced. Examples of property includes single family units, multiple family units, commercial property, HVAC systems, generators, vehicles, outbuildings, fences, and kennels.

If property must be removed or altered because it obstructs the worker in the easement, refer to local ordinances and alert a manager at VerTek LLC of any issue where property may be damaged or altered.

### REPORTING

When an individual is notified by a customer or other third party that one of VerTek, LLC's employees or contractors was involved in an accident or incident that injured a person or caused property damage, the following procedures shall be followed:

- The person contacted by the third party shall contact the VerTek LLC Project Manager immediately to report the incident.
- The Manager will report to the scene to investigate.
- The Manager shall contact Human Resources to report the incident.
- The Manager shall interview any witnesses of the incident and obtain written statements.
- Photographs shall be taken of the scene and evidence collected that can be used to help determine the root cause of the incident to help prevent reoccurrence.
- The Manager shall document the incident and the results of the investigation that was conducted utilizing the most recent reporting documents as determined by the Safety and Risk Departments.

Employees and contractors that fail to immediately report damage to any property to their immediate supervisor or in their absence another manager assigned to their facility are subject to disciplinary action up to and including termination.

## GUIDELINES FOR HANDLING GENERAL LIABILITY INCIDENTS

- Show genuine concern for the customer's injury or damages.
- Ask the customer what happened.
- Do not be judgmental or argue over the cause of the incident.
- Do not admit fault, liability or negligence.
- Do not offer to pay or compensate the customer.
- Request contact information from everyone involved in the incident.
- Advise the customer that the incident will be reported to the Safety and Risk Departments to allow for proper handling.

## MANAGEMENT REPORTING TO THE SAFETY AND RISK DEPARTMENTS

The Manager shall forward the required documentation associated with the incident to Human Resources within 24 hours of the occurrence.

The documents required are determined by Human Resources and are subject to change or modification.

## SAFETY TRAINING MEETINGS AT VERTEK LLC LOCATIONS

This program establishes the procedures for conducting safety meetings at all VerTek, LLC locations. The purpose of safety meetings is to educate employees and contractors on the hazards associated with the type of work they are performing and to raise their awareness of on the job safety.

### MANAGEMENT RESPONSIBILITIES

The Project Manager should hold regularly scheduled “tailgate meetings” with employees and contractors. An attendance sheet shall be used to verify that individuals have attended a meeting on that topic.

### MEETING PROCEDURE

- Tailgate safety meetings shall be conducted at least once each week on a pre-scheduled day.
- Attendance is to be taken with a signup-sheet and sent to HR.
- Each training session shall be conducted before the start of each working shift.
- Tailgate training topics for each week have been selected by the Safety Manager and have been distributed to each location.
- The Supervisor is encouraged to utilize examples from prior incidents.
- Individuals are encouraged to ask questions and discuss the related topic.
- At the end of the meeting, each attending worker shall sign the attendance sheet.
- Individuals who fail to attend a meeting are required to make up the session.
- Supervisors shall ensure that anyone who fails to attend a training shall make up the session
- The General Manager shall ensure that attendance for each training session is logged.
- The General Manager shall ensure that that attendance sign-in forms are electronically stored.

### PROGRAM EVALUATION:

The Safety Manager and Safety Inspectors shall randomly attend these meetings to evaluate their effectiveness and to determine if changes need to be made.

## USE OF ELECTRONIC DEVICES WHILE DRIVING

The purpose of this policy is to provide to all VerTek, LLC contractors and their employees with precautionary measures to follow when driving a company vehicle or personal vehicle for business and using a cellular phone or other electronic device.

### DEFINITIONS

**Mobile Phone:** An electronic device used for mobile telecommunications through voice, text messaging or data transmission over a wireless network.

**Electronic Devices:** Includes but is not limited to; notebook computer, PDA, GPS System, satellite radio or any audio/visual device

### PROCEDURE

- VerTek, LLC employees and contractors are not permitted to use a hand-held cellular phone while operating a motor vehicle on company business and/or on company time.
- Company employees and contractors are not permitted to read or respond to email messages or text messages while operating a motor vehicle on company business and/or on company time.
- Company employees and contractors are not permitted to utilize a notebook computer or other electronic device utilized for data transmission, storage, or messaging while operating a motor vehicle on company business and/or on company time.
- These restrictions do not apply to calls made to report an emergency. If an emergency exists, drivers are encouraged to pull safely to the side of the road when feasible.
- Before starting the vehicle, consider turning off or, putting wireless phones or other devices on silent or vibrate. We recommend the use of the Block Notifications While Driving app.
- Pull the vehicle over to a safe location and place the vehicle in “park” if a call must be made or received while on the road.
- Consider modifying the voice mail greeting to indicate that you are unavailable to answer calls or return messages while driving.
- Inform clients, associates, and business partners of this policy as an explanation of why a telephone call may not be returned quickly.
- Pull over to a safe location and put the vehicle in “park” to adjust a Global Positioning System (GPS) or other navigation devices.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

This procedure establishes minimum PPE requirements to be followed when performing tasks in which hazards are present or are likely to be present.

### DEFINITIONS

- **Administrative Controls:** Rules, procedures or standards that prevent or limit exposure to a hazard. **Engineering Controls:** Are equipment or process modifications, usually hardware in nature that provides passive protection to personnel.
- **Personal Protective Equipment (“PPE”):** PPE is equipment that an individual wears to protect against a hazard. PPE is the last line of defense after engineering control and administrative control.
- **Rights-of-Way:** The permitting of vehicles and/or pedestrians to proceed in a lawful manner in preference to other vehicles or pedestrians by the display of a sign or signal indications. (The area where vehicle traffic is permitted to operate)

### HAZARD ASSESSMENT

A hazard assessment should be conducted to determine what hazards are present or are likely to be present which would necessitate the use of PPE.

The hazard assessment consists of a walk-through survey of all work areas and duties to determine sources of hazards to employees that could not be controlled by means of engineering or administrative approaches. A summary of the assessment results can be obtained from the Safety Manager.

It will be the responsibility of the Safety Manager to revise or update the assessment, as necessary, by identifying and evaluating new equipment and processes, reviewing accident records, and reviewing the suitability of previously selected PPE. The Safety Manager will also review the hazard assessment annually. Any changes will be entered into the permanent copy of the hazard assessment.

If changes in PPE are required, the Safety Manager will initiate appropriate action. The written hazard assessment will be certified in writing as follows:

- The workplace will be identified.
- The person certifying that the evaluation has been performed.
- The date(s) of the assessment.

## PPE SELECTION

All identified hazards or potential hazards will be controlled by engineering or administrative methods. If engineering or administrative controls cannot eliminate a hazard, the Safety Manager will select appropriate types of PPE to guard against it. PPE will be used as the last line of defense against hazards because of the inherent difficulty with compliance. All PPE selections will be communicated to individuals through work training programs. Affected technicians shall wear all PPE specified by the company to guard against the identified hazard. VerTek, LLC will ensure that all selected PPE properly fits affected workers.

## CONTRACTOR OWNED EQUIPMENT

Any contractor or technician who wishes to provide his/her own PPE must have the PPE approved by the Safety Manager prior to use. No worker shall wear their own PPE if it does not meet requirements identified in the appropriate OSHA standards.

## DEFECTIVE OR DAMAGED EQUIPMENT

At no time will workers wear PPE that is defective, damaged or unsanitary. PPE will be cleaned and sanitized prior to use by another worker. Defective or damaged equipment will be taken out of service. Employees will notify their immediate Supervisor of all defective or damaged PPE and will not perform tasks requiring the use of PPE until such equipment has been replaced or repaired.

For replacement PPE, technicians can contact their immediate Supervisor.

## TRAINING REQUIREMENTS

Training will be provided to each worker who is required to use PPE **upon hire**. No worker will use or wear PPE or perform job functions requiring the use of PPE until properly trained.

Training for PPE will consist of the following:

- When PPE is required for a job responsibility or task
- The PPE that is required for a job responsibility or task
- How to properly put on, remove, adjust, and wear required PPE
- Limitations of selected PPE
- Proper care, maintenance, and useful life of selected PPE

All workers shall demonstrate an understanding of the training outlined in this section. This will be accomplished through a hands-on demonstration of acquired skills.

Additional training will be required in the following circumstances:

- If there are changes in job assignments or work practices that render previous training obsolete
- If there are changes in the types of PPE used that renders previous training obsolete
- Whenever deficiencies are noted in an employee's understanding or skill in the use of selected PPE

All worker attendance to training classes will be documented. Documentation will include: the name of each individual trained, the date(s) of training, specific PPE training received, and verification of the individual's acquired skill level because of training.

## ENFORCEMENT

Management will require that specified PPE is used as appropriate and as specified in the Hazard Assessment. Failure to conform to this program will result in discipline up to and including discharge.

## PPE ELEMENTS

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### EYE AND FACE PROTECTION

All workers will wear appropriate eye and/or face protection when they are on a field job site. Safety glasses will be provided to workers required to wear them. All safety glasses will be issued with side shields. When prescription safety glasses are required, VerTek, LLC will provide safety eyewear that is capable of being worn over personal glasses. When required, supplemental or specialized eye and face protection will be provided by VerTek, LLC.

Individuals who wear contact lenses are required to wear non-prescription safety glasses over their contact lenses. It should be recognized that contact lenses may present additional hazards to employees in dusty and/or chemical environments. These situations will require the use of additional eye protection such as dust or liquid tight goggles.

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## RESPIRATORY PROTECTION

Procedures regarding respiratory protection are contained in the Respiratory Protection Program.

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## SAFETY TRAFFIC VEST

All workers within the right-of-way who are exposed either to traffic (vehicles using the highway for purposes of travel) or to work vehicles and construction equipment within the TTC zone shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107–2004 publication entitled “American National Standard for High-Visibility Safety Apparel and Headwear” (see Section 1A.11), or equivalent revisions, and labeled as meeting the ANSI 107-2004 standard performance for Class 2 or 3 risk exposure, except as provided in Paragraph 5.

High visibility safety apparel shall be worn prior to entering the right-of-way for the any purpose whatsoever. Workers arriving in company or personal vehicles shall exit the vehicle with the required equipment already worn on their person. Workers are responsible for coning off their vehicles appropriately with adequate buffer zones and tapers. Workers should avoid parking at intersections whenever possible.

See the Work Zone Protection Policy contained in this manual for additional reference.

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## HEAD PROTECTION

All affected technicians will use appropriate head protection meeting ANSI/ISEA Z89.1-2009, Type I, Class E and G standards when exposed to hazards such as falling objects or energized electrical equipment.

- Workers working in a right-of-way of vehicle traffic shall always wear head protection
- Workers performing welding or working with grinding tools shall wear additional face protection as required

Bump caps are not designed to provide impact protection but protect against scalp lacerations from working in congested areas or areas with low equipment clearances.

VerTek, LLC will select, purchase, and provide workers with required head protection. Workers shall wear head protection (hard hat) whenever they are on a field job site.

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## FOOT PROTECTION

Workers are responsible for their own safe use of foot protection. They shall wear the approved foot protection as part of their daily uniform. All foot protection shall be of leather construction, a minimum of 6 inches in height with over the ankle coverage. The foot protection shall be not be of

slip-on design. The foot protection shall be secured on the foot with laces. Foot Protection worn without laces properly tied is prohibited.

All foot protection shall be slip resistant with well-defined ankle protection. The tread shall not be worn. Shoes commonly referred to as tennis shoes, walking shoes or walking/hiking boots used by the general public are not permitted.

Supervisors are responsible for performing a hazard assessment in their area and ensure employees wear adequate foot protection for identified job hazard. They shall also make regular inspections of employees' footwear to determine effectiveness of tread, heel design and ankle support.

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## TASKS REQUIRING SPECIALIZED FOOTWEAR

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### WORKING IN WAREHOUSES

Workers face hazards such as falling or rolling objects, or objects piercing the sole of a shoe. Warehouse workers are required to wear foot protection that meets or exceeds [ASTM standard F2413-05](#). Company employees working in a warehouse shall wear footwear that contains impact and compression resistance protection as well as puncture resistance protection.

### CONSTRUCTION WORKERS

Such workers face hazards such as falling or rolling objects, or objects piercing the sole. VerTek, LLC employees engaging in the following fields of work shall wear protective footwear that meets or exceeds ASTM standard F2413-05. The footwear shall contain impact and compression resistance protection as well as puncture resistance protection:

- Any individual working on or near a steel structure or any type of tower
- Constructing or performing maintenance on the structure
- Installing or performing maintenance of equipment on the structure or tower Any worker engaged in trenching or excavation

The Company may designate other job functions requiring specialized foot protection at any time.

### CLIMBING LADDERS

Protective footwear for workers climbing ladders shall have a well-defined heel and solid shanks, a supportive component of shoes, to stop the feet from bending. A composite toe protection is recommended. Some workers feel comfortable in an almost knee-high climbing boot

Cable installation workers shall wear foot protection with a 1" defined heel.

## FOOTWEAR SPECIFICATIONS

### ASTM F2413-05 REQUIREMENTS

The ASTM F2413-05 standard covers minimum requirements for the design, performance, testing and classification of protective footwear.

Protective footwear can meet all the requirements of the ASTM standard or specific elements of it if it first meets the requirements for impact and compression resistance.

All footwear manufactured to the ASTM specification must be marked with the specific portion of the standard with which it complies.

One shoe of each pair must be clearly and legibly marked (stitched in, stamped on, pressure sensitive label, etc.) on either the surface of the tongue, gusset, shaft, or quarter lining.

The following is an example of an ASTM marking that may be found on protective footwear:

1. Line 1: ASTM F2413-05
2. Line 2: M I/75 C/75 Mt75
3. Line 3: PR
4. Line 4: CS

#### Explanation

1. Line #1: ASTM F2413-05: This line identifies the ASTM standard – it indicates that the protective footwear meets the performance requirements of ASTM F2413 issued in 2005.
2. Line #2: M I/75 C/75 Mt75: This line identifies the gender [M (Male) or F (Female)] of the user. It also identifies the existence of impact resistance (I), the impact resistance rating (75 or 50 foot-pounds), compression resistance (C) and the compression resistance rating (75 or 50 which correlates to 2500 pounds. and 1750 pounds of compression respectively). The metatarsal designation (Mt) and rating (75 or 50 foot- pounds) is also identified.
3. Lines 3 & 4: PR CS Lines 3 and 4 are used to identify footwear made to offer protection from other specific types of hazards referenced in the standard. They are used to designate conductive properties (Cd), electrical insulation properties (EH), footwear designed to reduce the accumulation of excess static electricity (SD), puncture resistance (PR), chain saw cut resistance (CS) and dielectric insulation (DI), if applicable. Line 4 is only used when more than three sections of the ASTM standard apply.

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## ELECTRICAL PROTECTIVE EQUIPMENT

All electrical protective devices purchased by VerTek, LLC will meet requirements outlined in the Occupational Safety and Health Administration (OSHA) standard Electrical Protective Equipment 29 CFR 1910.137(a). All equipment will be appropriately marked with the class and type.

Electrical PPE will be required where contact with energized electrical conductors and or flash/arc hazards exist. VerTek, LLC will provide PPE, insulating blankets and devices and insulated tools as needed. All electrical protective equipment will be inspected by the user prior to use and immediately after any incident involving possible damage. Electrical protective equipment will be stored to protect against visible light, temperature, humidity, ozone chemicals and other damage.

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## HAND PROTECTION

All hand protection used at VerTek, LLC will be selected by the Safety Manager to ensure the greatest degree of protection is provided for the specific hazard identified.

Glove manufacturers and suppliers will be consulted to select gloves that will provide the desired protection against mechanical, thermal, and/or chemical hazards.

Special care will be exercised when evaluating the need for hand protection is in areas with moving machine parts, especially rotating and revolving equipment.

VerTek, LLC technicians must review their hand protection solutions with Safety Manager.

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## HEARING PROTECTION

Hearing conservation procedures shall be outlined in a separate "Hearing Conservation Program."

## HOUSEKEEPING REQUIREMENTS TO BE DISCUSSED

The purpose of this section is to improve the housekeeping behaviors of field personnel. Housekeeping is possibly the most visible evidence of management and employee concern for safety and health that a company displays on a day-to-day basis.

Orderliness in our workplace contributes to a safe working environment by minimizing obstacles and potential safety and health threats such as spills, trip hazards, etc. In fact, we have at least nine good reasons for housekeeping:

1. Prevents accidents,
2. Prevents fire,
3. Saves time,
4. Gives control to our workers,
5. Increases production,
6. Gives our workers the freedom to move,
7. Gives our workers pride,
8. Protects our products and equipment
9. Reduces our waste.

## FACILITIES

Our facility securely stores material by piling or arranging it in an orderly manner. Our housekeeping procedures for storage areas shall keep them free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage. Our facility follows standard housekeeping practices to keep aisles, walkways, and floors clean and open.

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## JOB SITES

During construction, alteration, or repairs, all debris shall be kept cleared from work areas, passageways, and stairs, in and around buildings or other structures. Combustible scrap and debris shall be removed at regular intervals during the course of construction. Safe means shall be provided to facilitate such removal. Containers shall be provided for the collection and separation of waste, trash, oily and used rags, and other refuse. Containers used for garbage and other oily, flammable, or hazardous wastes, such as caustics, acids, harmful dusts, etc. shall be equipped with covers. Garbage and other waste shall be disposed of at frequent and regular intervals.

## OPEN YARD

Open yard storage housekeeping procedures include:

- Combustible materials must be piled with due regard to the stability of piles and in no case higher than 20 feet.
- Driveways between and around combustible storage piles must be at least 15 feet wide and maintained free from accumulation of rubbish, equipment, or other articles or materials.
- The entire storage site must be kept free from accumulation of unnecessary combustible materials. Weeds and grass must be kept down and a regular procedure provided for the periodic cleanup of the entire area.
- Method of piling must be solid wherever possible and in orderly and regular piles. No combustible material may be stored outdoors within 10 feet of a building or structure.

Indoor storage housekeeping procedures include:

- Storage may not obstruct, or adversely affect, means of exit.
- All materials must be stored, handled, and piled with due regard to their fire characteristics.
- Non-compatible materials, which may create a fire hazard, must be segregated by a barrier having a fire resistance of at least 1 hour.
- Material must be piled to minimize the spread of fire internally and to permit convenient access for firefighting. Stable piling shall always be maintained.
- Aisle space shall be maintained to safely accommodate the widest vehicle that may be used within the building for firefighting purposes.
- Clearance of at least 36 inches must be maintained between the top level of the stored material and the sprinkler deflectors.
- Clearance must be maintained around lights and heating units to prevent ignition of combustible materials.
- A clearance of 24 inches must be maintained around the path of travel of fire doors unless a barricade is provided, in which case no clearance is needed. Material must not be stored within 36 inches of a fire door opening.

## INSPECTION

Management shall inspect each facility weekly to ensure housekeeping guidelines are maintained. An inspection report shall be completed and filed in the PROS system.

Job Sites shall be inspected daily by the job supervisor or foreman. A Job Hazard Analysis (JHA) shall be completed. (See Job Hazard Analysis Policy)

The Corporate Safety Team shall regularly inspect facilities and job sites independent of local management. Any deficiencies identified during the inspection process shall be corrected immediately.

## EMERGENCY ACTION PLAN

### PURPOSE

This procedure establishes minimum procedures for responding to various emergencies in our facility. In addition to these minimal plans, locations susceptible to hurricanes and earthquakes have been identified and issued additional detailed actions to take before, during and after such emergencies.

Should you have a need for additional copies of the company's Hurricane Evacuation & Preparedness or the Earthquake Evacuation & Preparedness Plan, contact the Vice President of Safety.

### DEFINITIONS

**911 Notification System:** Method that is used by our facility to call outside emergency services (police, fire, EMS)

**Defensive Action:** Response to a chemical spill or release that does not require personal protective equipment or hazardous material response training. Examples include: closing an open valve, placing absorbent material in front of a running spill or closing a door.

**Emergency:** An unplanned event that could jeopardize the safety of people or property. An emergency can originate on our site or off-site. An emergency impacts the people and/or property within our facilities.

**Emergency Coordinator:** A staff member, responsible for decision making during the initial phase of an emergency (generally this stage is defined by: discovery, activating the alarm, evacuation, employee accounting, initial response by off-site emergency services, etc.) Unless otherwise, the Emergency Coordinator is the Senior Manager on site.

**Evacuation Location:** The location that employees, visitors and contractors report to following an evacuation.

**Vendor:** A non-company employee being paid to perform a service in our facility.

**Visitor/Contractor Log:** A written log maintained at the entrance for visitors, contractors and vendors. Each non-employee is required to sign-in upon entering our facility and sign-out when leaving.

## PROCEDURE OVERVIEW

All actions taken during an emergency will serve to protect the life and safety of employees, contractors, visitors, and our facility neighbors. To the extent possible, we will minimize damage to property and the environment. Our emergency response activity will never knowingly jeopardize the safety of any individual.

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## EVACUATION ROUTES AND MAPS

All evacuation exit routes are permanent and are always maintained as accessible and passable. Evacuation maps are posted at various locations throughout our facility. These maps reflect the location of the evacuation routes, exits and evacuation destination locations.

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## ACCOUNTING FOR PERSONNEL

Employee roster sheets will be used for personnel accounting following an evacuation. Supervisors or their designees will be responsible for using the roster sheets to accomplish a head count immediately following an evacuation. Visitor, Contractor and Vendor Logs will be used to account for individuals in these groups.

Individuals who have disabilities that may impair their ability to evacuate will be encouraged to discuss an evacuation plan with Human Resources or another member of management. Necessary arrangements will be made confidentially to assist with evacuation.

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## CONTRACTORS, VENDORS AND VISITORS

Contractors, vendors, and visitors should evacuate to the outdoor area adjacent to the door through which they entered and signed the Visitor/Contractor Log. The receptionist or an alternate will perform the head count. During severe weather evacuations, contractors, vendors and visitors should evacuate to the shelter area assigned to their host.

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## EMERGENCY ALARM SYSTEM AND EMERGENCY SERVICES NOTIFICATION

In the event of an emergency the following methods can be used to communicate:

- Word of mouth
- The paging system (if facility is so equipped)
- 911 Notification System

Outside emergency services (police, fire, EMS) will be contacted by utilizing the safest telephone and call 911 or the local emergency number posted in the facility Safety Station.

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## FIRE EMERGENCY

Employees discovering a fire will take the following steps:

1. Alert others in the area, which are at risk initiate 911 and contact management,
2. Activate the fire alarm (if equipped),
3. Turn off involved equipment or,
4. Consider using a fire extinguisher (if trained and authorized to do so), 5. Evacuate. Upon being alerted of a fire evacuation, all employees, visitors, contractors, and vendors will:
5. Turn off equipment (if safe to do so).
6. Walk in an orderly and quiet manner to the exit closest to you not blocked by fire, smoke or other hazards and exit the building.
7. Do not delay evacuation or re-enter hazardous areas to retrieve personal possessions such as keys, coats or purses.
8. Report to designated fire evacuation location for head count.
9. Each location shall designate evacuation locations and post them at the safety center.
10. Stay together with their assigned group until further instructions are given.
11. The facility will not be reoccupied until approved by the fire department.
12. Note: The Supervisor or other designated employee will be the last to exit the department. They will check lavatories and other cut-off rooms to assure evacuation and will close doors upon leaving.

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## MEDICAL EMERGENCY

In the event of a medical emergency the following actions will be taken:

1. Initiate 911 and contact management.
2. Do not move the ill/injured person (unless they are in danger from their surroundings).
3. Avoid all contact with blood and other bodily fluids (never attempt to provide first aid unless you are trained and equipped to do so).
4. A calm employee may stay with the ill/injured person to provide comfort.
5. The Supervisor will assign at least two employees to wait for the EMS responders at the parking lot entrance and guide the responders to the scene of the emergency, if possible.
6. All uninvolved personnel should clear the area.

7. If there has been any blood or bodily fluid release, trained personnel will clean and sanitize the area after the emergency phase has concluded.
8. The manager will fill out the company's Incident report and submit to HR.
9. If an employee is working alone or at a location that is not on company property the injured employee shall immediately contact emergency services for medical assistance if required and their supervisor.

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## SEVERE WEATHER

If a warning is severe weather, a warning is issued for a facility the following actions will be taken:

1. Turn off equipment (if safe to do so).
2. Walk in an orderly and quiet manner to the designated severe weather evacuation location.
3. Each location shall designate evacuation locations and post them at the safety center.
4. A head count will be conducted to account for all personnel.
5. When the severe weather warning expires personnel will be released from the shelter.
6. Note: The Supervisor or other designated employee will be the last to exit the department. They will check lavatories and other cut-off rooms to assure evacuation and will close doors upon leaving.

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## HAZARDOUS CHEMICAL SPILLS OR RELEASES

Hazardous chemical spills or releases can be recognized visually by seeing evidence of a chemical escaping from its normal containment or by detecting an unusual odor. If a chemical spill is suspected all personnel will do the following:

1. Initiate 911 Notification System and then contact management.
2. Turn off equipment (if safe to do so).
3. Walk in an orderly and quiet manner to the exit closest to you that is not blocked by the chemical release.
4. Report to designated fire evacuation location for head count. The Emergency Coordinator or another member of management will observe the wind direction if applicable and determine the best shelter area for evacuated personnel.
5. Stay together with their assigned group until further instructions are given.
6. The facility will not be reoccupied until approved by the fire department.

No employee will take any action other than defensive actions to attempt to control a hazardous chemical spill or release unless they have been trained and equipped to respond.

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## ELECTRICAL UTILITY FAILURE

In the event of an electrical failure the following procedure will be followed:

1. If the failure is in a partial area of the facility notify a Supervisor or member of management.
2. Turn off equipment using normal controls.
3. Expect sudden equipment restart and stay away from the point of operation and other moving surfaces.
4. Do not attempt to move around dark areas. Supervisors will use flashlights to guide employees to a safe area to wait for power restoration.
5. After power is restored follow supervisor's directions for equipment restart.

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## WORKPLACE VIOLENCE

Workplace violence will be handled as follows:

1. Any employee who witnesses a violent act, threat of violence or is otherwise concerned should report it to a member of management.
2. If immediate action is necessary to protect the health and safety of employees they will:
3. Advise personnel most at risk to take shelter behind closed doors or to evacuate to other areas of the facility.
4. Contact emergency services or delegate another person to do so.
5. Notify the General/Project Manager who will evaluate the situation, meet the police, expand the evacuation and coordinate a head count.

The Director of Human Resources shall be notified by local management. Director of Human Resources will begin an immediate investigation to evaluate the threat to personnel and the need to take additional steps to protect all employees.

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## EMERGENCY DUTIES

### **Emergency Coordinator (Senior location manager or designee)**

- Verify that necessary Emergency Services have been notified.
- Coordinate the employee accounting procedure in the case of evacuation emergency

- Meet responding Emergency Service units and:
  - issue a situation report,
  - keep in contact to provide needed information,
  - advise them of evacuation status (during evacuation emergencies).
- Issue updated instructions to personnel as necessary considering comfort of evacuees, duration of the evacuation, time of day, etc.
- Coordinate incident response to workplace violence

### **Supervisors**

- Assist with responding to all emergencies and communicate emergency instructions to employees.
- Communicate facts surrounding an emergency occurring in their area to the Emergency Coordinator.
- Develop plans to assist employees with disabilities to evacuate safely.
- Verify all employees are evacuated before leaving.
- Perform the head count procedure to account for all employees and communicate missing personnel to the Emergency Coordinator.
- Be the initial contact and coordinator for incidents involving workplace violence.

## FIRST AID AND MEDICAL TREATMENT

### PURPOSE

The purpose of this procedure is to establish standards for the treatment of first aid and medical treatment cases.

### DEFINITIONS

**First Aid treatment:** The immediate and temporary care given to a victim of an accident or sudden illness and involves treatment of only minor injuries.

**Medical treatment:** The provision of medical or surgical care for injuries that is not minor through the application of procedures or systematic therapeutic measures.

### BLOODBORNE PATHOGEN STANDARD

A first aid provider will treat first aid injuries and must follow the provisions of OSHA's Bloodborne Pathogen Standard. A designated company doctor or hospital will treat injuries beyond first aid. The list of emergency contact numbers will be posted at the job site within the Safety Center.

### JOB WORK SITE

- At least one person on each jobsite must be trained in first aid/CPR.
- A VerTek, LLC first aid provider or the site-specific first aid facility will treat first aid injuries at the designated work site location. Injuries that require treatment beyond first aid should be sent to a hospital that is in proximity of the work site.
- The work site will be inspected to determine the location of existing safety showers or eye wash stations.
- The location of the safety showers and eye wash stations will be covered in the daily Tailgate meeting and will be listed on the VerTek, LLC Job Hazard Analysis form.
- If safety showers and eye wash stations are not available, either portable eye wash stations or bottles of sterile eye flush will be made available to employees.

## TRANSPORTATION

- If the injury is an emergency, the employee should be sent to the hospital by paramedic ambulance. Someone at the site must immediately call 911.
- For injuries which are not emergencies, but there is concern that medical treatment may be required, the job-site supervisor or designees are to be contacted and they will make arrangements to have the injured employee transported to the nearest medical facility to obtain medical treatment.
- The Corporate Safety Team is to be immediately informed of all first aid incidents and injuries that require medical treatment.
- First Aid Supplies/Kits
- First aid supplies must be kept on-site and readily accessible.
- No first aid kit should contain material requiring a prescription for dispensing.
- It is the responsibility of each site supervisor having first aid kits on-hand to ensure that materials contained in the kits are within their useful life.
- The first aid kit shall be contained in a weatherproof container with individual sealed packages for each type of item. The contents of the first aid kit shall be checked by the Supervisor before being sent out on each job and at least weekly on each job to ensure that the expended items are replaced.

## FIRST AID LIMITATIONS

It must be kept in mind that the first aid provider does not and cannot provide professional medical care. First aid treatment is provided for the treatment of minor injuries. Emergency treatment can be given only to the extent necessary until professional assistance arrives.

## BLOODBORNE PATHOGENS

The purpose of this procedure is to establish minimum guidelines to be followed to prevent exposure to bloodborne pathogens during potential exposure incidents. Exposure incidents include responding to illness and injury or while performing sanitation or cleaning duties following a spill of blood or other potentially infected fluid.

### DEFINITIONS

**Bloodborne Pathogens:** (“BBP”) Pathogenic microorganisms that are present in human blood and can cause disease to humans. Examples are: HIV, Hepatitis B and AIDS.

**Exposure incident:** Any specific eye, mouth, other mucus membrane, non-intact skin or other contact with blood or potentially infected material.

**Other Potentially Infected Material:** (“OPIM”) Any bodily fluid that is visibly contaminated with blood or any fluids in which it is difficult or impossible to tell what the fluid is and/or if it is contaminated with blood.

**Personal Protective Equipment (PPE):** Gloves, safety glasses, suits, face shields, etc. worn to prevent contact with blood or other bodily fluids.

**Regulated Waste:** Liquid or semi-liquid blood or OPIM in a liquid or semi-liquid state if compressed; items that are caked with dried blood or OPIM and are capable of releasing these materials during handling; contaminated sharps; wastes containing pathogens or microbiological waste.

**Sharps:** Medical devices with a point and/or a blade capable of penetrating human skin (e.g. hypodermic needles, scalpels, etc.).

**Universal Precautions:** Bodily fluid will be treated as if it was contaminated with a bloodborne pathogen and appropriate protection and sanitation steps will be taken.

### EXPOSURE CONTROL PLAN

There are only two possibilities for Bloodborne Pathogen (“BBP”) exposure in our facilities:

- While responding to an illness or injury to provide first aid care
- When cleaning and sanitizing a bodily fluid spill
- Additionally, an employee could experience unintended exposure from contact with blood or OPIM. Accordingly, there are no engineering controls available. Our exposure control plan is:

- Only designated personnel who are trained, authorized, and equipped to respond to medical emergencies and or bodily fluid spills will do so. All other personnel will avoid contact and notify their Supervisor if a spill or exposure incident is encountered.

While responding to bodily fluid spills, an appropriate level of personal protective equipment will be worn including:

- Safety Glasses-Utilized for incidents with minimal exposure potential (e.g. a laceration with minimal bleeding)
- Face Shield-Incidents with a potential of bodily fluid becoming airborne (e.g. a laceration with spurting, arterial bleeding)
- Disposable liquid-proof gloves must be used in all incidents.
- Apron/disposable suit and shoe covers-Utilized in incidents with a potential of bodily fluid becoming airborne or incidents in which response personnel could walk through a spill or move against material contaminated with a spill.
- Barrier mask and/or Bag Valve Mask-Utilized in incidents requiring mouth to mouth or mouth to nose breathing.
- Adequate supplies of personal protective equipment shall be kept adjacent to the Facility Safety Station.
- Regulated Waste such as: contaminated dressings, bandages and other materials will be double bagged in red biohazard bags and disposed of as regulated waste using an approved disposal contractor. We do not use any medical sharps.
- All potentially contaminated surfaces will be cleaned and sanitized with an approved sanitizing solution or will be disposed of as contaminated medical waste.
- Personnel performing this duty will be trained in all aspects of this plan and will be required to wear appropriate PPE as outlined above.
- After performing their necessary duties, personnel will clean and sanitize any contaminated PPE, and remove and discard it.
- All personnel are required to wash their hands with soap and warm water (waterless skin sanitizer is available to use when potable water is remote from the scene) immediately after removing PPE.
- Any employee (including both personnel trained and authorized to respond to incidents and those that are not) should immediately do the following if an exposure is suspected:

- Wash exposed skin surfaces with large amounts of soap and warm water. Exposed mucus membranes should be rinsed with large quantities of warm water.

Report any actual or suspected exposure incident to their supervisor or the Safety Manager. The employee will immediately be referred to a physician or other licensed health care provider for confidential follow-up care to be provided at no cost to the employee.

#### PLAN REVIEW

This plan will be reviewed and revised as needed annually by the Vice President of Safety.

## FIRE PREVENTION PLAN

This procedure establishes the minimum steps for preventing accidental fires in facilities.

### DEFINITIONS

**Combustible Liquid:** A chemical with a flash point at or above 100 degrees Fahrenheit.

**Fire Hazard:** Equipment, a physical condition or a process that can cause ignition and/or growth of an accidental fire.

**Flammable Liquid:** A chemical with a flash point below 100 degrees Fahrenheit.

**Flash point:** The minimum temperature at which a liquid gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture with air.

### FIRE PREVENTION

VerTek, LLC' facilities will conduct all business activities in a manner consistent with fire prevention. Fires can be prevented and VerTek, LLC will take necessary measures consistent with prevention.

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#### FIXED FIRE PROTECTION (SPRINKLER SYSTEM, DRY CHEMICAL SYSTEM, ETC.)

If the facility is fully or partially protected by a fixed fire protection system management shall ensure that the system is maintained according to OSHA standards and local code requirements.

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#### FIRE DETECTION SYSTEM

If the facility is fully or partially protected by a fixed fire detection system consisting of: smoke detectors and/or heat detectors. Management shall ensure that the system is maintained according to OSHA standards and local code requirements.

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#### FACILITY FIRE ALARM SYSTEM

If the facility is protected by a fire alarm system, it may be equipped with fire alarm pull stations. Pull stations shall be used to activate the fire alarm that will emit an audible alarm warning other of the fire. Upon hearing the fire alarm, all occupants shall exit the building and calmly proceed to the designated evacuation area.

Additionally, word of mouth can be used to implement an evacuation. (See the Emergency Action Plan for additional information).

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## ACTIONS IN THE EVENT OF A FIRE

In the event of a fire, the critical task is to determine if anyone is directly affected (burning or burned) and attend to extinguishing the fire on them and finding medical help.

Once the scene is clear of affected people, determine the cause of the fire; different extinguishing solutions depend on the nature of the fire.

If it is determined that a portable fire extinguisher, are located throughout our facilities and on vehicles in the field can be used, follow this procedure.

NOTE Portable fire extinguishers are to be maintained according to OSHA standards and local code requirements.

## USING PORTABLE FIRE EXTINGUISHERS

This procedure establishes minimum standards for the selection, placement and use of portable fire extinguishers. Life safety will always be considered as the primary goal when dealing with emergency response activities including the use of portable fire extinguishers.

## DEFINITIONS

**Agent:** The contents of a fire extinguisher that causes extinguishment upon application to the fire. Agent types include:

- Water and water-based foam,
- Dry chemical,
- Inert gas (carbon dioxide),
- Halon,
- Dry Powder-various dry compounds for fighting combustible metal fires.

**Class:** The class of fire indicates the fuel that is burning. Class is useful in labeling fire extinguishers for use since all agents are not effective on all fires. Fire Classes are:

- Class A: ordinary combustibles (wood, paper, etc.)
- Class B: flammable and combustible liquids and gasses Class C: energized electrical equipment
- Class D: combustible metals
- Class K: cooking oils and fats

**Incipient Stage Fire:** The beginning or initial stage of a fire. Generally, the heat and smoke production and fire growth are manageable. If an employee believes that a fire is too big, too smoky, or too hot the fire is not an incipient stage fire.

**PASS:** An acronym that describes the main steps in fire extinguisher operation: Pull, Aim, Squeeze, Sweep

**Portable Fire Extinguisher:** A unit designed for fire extinguishment, that contains a fire extinguishing agent, expelled by pressure or a manual pump, and that is capable of being carried by hand. (Note: Class D agent can be stored and applied with a scoop or shovel and can be stored in a container other than an extinguisher)

**Underwriters Laboratories (“UL”):** Underwriters Laboratories, a testing and certification laboratory

**Wheeled Fire Extinguisher:** A fire extinguisher that is heavy enough to require a wheeled carriage. Size ranges are: Dry chemical and dry powder 50lbs. to 350lbs., Foam 33 gallons, carbon dioxide 50lbs- 100lbs.

## FIRE EXTINGUISHER SELECTION

Fire extinguishers will be selected based upon the hazard(s) present in the area and the expected types of fires that could result. Both the type and capacity of the fire extinguisher will be determined by the potential hazard. All fire extinguishers provided in VerTek, LLC' facilities will be UL approved.

### SELECTION GUIDE:

Fire Hazard Class	Extinguisher Agent Selection
<b>Class A</b> fires involving solid materials such as wood, paper, or textiles.	Water Foam Multipurpose dry chemical Halon Halon replacement
<b>Class B</b> fires involving flammable liquids such as petrol, diesel, or oils.	Ordinary dry/Purple K chemical Multi-purpose dry chemical Halon Halon substitutes Carbon dioxide
<b>Class C</b> fires involving gases.	Ordinary dry/Purple K chemical Multipurpose dry chemical Halon Halon substitutes Carbon dioxide
<b>Class D</b> fires involving metals	Dry powder selected for the specific combustible metal
<b>Class K</b> fires involving live electrical apparatus.	Wet chemical (potassium-based liquids)

### PLACEMENT OF FIRE EXTINGUISHERS

Placement of fire extinguishers will conform to the following guidelines:

- Travel distance
- Hazard: high hazard areas will have a fire extinguisher placed closer than the maximum travel distances.
- Ease of access: areas that are difficult to access will have a fire extinguisher placed closer so that response to a fire will not be delayed.
- Permanent location: all fire extinguishers in our facilities will have a permanent location consisting of a wall mount, a fire extinguisher cabinet, or a vehicle bracket to assure access.

- Damage: extinguishers will be located to minimize the possibility of damage and being obstructed by traffic or work activities in the area.
- Marking: all fire extinguisher locations will be conspicuously marked with signs or other indicators.

**PLACEMENT GUIDE:**

<b>Fire Hazard Class</b>	<b>Travel Distance</b>
<b>Class A</b> fires involving solid materials such as wood, paper or textiles.	75 feet or less
<b>Class B</b> fires involving flammable liquids such as petrol, diesel or oils.	50 feet or less
<b>Class C</b> fires involving gases.	Based on Class A and B extinguisher placement, but close to the hazard
<b>Class D</b> fires involving metals	75 feet or less
<b>Class K</b> fires involving live electrical apparatus like a stove. Also called a “Kitchen” class.	Close to the appliance

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## CARE AND MAINTENANCE

- Fire extinguishers will always be kept unobstructed and in clear view.
- Fire extinguishers will be inspected on a monthly schedule by trained facility personnel and a written record of the inspection will be maintained. The written inspection will include:
- Verification that the extinguisher is in the proper location o Notes regarding the physical condition of the extinguisher.
- Pressure gage on the extinguisher is within operable range (if so equipped)
- Verification that the nozzle is unobstructed.
- Lift the extinguisher to verify it is not too light (indicating a loss of contents)
- An annual inspection of all extinguishers will be performed by a certified fire extinguisher contractor and records of service will be maintained.
- After any fire extinguisher is used, the unit will be removed from service until it is inspected and recharged by the contractor.
- If a fire extinguisher is damaged, involved in an incident where damage could result, or if the extinguisher shows signs of corrosion, it will be removed from service until it is inspected and recharged by the contractor.
- All fire extinguishers will be labeled with the class of fire(s) that they are designed to fight and with the operating instructions.

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## FIRE EXTINGUISHER USE

There is nothing in our facilities that is worth a human life. No employee is required to use a fire extinguisher. Operation of a fire extinguisher is a voluntary action. Only trained personnel are authorized to use a portable fire extinguisher.

Fire extinguishers will only be used on incipient stage fires.

The steps in fire extinguisher use are:

- Alert employees at immediate risk from the fire.
- Activate the facility fire alarm.
- Use the PASS acronym for operation.

All fire extinguisher use will be reported to the Vice President of Safety. Operational safety rules for fire extinguisher use are:

- Use a fire extinguisher that is approved for the class of fire.
- Always keep an exit path open behind you.
- Stay low to avoid heat and smoke.
- Do not turn your back on a fire, even after extinguishment.
- Avoid breathing smoke and ventilate the area after extinguishment.

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## TRAINING

Only trained and authorized employees may use fire extinguishers in our facilities.

Training will be conducted at the time that the employee is authorized to use fire extinguishers and will be repeated annually for all authorized personnel.

Employees who are not authorized to use fire extinguishers will be advised that their only duties in a fire are: notification and evacuation.

Training will consist of classroom training supplemented by hands on training where necessary. In all cases, employee safety will be stressed over property conservation. Additional training will be provided for any personnel who are assigned to operate wheeled fire extinguishers.

## HAZARD COMMUNICATIONS PROGRAM

This procedure establishes minimum requirements for the following:

- Identification and labeling of hazardous chemicals.
- Employee access to hazardous chemical information.
- Training required preventing injury or illness due to hazardous chemical exposure.

### DEFINITIONS

**Article:** A manufactured item other than a fluid or particle: (i) that is formed to a specific shape or design during manufacture; (ii) that has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) that under normal conditions of use does not release more than very small quantities. (e.g., minute trace amounts of a hazardous chemical and does not pose a physical or health risk to employees.)

**Hazardous Chemical:** a chemical that is a physical or a health hazard.

**Health Hazard:** A chemical that is carcinogenic, toxic, a reproductive hazard, an irritant, a corrosive, a sensitizer, or damages any body system or part.

**Material Safety Data Sheet (“MSDS”):** An MSDS is a written document prepared by the chemical manufacturer or supplier that details the contents, hazards, proper use directives and emergency response protocol for a hazardous chemical.

**Physical Hazard:** A chemical that is: a combustible liquid, a compressed gas, explosive, flammable, organic peroxide, oxidizer, pyrophoric, unstable, or water reactive.

### PROGRAM APPLICATION

This program will be applicable to all chemicals that exhibit or could exhibit health hazards or physical hazards under conditions of normal operation or during emergencies. The following materials are exempt from the OSHA requirements of inclusion for this program:

- Consumer products when used in the workplace in a duration and frequency that is not greater than that experienced by a regular consumer.
- Articles (see Definition).
- Wood or wood products that will not be processed (wood treated with hazardous chemicals, or that will be processed generating dust are not exempt).

- Food and alcoholic beverages in retail establishments and food that will be consumed in the workplace.
- Tobacco and tobacco products.

## **MATERIAL ORDERING AND HAZARD DETERMINATION**

Any employee wishing to introduce a new chemical into the facility must obtain an MSDS and submit the MSDS to the Safety Manager prior to ordering the chemical.

The Safety Manager will evaluate all new or replacement chemicals to determine if the chemical presents health or physical hazards for our employees or to our facility. If the Safety Manager determines that the new chemical cannot be handled safely, the chemical will not be ordered.

Information on new chemicals, or new information, on currently used chemicals, will be communicated to affected employees by the Vice President of Safety.

Every effort will be made to select chemicals that are not hazardous or that present the minimum degree of hazard commensurate with necessary chemical capability.

## **HAZARDOUS CHEMICAL LIST**

A list of hazardous chemicals currently used within the facility will be maintained by the (the Hazardous Chemical List”).

As new chemicals are purchased the necessary information will be added to the Hazardous Chemical List. Obsolete chemicals and chemicals no longer utilized will be removed from the Hazardous Chemical List. The Hazardous Chemical List and MSDS file will be maintained in the Safety Center.

## **LABELS AND OTHER HAZARD WARNINGS**

All containers containing hazardous chemicals will be labeled with the following information:

- Identity of the hazardous chemical
- Appropriate hazard warnings alerting employees of the health and physical hazards presented by the chemical.

All incoming containers containing hazardous chemicals will be inspected by receiving personnel. Containers that are not properly labeled will be labeled by receiving personnel. Containers with contents not listed on the Hazardous Chemical List will be refused or will be placed in quarantine and the Safety Manager notified immediately.

The Safety Manager will approve all labels used within our facilities. Each departmental supervisor is responsible to assure that all hazardous chemical containers, including containers that are refillable from bulk containers, are labeled properly and that the label is visible during use.

Stationary tanks, reservoirs and sumps containing hazardous chemicals will also be labeled. Labels will not be removed or covered over until a container is empty.

### **MATERIAL SAFETY DATA SHEETS**

A Material Safety Data Sheet will be obtained and maintained for all hazardous chemicals including those purchased at retail locations. MSDS will be available to all employees on all shifts. If our facilities use electronic means to maintain the MSDS file, employee availability will always be assured including during power failures.

The Safety Manager will contact the chemical supplier or manufacturer and request an MSDS for chemicals held in quarantine or refused by receiving. The Hazardous Chemical List and MSDS file will be maintained in the Safety Center.

### **TRAINING**

Training as outlined below will be provided at the following times:

- At time of initial assignment.
- Whenever a new hazardous chemical is introduced, or when the hazard information regarding a currently used chemical changes or when the program elements change.
- Whenever the Safety Manager or other management members determine through observation that retraining would be beneficial.

### **NON-ROUTINE TASKS**

Whenever a non-routine job involving work with hazardous chemicals is required, special training will be provided for all affected employees prior to the job. The training will include:

- The identification of hazardous chemicals to be used in the non-routine task.
- Protective measure required to perform the work safely.
- Emergency procedures.
- An opportunity to ask questions or ask for additional information.

## POWERED INDUSTRIAL TRUCKS (WAREHOUSE AND YARD)

This procedure establishes minimum standards for training powered industrial truck operators and selecting and maintaining equipment. Powered Industrial Trucks Included: Fork-lift trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engines.

### TRAINING

- Only personnel who are authorized and currently trained will be allowed to operate powered industrial trucks. No one under 18 years of age may operate a powered industrial truck in our facility.
- Employees authorized and trained to operate powered industrial trucks will be certified. The Safety Manager will keep the current certification documentation. We also may choose to issue a license to each designated operator.
- Training will consist of a combination of formal (classroom) and practical (demonstrations and hands-on) training. Our trainer(s) is qualified by experience and/or knowledge and trained to act as the powered industrial truck trainer.
- All hands-on training and practice for operator candidates will be properly supervised and conducted in remote and safe areas of our facilities to prevent training accidents.

### TRUCK-RELATED TOPICS:

- Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate.
- Differences between a truck and an automobile.
- Truck controls and instrumentation: where they are located, what they do, and how they work.
- Engine or motor operation.
- Steering and maneuvering.
- Visibility (including restrictions due to loading).
- Fork and attachment adaptation, operation, and use limitations.
- Vehicle capacity.
- Vehicle stability.

- Any vehicle inspection and maintenance that the operator will be required to perform.
- Refueling and/or charging and recharging of batteries.
- Operating limitations.
- Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

#### **WORKPLACE-RELATED TOPICS:**

- Surface conditions where the vehicle will be operated.
- Composition of loads to be carried and load stability.
- Load manipulation, stacking, and un-stacking.
- Pedestrian traffic in areas where the vehicle will be operated.
- Narrow aisles and other restricted places where the vehicle will be operated.
- Hazardous locations where the vehicle will be operated.
- Ramps and other sloped surfaces that could affect the vehicle's stability.
- Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust.
- Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.

#### **REFRESHER TRAINING AND EVALUATION**

Refresher training including a re-evaluation of training effectiveness will be conducted in the following cases:

- The operator has been observed operating in an unsafe manner.
- The operator has been involved in an accident or near miss incident.
- An evaluation has revealed that the operator has not been operating the truck safely.
- The operator has been assigned to operate a different type of truck.
- The condition of the workplace changes in a manner that could affect the operation of the truck.
- An evaluation of each powered industrial truck operator will be conducted at least every three years.

## TRUCK SELECTION AND MODIFICATION

All new powered industrial trucks used in facilities will meet requirements of as stated in the following document: [OSHA 1910.178](#)

Any proposed alteration and/or modification that could affect truck capacity and/or safe operation will be submitted to the truck manufacturer for approval prior to implementation. Any modification affecting safe truck capacity, operation, and/or maintenance will be noted on updated instruction plates, tags and/or decals as necessary.

All nameplate and markings for the truck and for attachments will be maintained legible and affixed to the vehicle.

## TRUCK OPERATION

All trucks in use will be inspected at the beginning of each shift. Completed forms will be maintained for at least 30 days. Our facilities will not operate any vehicle with damage or defects to safety critical components.

All truck maintenance will be performed by competent personnel using approved replacement parts.

## HAND AND PORTABLE POWER TOOL SAFETY

This procedure establishes minimum safety procedures for the selection, inspection and use of hand and portable power tools. This procedure applies to company owned and issued tools and to employee owned tools.

### DEFINITIONS

**Constant Pressure Switch:** An on/off switch that automatically disconnects power to the tool when finger or hand pressure is released

**Double Insulated:** An electrical device that has two layers of insulation between the energized components and the user. Typically, double insulated equipment has internal insulation and a nonconductive case. Double insulated tools do not require a three prong, grounded plug.

**Explosive Actuated Fastening Tools:** Tools that make use of a charge (like a blank) to propel a nail or other fastener. These tools possess similar hazards to a single shot firearm.

**Ground Fault Circuit Interrupter (“GFCI”):** A device that detects minute leakage to ground and opens the faulted circuit.

**Ring Test:** A test indicating that a grinding wheel is free of cracks and defects that could cause it to explode while at speed. To perform a ring test a nonmetallic implement (such as a screwdriver handle) is gently tapped. An intact wheel will ring and a damaged wheel sounds “dead” (does not ring).

**Tools:** (as used in this procedure) Handheld and operated power tools and explosive actuated fastening tools. Excluded tools include kitchen tools, jack hammers, garden appliances etc.

### GENERAL

- Only United Laboratories (UL) and/or CSA International (Canadian Standards Association) approved electric tools will be purchased and used in our facilities.
- Only trained and authorized personnel are allowed to operate power tools.
- Damaged or defective tools will be taken out of service and tagged as unsafe.
- Before using electric, powder actuated or arc/spark producing tools always evaluate the fire and explosion hazard potential of the area. Never use these tools in or around an explosive or flammable atmosphere.

- Proper PPE is required for use of power tools. Safety glasses are always required. A hard hat, gloves, safety shoes, etc. may be required depending upon the tool and surroundings.
- Our facilities will not modify any power tool. Tool repair will be limited to replacing common wear parts of tools with manufacturer supplied and/or approved parts by qualified personnel.
- All manufacturer supplied guards and controls will be maintained and a tool will not be used without the guards and controls.
- Company owned tools will not be removed from our facilities for personal use.
- Operating manuals will be maintained by the department “owner” of the tool and will be made available to tool users for training.
- All tools used will be either double insulated or will include a functional ground wire connected to a grounded plug.
- Prior to each use of any tool a visual inspection will be performed by the employee using the tool.

#### **SAFETY GUARDS AND OTHER DESIGN CONSIDERATIONS**

- All manufacturer installed safety guards must remain operational on all tools.
- All manufacturer safety guards will not be modified or tampered with.
- Switches and controls: Tools will be equipped with a constant pressure switch.
- All tools other than circle and chain saws can be equipped with a turn-off that can be accomplished by a single motion of the finger(s) that turn the tool on.
- The control on all tools will be located so that the chance of accidental activation is minimized.

#### **CIRCULAR SAWS (GREATER THAN TWO-INCH BLADE DIAMETER) PROVIDED WITH**

- A constant pressure switch.
- Upper blade guard.
- Lower blade guard.
- Both guards will cover at least to the depth of the teeth except the minimum arc required for bevel cuts and the minimum arc to allow the lower guard to retract and for the blade to contact the work piece.

- The lower guard will automatically and instantly retract to cover the blade when the saw is withdrawn from the work.

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#### **CHAIN SAWS WILL BE PROVIDED WITH**

- A constant pressure switch.
- Hand guard equipped with an automatic chain break.

#### **PNEUMATIC TOOLS AND HOSE WILL BE PROVIDED WITH:**

- A tool retainer on tools that could be ejected from a hose coupling.
- All hose and fittings will be rated for the air pressure and other use conditions.

#### ABRASIVE WHEELS WILL BE EQUIPPED WITH:

- A guard for the spindle end, nut and flange projection that will maintain proper alignment. Exceptions: when the work piece acts as a guard, cut-off and tuck-pointing wheels and type 6, 11, 27 and 28 abrasive wheels.
- Vertical Portable Grinders (right angle grinders) will be equipped with a guard for 180 degrees of the wheel between the operator and wheel during use.
- Abrasive Wheel Mounting requirements:
  - All wheels must be inspected, and ring tested prior to use.
  - Any grinding media having the following defects will be replaced immediately: cracks, soft material build-up, uneven wear, or other damage.
  - Wheels must fit freely on the spindle and remain free during use.
  - All mounting hardware required for the tool will be used as specified by the tool manufacturer.
  - All contact surfaces of all mounting hardware will be flat and free of foreign matter

#### EXPLOSIVE ACTUATED FASTENING TOOL REQUIREMENTS:

- Tools will not be operated without the manufacturer provided guard, fixture, or shield.
- Tools must not be capable of firing accidentally while being loaded, prepared to fire or if accidentally dropped.
- Firing the tool must be dependent on two separate and distinct operations.
- The tool must be held against a work surface to engage the firing mechanism.
- The chamber of the tool must be capable of being visualized to verify a safe condition.
- Positive means of varying the power must be available so that the power can be set depending upon the target.
- Load and fastener must be manufacturer approved for each tool.
- Inspect before use, do not leave the tool in an area where unauthorized personnel can gain access to it.
- If a defect develops the tool will immediately be taken out of service.
- Do not load until ready to fire. No loaded tool will be left unattended.

- In the case of a misfire, the operator will hold the tool in firing position for at least 30 seconds, try to operate the tool a second time, wait an additional 30 seconds with the tool in firing position and then remove the charge following manufacturer recommendations.
- Do not drive into hard or brittle materials or into soft materials that the fastener could penetrate.
- Fasteners will not be driven closer than 3 inches from the edge or corner of material unless a special guard or fixture is used.
- Never use in or around a flammable or explosive environment.

## POWER TOOL OPERATION

- Employees must be trained and authorized to operate power tools.
- Employees should review the tool manuals for each tool used.
- Employees will not modify or alter any power tool.
- All guards and safety devices will always be kept intact and used. If a guard or other safety device is missing or damaged the tool will be taken out of service and tagged as unsafe.
- Power tools and any accessories such as extension cords will be inspected prior to use.
- Safety glasses with side shields are always required when using power tools. Any other PPE that is required must also be worn.

Precautions must be taken to protect others in the area from hazards created by the power tool use.

Precautions can include:

- Using caution tape, traffic cones or other barricades to isolate the area, o Posting warning signs, o Erecting temporary barriers, o Pre-job conferences with personnel in the work area, o Scheduling work for hours when other personnel are not present in the work area.
- Inspect the work area for hazards prior to power tool use.
- The operator must consider body placement: Never use hands or other body parts to support a work piece.
- Keep body parts out of the path of the power tool and also out of the path of chips and other debris that can be created by the tool operation.
- Evaluate the force being applied to hold and advance the tool. Be sure that this force will not cause you to fall or lose your balance as the work progresses.

- When using electric tools, be aware of the following:
- The tool will always be plugged into a GFCI receptacle or extension cord equipped with a GFCI.
- Keep cords out of aisles and traffic areas where they could be damaged by traffic and/or cause pedestrians to trip.
- Be sure that your hands are dry and that the tools and cords are kept away from wet environments.
- Keep cords away from heat sources.
- Keep cords away from equipment that could cause mechanical damage.
- Cords must be rated for the same amperage as the tool.
- When using electric or pneumatic tools always route cords and hoses so that they are not tripping hazards.

#### **PNEUMATIC TOOL SAFETY:**

- Never use oxygen, nitrogen (or other inert gasses) or flammable gasses to power a tool. Only compressed air can be used to power pneumatic tools. Compressed air fittings should be distinct and different from other gasses within a facility to prevent mistaking another gas for compressed air.
- Compressed air can act as an oxidizer and increase the burning rate of combustible and flammable liquids. Never direct compressed air into these chemicals.
- Inspect hoses prior to use.
- Be sure that tools are secured into couplings and that couplings are secured to each other.
- Check the direction of tool exhaust to assure that it will not blow dust or other debris toward you or others.

## INTERNAL COMBUSTION POWERED TOOL SAFETY:

**The exhaust of an internal combustion powered tool contains carbon monoxide (an asphyxiation hazard) and accordingly, adequate ventilation is always required.**

**Examples of such tools include: Generators, Compressors, Tree Trimmers, Chain Saws and any other tool that requires a flammable fuel for power.**

- Prior to refueling the engine must be turned off and allowed to cool.
- Fuel must be stored in approved containers and the containers must be stored in a secure location away from ignition sources and possible damage that could lead to spills.
- Tools with a chuck should be checked for the following prior to use:
  - The chuck is tight.
  - The chuck key is removed from the chuck prior to use.
- Grinders and saws should be checked for blade/stone tightness prior to each use. Chain saw chain tension should be checked prior to use.
- Tools must be stored in a location that will provide the following:
  - o Protection of easily damaged parts and components.
- Prevent theft and easy access by unauthorized personnel.

## TRAINING

Personnel will be trained prior to assignment to jobs requiring the use of power tools. Additional training will be conducted based upon observed need.

Training will be conducted if new tools or tools that operate differently are introduced into the facility.

## LADDER SAFETY

This procedure establishes minimum procedures for the selection, installation, maintenance and use of ladders.

### DEFINITIONS

**Extension Ladder:** A non-self-supporting portable ladder, adjustable in length, consisting of two or more sections traveling in guides or brackets arranged to permit length adjustment.

**Ladder Safety Device:** Any device other than a cage or well designed to eliminate or reduce the possibility of accidental falls and which may incorporate belts, harnesses, friction brakes and sliding attachments.

**Nonconductive Ladder:** A ladder made of fiberglass, wood, or other nonconductive material.

**NOTE: ONLY NONCONDUCTIVE LADDERS MAY BE USED AT VERTEK LOCATIONS AND JOB SITES**

**Pole Support:** See drawing

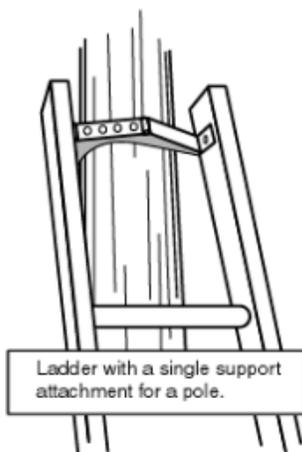


Figure 1 - Extension Ladder with Pole Support

**Rungs:** Steps on a ladder.

**Side Rails:** The sides of a ladder.

**Step ladder:** A self-supporting ladder, nonadjustable in length having flat steps and a hinged back.

**Straight Ladder:** Ladders that are used in a straight manner, single section ladders and extension ladders

## LADDER SELECTION

Considerations for ladder use include:

- Our facilities will not make ladders. Only purchased ladders will be used.
- Parts used for ladder repair will be manufacturer supplied or approved direct replacement parts only.
- All ladders that could be used for electrical maintenance and installation or around electrical wires and equipment will be nonconductive.
- Stepladders will be 20 feet or less in height.
- Straight ladders will be 30 feet or less in length.
- Extension ladders will be 60 feet or less in length.
- Ladders will have uniform step spacing; 12 inches or less.
- The minimum width between the side rails at the top of the ladder will be 11½ inches.

## EXTENSION LADDER OVERLAP SPECIFICATIONS

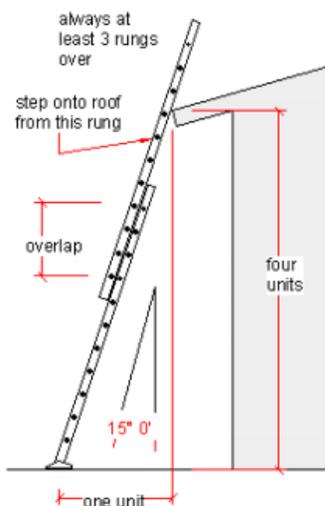


Figure 2 - Extension Ladder Specifications

Ladder Length	Overlap Length
Up to 36 Feet	3 Feet
Over 36 Feet to 48 feet	4 Feet
Over 48 Feet	5 Feet

### INSPECTION AND CARE

- Extension ladders are to be stored and transported using a secure locking support
- Ladders will be inspected as follows:
  - Before use — Visual inspection of locking gear, ropes, feet, and rungs prior to use
  - Yearly – Documented inspection performed by a third-party inspection service.
- Damaged or defective ladders will not be used. They will be tagged as dangerous, do not use this ladder, take it out of service or a similar warning.
- The only ladder repair that will be made in our facilities will be a replacement in kind of a worn or broken part. Welded repairs and, straightening, etc. will not be undertaken in our facilities.

- Ladders that are deemed unsafe will be tagged and stored in a secure location pending repair. Ladders that are to be discarded will be cut up to prevent improper use by someone scavenging the ladder from trash.

## EXTENSION LADDER USE



Figure 3 - Extension Ladder Rules

**Improper use of ladders is a significant cause of accidents and injury in our industry. Proper attention to these safety rules will improve the chances of returning home at the end of the day in one piece.**

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## TYING OFF

When using an extension ladder on strand, hook the ladder and tie off the ladder using the lanyard connected to the D-rings on your safety belt. This prevents the ladder from disconnecting from the strand and protects the technician from falling.

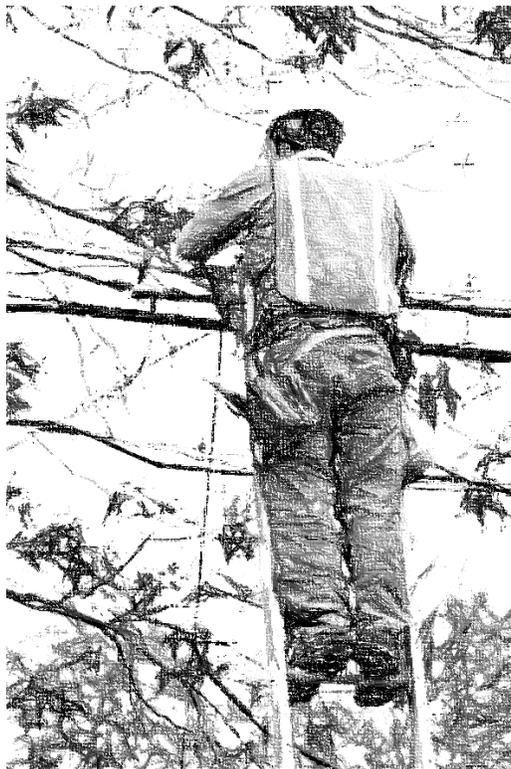


Figure 4 - Ladder hooked on strand with tech tied off over strand

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## EXTENSION LADDER PRECAUTIONS

- Ladders should not be set up in front of doors unless the door is locked, blocked, or guarded. Ladders should not be set up where foot or vehicle traffic could accidentally upset the ladder: adequate warning devices should be used to alert others to the presence of the ladder
- Because they conduct electricity, Aluminum (metal) and wood ladders are always prohibited
- Ladders shall not be placed within 10 feet of power lines.
- Ladders will not be used as stages, platforms, braces etc. or for any purpose other than a ladder.
- Any ladder that was dropped or exposed to fire or corrosive chemicals will be taken out of service until tested.

- Ladders should be tied-off at the top and bottom if power tools are being used or if other work is being conducted that could place undue stress on the ladder footing. When tying off the ladder always attach rope to the side rails, not the rungs.
- Only one person on a ladder at one time.

## STEPLADDER USE

When working on a stepladder, you should be able to reach about 4 feet above the top of the ladder while standing two steps down from the top. For example, most workers should be able to reach an 8-foot ceiling on a 4-foot ladder. Never use the top of a stepladder as a step. Refer to the chart below for recommended ladder heights.



Figure 5 - Stepladder

Work Height	Ladder Height should be
9'	5'
13'	9'
17'	13'
21'	17'

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## PRECAUTIONS

- Do not place tools or materials on the steps or platform of a stepladder.
- Do not use the top two steps of a stepladder as a step or stand.
- Always level all four feet and lock spreaders in place.
- Do not use a stepladder as a straight ladder.
- Always place ladders on a firm flat surface

## LADDER SAFETY DEVICES

Ladder safety devices can be used. If a ladder safety device is used no cage or landing platform protection is required.

Ladder safety devices will be inspected prior to each use formally inspected on the schedule recommended by the manufacturer.

Personnel designated to use ladder safety devices will be trained at least annually in proper operation, inspection, and emergency procedures.

## TRAINING

- All personnel who work with ladders will be trained prior to use.
- At a minimum, retraining will be provided whenever observations indicate that safe use rules are not being followed.

## FALL PROTECTION

The purpose of the fall protection program is to:

- Ensure all construction areas are free from uncontrolled fall hazards
- All employees are properly trained in fall prevention and protection
- Fall prevention systems are inspected and monitored to ensure effectiveness

It is the policy of VerTek, LLC to take all practical measures possible to prevent employees from being injured by falls. We will take necessary steps to eliminate, prevent, and control fall hazards. We will comply fully with [the OSHA Fall Protection standard \(CFR 1926, Subpart M, Fall Protection\)](#).

The elimination of fall hazards is everyone's priority.

If a fall hazard cannot be eliminated, effective fall protection will be planned, implemented, and monitored to control the risks of injury due to falling.

All employees exposed to potential falls from heights will be trained to minimize the exposures. Fall protection equipment will be provided and its use required by all employees. Supervisors will be responsible for implementation of a fall protection plan for their jobsite.

## DEFINITIONS

**Authorized Person:** A person approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location or job site. An authorized person is required to receive training and to periodically demonstrate the ability to safely use the appropriate fall protection equipment. **Competent Person:** An individual designated by the employer to be responsible for the immediate supervision, implementation, and monitoring of this fall protection program who, through training and knowledge, is capable of identifying, evaluating, and addressing existing and potential fall hazards, and who has the authority to take prompt corrective action with regard to such hazards.

**Qualified Person:** An individual, who by possession of a recognized degree, certificate, or professional standing or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems relating to the subject matter, work, or project.

**Anchor Point:** A secure point of attachment for lifelines, lanyards, or deceleration devices. An anchor point must be capable of supporting at least 5000 pounds (3600 pounds if

engineered/certified by a qualified person) per person and must be independent of any anchorage being used to support or suspend platforms.

**Full Body Harness:** Webbing/straps which are secured about an employee's body in a manner that will distribute the fall arrest forces over the thighs, pelvis, waist, chest and shoulders. Having means for attaching it to other components of a personal fall arrest system, preferably at the shoulders and/or middle of the back.

**Connector:** A device which is used to couple (connect) parts of the personal fall arrest system together. **Deceleration Device:** Any mechanism, such as a rope grab, rip-stitch lanyard, a specially woven lanyard, tearing or deforming lanyard, automatic self-retracting lifeline/lanyard, etc., which serves to dissipate a substantial amount of energy during a fall arrest.

**Deceleration Distance:** The additional vertical distance a falling employee travels excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's body harness attachment point at the moment of activation of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

**Free Fall:** The act of falling before a personal fall arrest system begins to apply force to arrest the fall.

**Free Fall Distance:** The vertical displacement of the fall arrest attachment point on the employee's body harness between the onset of the fall and just before the system begins to apply force to arrest the fall. Free fall distance must not exceed 6 feet. This distance excludes deceleration distance and lifeline/lanyard elongation distance.

**Guardrail System:** A barrier erected to prevent employees from falling to lower levels. This system includes a toe board, midrail and top rail able to withstand 200 pounds of force applied in any direction.

**Hazardous Condition:** Any existing or potential condition with other variables, can result in deaths injuries, property damage, and other losses.

**Lanyard:** A flexible line of rope or strap that has self-locking snaphook connectors at each end for connecting to body harnesses, deceleration devices, and anchor points.

**Leading Edge:** The edge of a floor, roof, or other walking/working surface, which changes location as additional floor, roof, etc., is placed or constructed. A leading edge is considered an unprotected side or edge when not under active construction.

**Lifeline:** A component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline). This serves as a means for connecting other components of a personal fall arrest system to the anchorage.

**Low Slope Roof:** A roof having a slope of less than or equal to 4 in 12 (vertical to horizontal). A roof with approximately a 19.5-degree slope or less.

**Personal Fall Arrest System:** A system used to arrest (catch) an employee in a fall from a working level. It consists of an anchorage location, connectors, a body harness, and may include a lanyard, deceleration device, lifeline, or any combination of the before-mentioned items.

**Rope Grab:** A deceleration device, which travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest the fall of an employee.

**Roof Work:** The hoisting, storage, installation, repair, and removal of materials or equipment on the roof.

**Safety Monitoring System:** A safety system in which a competent person is responsible for recognizing and warning employees of fall hazards. All other fall protection systems must be deemed “infeasible” (through infeasibility study/review) to select/use a safety monitoring system.

**Snaphook:** A connector comprised of a hook-shaped member with a closed keeper which may be opened to permit the hook to receive an object and when released, automatically closes to retain the object. Snaphooks must be self-closing with a self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection, thus preventing the opportunity for the object to “rollout” of the snaphook.

**Steep Slope Roof:** A roof having a slope greater than 4 in 12 (vertical to horizontal). A roof with a slope greater than 19.5 degrees.

**Toeboard:** A low protective barrier that will prevent the fall of materials and equipment to lower levels, usually 4 inches or greater in height.

**Unprotected Sides and Edges:** Any side or edge of a walking or working surface (e.g., floor, roof, ramp, runway, etc.) where there is no guardrail at least 39 inches high.

**Warning Line System:** A barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, which designates an area in which work can be conducted without the use of guardrails, personal fall arrest systems, or safety nets to protect employees in the area.

A warning line system will be utilized on any roof greater than 50 feet wide and in conjunction with a safety monitor only where the other forms of fall protection have been deemed infeasible to use.

## HAZARD IDENTIFICATION

Supervisors on each jobsite will be responsible for identifying fall hazards on their jobsite. The Supervisors will evaluate each situation or work procedure where employees may be exposed to a fall of 6 feet or more.

Supervisors will be responsible for developing a plan to eliminate the exposures, if possible, or to elect the appropriate fall protection systems and/or equipment. If the employee is working alone, they shall inspect the job site and identify fall hazards.

The employee is responsible to develop a plan to eliminate exposures. They shall contact their supervisor if they are unable to sufficiently eliminate the fall exposure or deploy methods to control the fall hazard.

## FALL PROTECTION HIERARCHY

The following hierarchy or preferred order of control shall be used to choose methods to eliminate or control fall hazards:

1. Eliminate the need to work at height.
2. Use of engineering controls such as guardrails and/or work platforms.
3. Use of personal positioning system to prevent a fall.
4. Use of a personal fall arrest system.
5. Administrative controls.

## FALL PROTECTION REQUIRED

It should be noted that ladders and scaffolding are not included in this section because they are covered by other OSHA standards and other requirements of our safety program.

Here are examples where fall protection would be needed. This listing is by no means complete, and there are many other situations where a fall of 6 feet or more is possible.

- Free Climbing is prohibited on all VerTek, LLC Communications sites.
- Fall prevention and/or protection is required whenever the work being performed presents a fall hazard of 6 feet or greater.

- Employees that climb (towers, chimneys, etc.) or complete controlled descent applications shall complete Competent Tower Climber Training through one of the VerTek, LLC approved training providers.
- Employees that utilize fall restraint or arrest, but do not climb, can be qualified by successfully completing Fall Prevention and Protection Training.
- Employees shall be protected by an engineered system or other appropriate personal protective equipment (PPE). Protective systems may include, but are not limited to, the use of guardrail systems or restraint systems.

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## HOLES

Personal fall arrest systems, covers, or guardrail systems shall be erected around holes (including skylights) that are more than 6 feet above lower levels.

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## LEADING EDGES

Each employee who is constructing a leading edge 6 feet or more above lower levels shall be protected by guardrail systems, safety net systems, or personal fall arrest systems.

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## ROOF TOP FALL PROTECTION

The parapet wall must be at least 39 inches above rooftop or working level. If not, a 6' barricade must be erected to prevent personnel access, or all personnel must be placed in fall restraint.

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## EXCAVATIONS

Each employee at the edge of an excavation 6 feet or more deep shall be protected from falling by guardrail systems, fences, barricades, or covers. Where walkways are provided to permit employees to cross over excavations, guardrails are required on the walkway if it is 6 feet or more above the excavation.

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## HOIST AREAS

Each employee in a hoist area shall be protected from falling 6 feet or more by guardrail systems or personal fall arrest systems. If guardrail systems (or chain gate or guardrail) or portions thereof must be removed to facilitate hoisting operations, as during the landing of materials, and a worker must lean through the access opening or out over the edge of the access opening to receive or guide equipment and materials, that employee must be protected by a personal fall arrest system.

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## RAMPS, RUNWAYS, AND OTHER WALKWAYS

Each employee using ramps, runways, and other walkways shall be protected from falling 6 feet or more by guardrail systems.

## FALL PROTECTION SYSTEMS

When there is a potential fall of 6 feet or more, we will utilize one or more of the following means of providing protection:

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### PERSONAL FALL ARREST SYSTEMS

- These consist of an anchorage, connectors, and a body belt or body harness and may include a deceleration device, lifeline, or suitable combinations. If a personal fall arrest system is used for fall protection, it must do the following:
  - Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness.
  - Be rigged so that an employee can neither free fall more than 6 feet nor contact any lower level.
  - Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet.
  - Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet or the free fall distance permitted by the system, whichever is less.
  - The use of body belts for fall arrest is prohibited and a full body harness is required.

---

### POSITIONING DEVICE SYSTEMS

Body harness systems are to be set up so that a worker can free fall no farther than 2 feet. They shall be secured to an anchorage capable of supporting a least twice the potential impact load of an employee's fall or 5,000 pounds, whichever is greater.

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### FALL RESTRAINT SYSTEM

A device or devices, including any necessary components, that prevents an authorized person from reaching a fall hazard.

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## PERSONAL FALL ARREST SYSTEMS (PFAS)

VerTek, LLC field management shall ensure that employees who use PFAS employ:

- Anchor points for attachments for personal fall arrest equipment as determined by a competent person. The anchor point must be capable of supporting at least 5,000 pounds or two times the intended load (in accordance with the provisions set forth by OSHA at 29 CFR 502(d)).

NOTE: Antenna mounts, step bolts (climbing pegs), and gin poles are not structural members, and attaching fall protection equipment to these items is prohibited.

- A full-body harness equipped with two side D-rings and at least one front and one back D-ring. A lanyard with shock absorber and double-locking (at minimum) connectors at each end.

## INSPECTION AND CARE OF EQUIPMENT

VerTek, LLC field management shall ensure that employees who use PFAS:

- Inspect for wear, damage, and other deterioration prior to each use.
- Have their fall protection/arrest equipment components formally inspected and documented by a competent person at least annually.
- Tag all defective equipment and remove from service.
- Prohibited Activities Subject to Immediate Termination:
- Climbing a structure or working at a height of 6 feet and higher without utilizing a Personal Fall Arrest System.

## WORKING AROUND FLOOR AND WALL OPENINGS

When it is necessary to create a floor hole or wall openings, the Supervisor shall implement the following safeguards to protect the employees and public:

- All floor holes and wall openings shall be adequately covered and appropriately marked, (e.g., "FLOOR HOLE - DANGER, DO NOT REMOVE.")
  - Note: The use of barricade tape as a physical protection around holes or openings is prohibited.
- To avoid the potential for overloading, no material shall be stored on any floor hole cover or against a wall opening cover.

- A metal plate is acceptable to cover a wall opening as long as it can withstand a 200- pound force without failure from any direction.
- Every floor hole into which employees can walk shall be guarded by a standard railing with toe boards on all exposed sides or a floor hole cover of standard strength and construction.
- Floor hole covers for a circular, square, or rectangular shape floor hole shall extend a minimum of 4 inches from the edge of the entire hole being covered.

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### TEMPORARY FLOORING COVERS

When a floor opening exceeds 40 inches at its narrowest dimension, temporary flooring of sufficient strength for the anticipated loads shall be required. Specifically:

- Temporary flooring shall be covered with  $\frac{3}{4}$ -inch exterior-grade plywood or equivalent. In addition, these covers shall be secured to prevent them from slipping or being displaced by personnel traffic.
- Temporary flooring can be solid 2-inch lumber positively secured to prevent displacement from personnel traffic.

## ELECTRICAL SAFETY

The Electrical Safety program is designed to prevent shock (injury, i.e. burn), electrocution (severe injury or death), and fire. This program also provides for proper training of employees to ensure they have the necessary knowledge and understanding of practices and procedures when working around energized conductors, connectors, conduits, and supports,

### STANDARDS

The cable industry is required to follow the National Electrical Code, Article 820 CATV Distribution Systems and Article 830 Network Powered Broadband Systems.

What is the **difference between NFPA 70 (National Fire Protection Association) (NEC®)** and **NFPA 70E?**

- The NFPA Document 70 is also called the **National Electrical Code®** and is generally considered an electrical installation document and protects employees under normal circumstances.
- The NFPA Document 70E was requested by OSHA and is intended to provide guidance with respect to electrical safe work practices.

### DEFINITIONS:

#### Boundaries

**Arc Flash Boundary:** When an arc flash hazard exists, an approach limit from an arc source at which incident energy equals 1.2 cal/cm<sup>2</sup> (5 J/cm<sup>2</sup>).

**Limited Approach Boundary:** An approach limit at a distance from an exposed energized electrical conductor or circuit part within which a shock hazard exists.

**Restricted Approach Boundary:** An approach limit at a distance from an exposed energized electrical conductor or circuit part within which there is an increased likelihood of electric shock, due to electrical arc-over combined with inadvertent movement, for personnel working in close proximity to the energized electrical conductor or circuit part.

#### Classes of Circuits

A Class 1 circuit is the portion of the wiring system between the load side of the overcurrent protection device (OCPD) or the power-limited supply and the connected load. For example,

Class 1 power-limited circuits are supplied by a power supply with an output that does not exceed 30 volts and 1,000 volt- amps.

The NEC defines a Class 2 circuit as that portion of the wiring system between the load side of a Class 2 power source and the connected equipment. Due to its power limitations, a Class 2 circuit is considered safe from a fire initiation standpoint and provides acceptable protection from electrical shock.

Class 2 and 3 circuits are defined as the portion of the wiring system between the power source and the connected equipment. Class 3 circuits limit the output power to a level that usually will not initiate fires. But they can and do operate at higher voltage levels and, therefore, can present a shock hazard.

**Disconnecting Means:** A procedure which lists the steps required to disconnect and de-energize the device from its power source.

**Electrocution:** A severe injury or death resulting from an electrical current flowing through the body.

**Electrical Hazard:** A dangerous condition where contact or equipment failure can result in electric shock, electrocution, arc flash burn, thermal burn, or arc blast injury. Note: Class 2 power supplies, listed low voltage lighting systems, and similar sources are examples of circuits or systems that are not considered an electrical hazard.

**Electrical Safety:** Identifying hazards associated with the use of electrical energy and taking precautions to reduce the risk associated with those hazards.

**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 verify the absence of voltage, and, if necessary, temporarily grounded for personnel protection.

**Qualified Person:** An individual who is trained and certified to work on and around energized high-voltage systems and equipment. This person is also qualified to assess risk and hazards.

**Shock Hazard:** A source of possible injury or damage to health associated with current through the body caused by contact or approach to energized electrical conductors or circuit parts.

**Unqualified Person:** A person who is not a Qualified Person.

## ENGINEERING CONTROLS

- All electrical distribution panels, breakers, disconnects, switches and junction boxes shall be completely enclosed.
- Water-tight enclosure shall be used where there is possibility of moisture entry either from operations or weather exposure.
- Electrical distribution areas will be guarded against accidental damage by locating in specifically designed rooms, use of substantial guard posts and rails and other structural means.
- A clear approach and 3-foot side clearance shall be maintained for all distribution panels. (See Boundaries in the Definitions)
- All conduit shall be fully supported throughout its length. Non-electrical attachments to conduit are prohibited.
- All non-rigid cords shall be provided strain relief where necessary.

## ADMINISTRATIVE CONTROLS

- Only trained and authorized (Qualified) employees may conduct repairs to electrical equipment.
- Contractors performing electrical work must hold a license and certificate of Insurance (COI) for the rated work.
- Areas under new installation or repair will be sufficiently guarded with physical barriers and warning signs to prevent unauthorized entry.
- Access to electrical distribution rooms is limited to those employees who have a need to enter.
- All electrical control devices shall be properly labeled.
- Work on energized circuits is prohibited unless specifically authorized by senior facility management.
- All qualified employees will follow established electrical safety procedures and precautions.

## ELECTRICAL EQUIPMENT

Electrical equipment shall be free from recognized hazards that are likely to cause death or serious physical harm to employees.

Safety of equipment shall be determined using the following considerations:

- Suitability for installation and use in conformity with the provisions of this subpart. Suitability of equipment for an identified purpose may be evidenced by a listing or labeling for that identified purpose.
- Mechanical strength and durability, including, for parts designed to enclose and protect other equipment, the adequacy of the protection thus provided.
- Electrical insulation.
- Heating effects under conditions of use.
- Arcing effects.
- Classification by type, size, voltage, current capacity, and specific use.
- Other factors which contribute to the practical safeguarding of employees using or likely to come in contact with the equipment.

## IDENTIFICATION OF DISCONNECTING MEANS AND CIRCUITS

Each disconnecting means for motors and appliances shall be legibly marked to indicate its purpose. Each service, feeder, and branch circuit, at its disconnecting means or over-current device, shall be legibly marked to indicate its purpose. These markings shall be of sufficient durability to withstand the environment involved.

A disconnecting means is a switch that is used to disconnect the conductors of a circuit from the source of electric current. Disconnect switches are important because they enable a circuit to be opened, stopping the flow of electricity, and thus can effectively protect workers and equipment.

Each disconnect switch or over-current device required for a service, feeder, or branch circuit must be clearly labeled to indicate the circuit's function, and the label or marking should be located at the point where the circuit originates. For example, on a panel that controls several motors or on a motor control center, each disconnect must be clearly marked to indicate the motor to which each circuit is connected. All labels and markings must be durable enough to withstand weather, chemicals, heat, corrosion, or any other environment to which they may be exposed.

## ELECTRICAL SAFETY RULES FOR UNQUALIFIED WORKERS

- Do not conduct any repairs to electrical equipment.
- Report all electrical deficiencies to your Supervisor.
- Do not operate equipment if you suspect and electrical problem.
- Water and electricity do not mix.
- Even low voltages can kill or injure you.
- Do not use cords or plugs if the ground prong is missing.
- Do not overload electrical receptacles.

## PERSONAL PROTECTIVE EQUIPMENT

Working around electrical equipment requires that:

- Qualified employees will wear electrically rated safety shoeed/boots.
- All tools used for electrical work shall be properly insulated.
- Electrical rated gloves shall be available for work on electrical equipment.
- Electrically rated matting will be installed in front of all distribution panels in electric utility rooms.

Employees working in areas where the potential contact with exposed electrical sources are present and likely will be provided and shall use Personal Protective Equipment (PPE). The following rules apply to the use and care of PPE:

- PPE shall be used where contact with exposed electrical sources are present and likely.
- PPE shall be designed for the work being performed and environment in which it is used.
- PPE shall be visually inspected and/or tested before use. Any defects or damage shall be replaced, repaired, or discarded.
- In cases where the insulating capabilities of the PPEs may be damaged during the work, a protective outer cover, such as leather, must be used.
- Employees shall wear non-conductive head protection wherever there is a danger of injury from electrical burns or shock from contact with exposed energized parts.
- Employee shall wear protective eye/face equipment whenever there is a danger from electrical arcs or flashes or from flying objects resulting from an electrical explosion.

## ELECTRICAL LOCKOUT & TAGOUT REQUIREMENTS APPLICATION OF LOCKS AND TAGS

A lock and a tag shall be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed, except as provided for below.

- The lock shall be attached to prevent persons from operating the disconnecting means unless they resort to undue force or the use of tools.
- Each tag shall contain a statement prohibiting unauthorized operation of the disconnecting means and removal of the tag.
- If a lock cannot be applied, a tag may be used without a lock.
- A tag used without a lock must be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained by use of a lock.
- Examples of additional safety measures include the removal of an isolating circuit element, blocking of a controlling switch, or opening of an extra disconnecting device.
- A lock may be placed without a tag only under the following conditions:
  - Only one circuit or piece of equipment is de-energized.
  - The lockout period does not extend beyond the work shift.
  - Employees exposed to the hazards associated with reenergizing the circuit or equipment are familiar with this procedure.
- See “Control of Hazardous Energy (Lockout –Tagout)” policy for additional guidance.

## WORKING AT ELEVATED LOCATIONS

Any person working on electrical equipment on a crane or other elevated surface must take necessary precautions to prevent a fall from reaction to electrical shock or other causes. A second person, knowledgeable as a safety watch, must assume the best possible position to assist the employee in case of an accident. Portable ladders shall have non-conductive side rails if they are used where the employee or the ladder could contact exposed energized parts. See “Fall Protection” policy for additional guidance.

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## GENERAL PROTECTIVE EQUIPMENT AND TOOLS

General Protective Equipment and tools shall be used when in the proximity of, or working on, exposed energized parts. The following rules apply:

- When working on or near exposed energized parts, qualified employees shall use insulated tools or handling equipment suitable for the voltage present and working environment. In cases where the insulation may be damaged, a protective outer layer should be utilized.
- Fuse handling equipment, insulated for the circuit voltage, shall be used to remove or install fuses when the terminal is energized.
- Ropes and other hand lines used near exposed energized equipment shall be non-conductive.

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## WARNINGS AND BARRICADES

Warnings and barricades shall be employed to alert unqualified employees of the present danger related to exposed energized parts. The following rules apply:

- Safety signs, warning tags, etc., must be used to warn unqualified employees of the electrical hazards present, even temporarily, that may endanger them.
- Non-conductive barricades shall be used with safety signs to prevent unqualified employees access to exposed energized parts or areas.
- Where barricades and warning signs do not provide adequate protection from electrical hazards, an attendant shall be stationed to warn and protect employees.

## POWERED EQUIPMENT SAFETY RULES

Electrical equipment is defined as cord or plug-type electrical devices that includes the use of flexible or extension cords. Examples of portable electrical equipment included powered hand tools, powered bench tools, fans, radios, etc. The following safety rules apply to portable electrical equipment (PEE):

- PEE shall be handled in such a manner as to not cause damage. Power cords may not be stapled or otherwise hung in a way that may cause damage to the outer jacket or insulation.
- PEE shall be visually inspected for damage, wear, cracked or spilt outer jackets or insulation, etc., before use or before each shift. PEE that remains connected once put in place need not be inspected until relocated. Any defects such as cracked or split outer jackets or insulation must be repaired, replaced or placed out of service.
- Always check the compatibility of cord sets and receptacles for proper use.
- Ground type cord sets may only be used with ground type receptacles when used with equipment requiring a ground type conductor.

- Attachment plugs and receptacle may not be altered or connected in a way that would prevent the proper continuity of the equipment grounding conductor. Adapters may not be used if they interrupt the continuity of the grounding conductor.
- Only portable electrical equipment that is double insulated or designed for use in areas that are wet or likely to contact conductive liquids may be used.
- Employees that are wet or have wet hands may not handle PEEs (plug-in, un-plug, etc.). Personal protective equipment must be used when handling PEEs that are wet or covered with a conductive liquid.
- Locking-type connectors shall be properly secured after connection to a power source.

## ELECTRICAL CIRCUIT SAFETY PROCEDURES

Electrical power and lighting circuits are defined as devices specifically designed to connect, disconnect, or reverse circuits under a power load condition. When these circuits are employed, the following rules apply:

- Cable connectors (not of load-break type) fuses, terminal plugs or cable splice connectors may not be used, unless an emergency, to connect, disconnect or reverse in place of proper electrical circuits.
- After a protective circuit is disconnected or opened, it may not be connected or closed until it has been determined that the equipment and circuit can be safely energized.
- Over-current protectors of circuits or connected circuits may not be modified, even on a temporary basis, beyond the installation safety requirements.
- Only qualified employees may perform test on electrical circuits or equipment.
- Test equipment and all associated test leads, cables, power cords, probes and connectors shall be visually inspected for external damage before use.
  - Any damage or defects shall be repaired before use or placed out of service.
- Test equipment shall be rated to meet or exceed the voltage being tested and fit for the environment in which it is being used.
- Where flammable or ignitable materials are stored, even occasionally, electrical equipment capable of igniting them may not be used unless measures are taken to prevent hazardous conditions from developing.

## ELECTRICAL PRE-WORK PROCEDURE

Except in extreme cases, work on electrical equipment will be done with all electrical circuits in the work area de-energized by following the Lockout/Tagout procedure. When working on or near energized electrical circuits with less than 30 volts to ground, the equipment need not be de-energized if there will be no increased exposure to electrical burns or to explosion from electric arcs.

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### PREPARATION

To prepare for work on electrical systems or components, the following procedure applies:

- A qualified person shall operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.
- Verify proper operation of the Voltmeter at a live electrical source of the same rated voltage as the circuit to be worked.

**Caution: Treat all electrical circuits as "LIVE" until they have been Tagged and Locked Out and tested by the following procedure:**

1. Obtain permission from supervisor to conduct work.
2. Lockout and Tagout all sources of electrical power.
3. Verify de-energized condition before any circuits or equipment are considered and worked as de-energized.
4. Using the Voltmeter, check all exposed circuits phase to phase and phase to ground for evidence of voltage/current in the circuit.
  - Conduct work on the circuit only after determining that there is no voltage in any of the exposed circuits.
  - If voltage is detected in any exposed circuit, STOP, inform the supervisor and determine the source and procedure to disengage voltage.
5. Conduct work.
6. Close up all exposed circuits, boxes, controls, equipment.
7. Remove Lockout/Tagout.
8. Obtain supervisor permission to energize circuits.

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## WORKING ON OR NEAR EXPOSED ENERGIZED CIRCUITS

VerTek LLC employees and contractors regularly work in aerial construction situations where they are within 40" of energized utility power lines. Such lines typically carry 12,000 volts of Alternating Current. Transformers are attached to poles and are used to step down the mains to 480- and 240-volts AC.

Caution: Unqualified Employees are prohibited from working on or near exposed energized circuits.

These precautions must be followed when working on or near energized lines, including energized hardline:

- Obtain permission from Manager to work on or near energized electrical circuits.
- If possible, lock out (shut off) and tag power-passing hardline at the active or passive (power-passing) device.
- Treat all circuits as energized.
- Remove all conductive clothing and jewelry (rings, watches, wrist/neck chains, metal buttons, metal writing instruments, etc.).
- Use proper personal protective equipment, shields and/or barriers to provide effective electrical insulation from energized circuits. This may include electrically rated insulated gloves, aprons, rubber soled shoes, insulated shields, insulated tools, etc.
- Provide adequate lighting. Do not enter areas with exposed energized parts unless illumination (lighting) is provided so that an employee may work safely. Do not reach around obstructions of view or lighting (blindly) into areas where exposed energized parts are located.
- Employees entering a Confined Space with exposed energized parts must use protective barriers, shields, or equipment or insulated materials rated at or above the present voltage to avoid contact.
- Doors or other hinged panels shall be constructed and secured to prevent them from swinging into an employee and causing contact with exposed energized parts.
- Housekeeping in areas of exposed energized parts may not be completed in areas with close contact unless adequate safeguards (insulation equipment or barriers) are present. Conductive cleaning material (steel wool, silicon carbide, etc.) or liquids may not be used unless procedures (Lock and Tag Out, etc.) are in place and followed.

- Station a safety observer outside work area. The sole function of this person is to quickly de-energize all sources of power or pull worker free from electrical work area with a non-conductive safety rope if contact is made with an energized electrical circuit.
- A person qualified in CPR must be readily available to the scene.

## RE-ENERGIZING ELECTRICAL CIRCUITS AFTER WORK COMPLETED

These requirements shall be met, in the order given, before circuits or equipment are reenergized, even temporarily.

- A qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.
- Warn employees exposed to the hazards associated with reenergizing the circuit or equipment to stay clear of circuits and equipment.
- Remove each lock and tag. They shall be removed by the employee who applied it or under his or her direct supervision. However, if this employee is absent from the workplace, then the lock or tag may be removed by a qualified supervisor designated to perform this task provided that:
  - The Supervisor ensures that the employee who applied the lock or tag is not available at the workplace.
  - The Supervisor ensures that the employee is aware that the lock or tag has been removed before he or she resumes work at that workplace.
- Conduct a visual determination that all employees are clear of the circuits and equipment.

## CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

This procedure establishes minimum standards for Lockout/Tagout in our facility. The goal is the prevention of accidents caused by the accidental energization of equipment or release of stored energy. VerTek, LLC facilities will use locks to achieve control of hazardous energy rather than tags except when an energy control device is not capable of being locked out.

### DEFINITIONS

**Affected Employee:** An employee working in an area where equipment is locked and/or tagged out.

**Authorized Employee:** An employee who performs lockout and/or tagout

Energy Sources: Mechanical, electrical, hydraulic, pneumatic, chemical, thermal, stored or other energy source.

**Lockout:** Isolation of an energy control device by application of a lock to the energy control device that is in the off (or safe position) indicating that the control cannot be operated.

**Stored Energy Source:** A hidden energy source that is capable of releasing energy suddenly and can cause injury or death. Examples include: springs, capacitors, heavy objects held against gravity, and hydraulic or pneumatic cylinders.

**Tagout:** Isolation of an energy control device by application of a tag, without a lock, to the energy control device in the off (or safe) position indicating that the control cannot be operated.

### ENERGY CONTROL PROCEDURES

Our facilities will maintain written energy control procedures for all equipment except for equipment with a single energy source where:

- The machine has no stored or residual energy.
- There is no possibility of re-accumulating energy after shutdown.
- The one energy source completely shuts down the machine.
- A single lockout device achieves full lockout and is under the control of the employee performing the work.
- The service does not create hazards for other employees.
- The single source equipment has never been involved in an accident. Written energy control procedures are available from the Safety Director.

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## ENERGY CONTROL HARDWARE

**Locks:** Each authorized employee will be assigned enough locks to lock out the maximum number of energy control devices found on any equipment that they service or maintain. All locks used within our facilities will have similar design and appearance. Each set of locks assigned to an authorized employee may be keyed alike, but only one key will be assigned for each lock.

**Tags:** Each authorized employee will be assigned a tag for each lock. Tags will always be used in conjunction with locks. All tags used in our facility will be the same.

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## PREPARATION FOR LOCKOUT

Prior to lockout, the authorized employee performing the task will do the following:

1. Review the Energy Control Procedure for the piece of equipment they will be working on.
2. Ensure that all energy sources have been identified.
3. Procure all hardware needed to lockout all energy control devices.
4. Complete information on the tags.
5. Notify the “owner” of the equipment to be locked out (e.g. departmental supervisor, lead person, operator, etc.).

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## LOCKOUT SEQUENCE

1. Shut down the energy sources using normal stopping/shut down devices (stop buttons, switches, valves, etc.).
2. Isolate energy sources by applying a lock and tag to each control device. (Note: devices not capable of being locked will have a tag applied to the device or as close as possible to it)
3. Stored energy must be dissipated or restrained.
4. Verify the energy isolation of the equipment by attempting to operate the machine using the normal operating controls (Note: check to be sure that it would be safe if restart actually happened). Return the operating controls to off or safe.
5. Barricade the work area as necessary and perform the work.

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## RESTORATION OF ENERGY

Inspect the equipment to be sure that all tools, parts, etc. have been removed.

1. Replace guards and restore machine controls, etc.
2. Notify the equipment “owner(s)” and other employees in the area.
3. Remove locks, tags, etc.
4. Test operation of the equipment.
5. Release equipment back to the “owner(s)”.

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## TRAINING

Authorized Employees: Will be trained at the time of hire or at reassignment into an authorized employee position, in the following:

- Recognition of hazardous energy sources.
- Type and magnitude of energy in the facility.
- Methods and hardware available for energy isolation and control.

Affected Employees and employees who may work in areas where equipment is locked out: will be trained to recognize Lockout locks and tags at the time of hire or assignment requiring this training. Training will include the purpose and use of the energy control procedure. They will also be trained that under no circumstances is anyone to remove a lock and/or a tag other than the person who applied it.

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## PERIODIC INSPECTION

If any energy control procedures are required in our facilities, the Safety Manager will assign an appropriate Authorized Employee, other than the one utilizing the procedure under review, to review the following on an annual basis.

- All energy control procedures for accuracy and need for updating.
- Each authorized employee and their responsibilities and understanding of the Lockout program (this may be accomplished through group meetings).
- If any tagout only is utilized in our facility, the inspector will also review the employee’s responsibilities with all affected employees.

The periodic inspection will certify the identity of the equipment being utilized, the inspection date, the employee inspected, and the inspector.

## WORK ZONE PROTECTION

Reference: [2009 MUTCD with Revisions 1 and 2, May 2012.](#)

### PURPOSE

*The purpose of this portion of the Manual and the policies in it is to establish guidelines for temporary traffic control installation, maintenance, and removal. This program also serves to identify standard operating procedures for setting up temporary traffic control work zones.*

### OVERVIEW

When the normal function of the roadway, or a private road open to public travel, is suspended “temporary traffic control” (TTC) planning provides for continuity of the movement of motor vehicle, bicycle, and pedestrian traffic (including accessible passage); transit operations; and access (and accessibility) to property and utilities. The primary function of TTC is to provide for the reasonably safe and effective movement of road users through or around TTC zones while reasonably protecting road users, workers, responders to traffic incidents, and equipment.

Of equal importance to the public traveling through the TTC zone is the safety of workers performing the many varied tasks within the workspace. TTC zones present constantly changing conditions that are unexpected by the road user.

This creates an even higher degree of vulnerability for the workers and incident management responders on or near the roadway. At the same time, the TTC zone provides for the efficient completion of whatever activity interrupted the normal use of the roadway.

Consideration for road user safety, worker and responder safety, and the efficiency of road user flow is an integral element of every TTC zone, from planning through completion. A concurrent objective of the TTC is the efficient construction and maintenance of the roadway and the efficient resolution of traffic incidents.

No one set of TTC devices can satisfy all conditions for a given project or incident. At the same time, defining details that would be adequate to cover all applications is not practical. Instead, Chapter 6 of the MUTCD displays typical applications that depict common applications of TTC devices. A copy of Chapter 6 of the MUTCD guidelines covering TTC has been provided for reference to each company location that may be required to utilize TTC. The TTC selected for each situation depends on type of roadway, road user conditions, and duration of operation, physical constraints, and the nearness of the workspace or incident management activity to road users.

## OBJECTIVE

The guidelines set within this policy will help to regulate, warn, and guide traffic through VerTek, LLC roadway work zones. The goal of this program is to prevent employee injuries, motor vehicle accidents, and personal injury to motorists and/or pedestrians.

## SAFETY ADVISORY

Restricting the flow of traffic on a roadway can be hazardous for workers and motorists. Drivers often fail to recognize construction warning signs until they are very close to the work zone if at all.

Each year hundreds of workers are killed along the roadway by motorists in or near the work zone. Never assume that a motorist will obey posted signs or will see workers even if properly equipped with reflective traffic vests.

Sun glare, fog, wet or slippery roadways and speed are just a few of the considerations that workers must consider when working on a roadway. Workers who fail to recognize the hazards of working on a roadway and take precautions to protect themselves often do so with tragic results.

## SCOPE

This policy applies to all work zones established on or near public roadways, private roadways open to public travel, parking lots open to public travel or any other area where a work is performed and can be accessed by the general public.

Each employee working in these work zones must follow the guidelines established within this policy to ensure their safety and the safety of the general public.

## DEFINITIONS

**Activity Area:** The area where work takes place. It is composed of a work space and the traffic space and it may contain one or more buffer spaces.

**Advance Warning Area:** This area informs drivers what to expect. Typical devices used are "Utility Construction Ahead", "Flagger Ahead", and/or "Right/Left Lane Closed Ahead" signs. Each of these signs must be separated by at least 200 feet from the beginning of the work zone and between each sign flowing upstream.

**Buffer Space:** A space that separates traffic flow from the work area and provides recovery space for errant vehicles.

**Right-of-Way:** The permitting of vehicles and/or pedestrians to proceed in a lawful manner in preference to other vehicles or pedestrians by the display of a sign or signal indications. (The area where vehicle traffic is permitted to operate)

**Termination Area:** This area is used to return traffic to the normal path. The termination area extends from the end of the work space to the end of the terminating taper. **Traffic Space:** The area in which traffic occurs.

**Transition Area:** This area is established when redirection of the driver's path is required. The channelizing devices are used to create a new path for traffic.

**Workspace:** The portion of the road closed to traffic and set aside for workers, equipment, and materials.

## ACCOUNTABILITY

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### PROJECT MANAGERS

Supervisors are responsible for the actions of their crews. Supervisors must ensure that the guidelines in this policy are followed. They will review proper work zone setups with their crews prior to starting any job.

Foremen will ensure that appropriate signage and devices are made available to crews where work zones dictate their need.

### SUPERVISORS AND CREW LEADERS

Supervisors and crew leaders will follow the guidelines set within this policy. Supervisors and crew leaders are designated as "competent persons" for temporary traffic control work zone setup. Supervisors and crew leaders must verify that all required signage and devices needed for traffic control are with their crews prior to leaving the yard.

### EMPLOYEES

All workers within the right-of-way who are exposed either to traffic (vehicles using the highway for purposes of travel) or to work vehicles and construction equipment within the TTC zone shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107– 2004 publication entitled "American National Standard for High-Visibility Safety Apparel and Headwear" (see Section 1A.11), or equivalent revisions, and labeled as meeting the ANSI 107-2004 standard performance for Class 2 or 3 risk exposure, except as provided in Paragraph 5.

High visibility safety apparel shall be worn prior to entering the right-of-way for the any purpose whatsoever. Employees arriving in company or personal vehicles shall exit the vehicle with the required equipment already worn on their person. Employees are responsible for coning off their vehicles appropriately with adequate buffer zones and tapers. Employees should avoid parking at intersections whenever possible.

## PROCEDURES

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### LOW TO MEDIUM TRAFFIC FLOW, URBAN ROADS

Supervisors and Crew Leaders will meet to review and plan the temporary traffic control setup prior to starting any job.

The traffic control setup will be selected from the typical applications illustrated in Appendix A; or the typical applications within a plan devised with the aid of the [MUTCD guidelines](#) and state and city requirements.

**Refer to Chapter 6 of the [MUTCD guidelines](#) for assistance.**

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### SURVEY PRIOR TO WORK

Prior to the start of work, a visual check of the work area is required to assess the best placement of the vehicles, materials, and traffic control elements.

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### DAY OF JOB

When arriving at the jobsite, employees will:

- Install advanced warning signs, where applicable. These signs will be installed traveling downstream, starting with the first sign(s) motorists will see. Additional signs will be installed at appropriate spacing (at least 200 feet of separation).
- If needed, utilize a flagger during installation of traffic cones or other channelizing devices and when traffic control requires a lane to be closed.
- Begin the creation of the transition area utilizing cones or other channelizing devices. When sufficient space is available, move the necessary vehicles and equipment into the protected area.
- Ensure that an appropriate buffer zone is created.
- Install a terminating taper.

- Perform the utility work.
- Remove devices as outlined in the [MUTCD guidelines](#).

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## HIGH VOLUME MULTILANE HIGHWAYS

High volume multilane highways present significant challenges to the safety of company employees and the public.

Traffic control for high-volume, multi-lane highways shall be subcontracted to a traffic-control company.

## TRAINING

All employees are required to receive training on proper temporary traffic control in work zones. Retraining will be given once every two years, or when deficiencies are noted on jobsites.

Update training will be given when this policy or MUTCD guidelines change.

## COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL ZONE

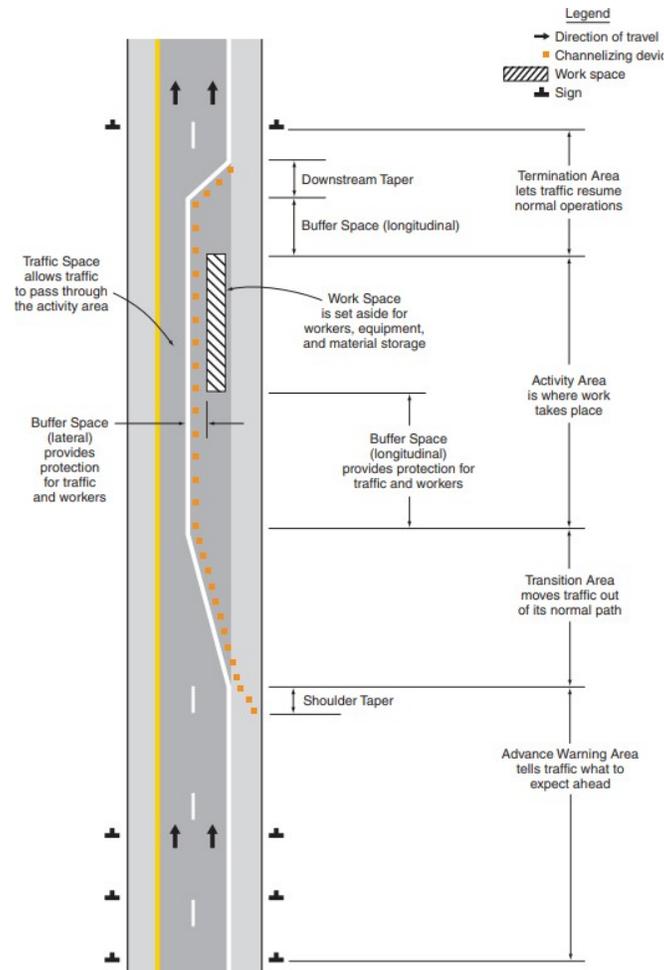


Figure 6 - TTC Example

## TRENCHING AND EXCAVATION SAFETY

### PURPOSE

This procedure establishes minimum specifications to be used when excavation and trenching work is required.

### OVERVIEW

VerTek LLC's needs for underground conduit placement often requires the use of trenching deeper than three feet (36"). OSHA dictates the safety procedures when working in and around open trenches.

We require that before a trench begins, that the locations of water, gas, electrical, communications, and sewer lines are marked on the ground according to local, state and national standards. There are 800 numbers to call ALWAYS BEFOR YOU DIG. Make sure you know who and when to call.

A requirement for trenching and directional bore is to hand dig potholes to verify that along the conduit path marked in white (Whiteline) there are no unmarked hazards.

### POTHOLING

Refer to OSHA ["Avoiding Underground Utilities during Horizontal Directional Drilling Operations"](#)

Use Potholing to Verify Utility Lines before Drilling. If possible, physically verify underground utility line locations by potholing along the planned drill path. Potholes are vertical holes dug by hand or with a vacuum excavator. It is important that potholes go to the planned drill path's depth—even if this is beyond the deepest known utility line—to identify any hidden lines.

Potholing also allows the tracker to visually observe the drill stem and drill head during drilling to ensure that the HDD machine operator avoids striking utility lines along the drill path. The tracker typically uses a tracking device to determine whether the drill stem and head are following the planned drill path. The tracker is there to warn the HDD machine operator about utility lines with enough time to change direction if needed.

## DEFINITIONS

**Acceptable Conditions:** Conditions that must exist to ensure that employees involved with a trench or excavation process can safely enter and work within the space.

**Accepted engineering practices:** Those requirements which are compatible with standards of practice required by a registered professional engineer.

**Aluminum Hydraulic Shoring:** A pre-engineered shoring system comprised of aluminum hydraulic cylinders (cross braces) used in conjunction with vertical rails (uprights) or horizontal rails (wales). Such system is designated specifically to support the sidewalls of an excavation and prevent cave-ins.

**Authorized Entrant:** An individual who is trained and authorized (by our facility) to enter the excavated spaces.

**Bell-bottom pier hole:** A type of shaft or footing excavation, the bottom of which is made larger than the cross section above to form a belled shape.

**Benching (Benching system):** A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

**Cave-in:** The separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

**Competent Person:** The person responsible for determining soil stability, shoring needs, procedures and types to be used, if acceptable entry conditions exist, determine if a permit is required to enter where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required. The competent person can also serve as an entrant.

**Cross braces:** The horizontal members of a shoring system installed perpendicular to the sides of the excavation, the ends of which bear against either uprights or wales.

**Excavation:** Any man-made cut, cavity, trench or depression in an earth surface, formed by earth removal.

**Faces or sides:** The vertical or inclined earth surfaces formed because of excavation work. Failure means the breakage, displacement, or permanent deformation of a structural member or connection to reduce its structural integrity and its supportive capabilities.

**Hazardous atmosphere:** An atmosphere which by reason of being explosive, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.

**Kickout:** The accidental release or failure of a cross brace.

**Non-Permit Confined Space:** A space that does not contain or have the potential to contain any hazard capable of causing death or serious physical harm.

**Permit Required Confined Space:** A confined space that has one or more of the following characteristics:

- Contains or has the potential to contain a hazardous atmosphere,
- Contains a material that has the potential for engulfing an entrant,
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross section,
- Contains any other recognized serious safety or health hazard.

**Protective system:** A method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems and other systems that provide the necessary protection.

**Ramp:** An inclined walking or working surface that is used to gain access to one point from another, and is constructed from earth or from structural materials such as steel or wood.

**Registered Professional Engineer:** A person who is registered as a professional engineer in the state where the work is to be performed. However, a professional engineer, registered in any state is deemed to be a “registered professional engineer” within the meaning of this standard when approving designs for “manufactured protective systems” or “tabulated data” to be used in interstate commerce.

**Sheeting:** The members of a shoring system that retain the earth in position and in turn are supported by other members of the shoring system.

**Shield (Shield system):** A structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. Additionally, shields can be either pre-manufactured or job-built in accordance with 1926.652(c) (3) or (c) (4). Shields used in trenches are usually referred to as “trench boxes” or “trench shields”.

**Shoring (Shoring system):** A structure such as a metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

**Sloping (Sloping system):** A method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

**Stable rock:** A natural solid mineral material that can be excavated with vertical sides and will remain intact while exposed. Unstable rock is considered to be stable when the rock material on the side or sides of the excavation is secured against caving-in or movement by rock bolts or by another protective system that has been designed by a registered professional engineer.

**Structural ramp:** A ramp built of steel or wood, usually used for vehicle access. Ramps made of soil or rocks are not considered structural ramps.

**Support system:** A structure such as underpinning, bracing, or shoring which provides support to an adjacent structure, underground installation, or the sides of an excavation.

**Surface encumbrances:** Those objects such as adjacent buildings, Roads or sidewalks, curbs and gutters, light poles, utilities, and light poles. Surface encumbrances pose a threat to employees during excavations and must be removed or supported.

**Tabulated data:** Tables and charts approved by a registered professional engineer and used to design and construct a protective system.

**Trench (Trench excavation):** A narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6m). If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet (4.6m) or less (measured at the bottom of the excavation), the excavation is also considered to be a trench.

**Uprights:** The vertical members of a trench shoring system placed in contact with the earth and usually positioned so that individual members do not contact each other. Uprights placed so that

individual members are closely spaced, in contact with or interconnected to each other, are often called “sheeting.”

**Wales:** Horizontal members of a shoring system placed parallel to the excavation face whose sides bear against the vertical members of the shoring system or earth.

## SPACE EVALUATION AND MARKING

All excavations identified (see Appendix A). We will continue to evaluate all new equipment and process changes to ensure that no additional spaces are introduced. All excavations will be conspicuously marked with a warning sign at the perimeter. The sign will read: “Danger- Excavated Opening, Do Not Enter” or a similar type of warning.

## ENTERING AND EXITING TRENCHES

While the excavation is open, underground installations shall be protected, supported, or removed as necessary to safeguard employees. Means of egress from trench excavations A stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet (1.22 m) or more in depth so as to require no more than 25 feet (7.62 m) of lateral travel for employees.

Structural ramps that are used solely by employees as a means of access or egress from excavations shall be designed by a competent person. Structural ramps used for access or egress of equipment shall be designed by a competent person qualified in structural design and shall be constructed in accordance with the design.

Ramps and runways constructed of two or more structural members shall have the structural members connected together to prevent displacement.

Structural members used for ramps and runways shall be of uniform thickness.

Cleats or other appropriate means used to connect runway structural members shall be attached to the bottom of the runway or shall be attached in a manner to prevent tripping.

Structural ramps used in lieu of steps shall be provided with cleats or other surface treatments to the top surface to prevent slipping.

## WRITTEN PROGRAM

We will maintain and update this written program. It is available to all employees and for review.

## ALTERNATE PROCEDURES

Excavations less than three feet in depth AND will not be entered by an employee can follow alternate procedures.

Those procedures include:

- Digging by hand to identify any underground utilities.
- Digging with equipment only after the excavation has been determined not to have underground hazards or the underground hazards have been located.
- The excavation will be attended or supervised continually until the work is completed.
- The excavation will be back-filled each time the work ceases and employees are leaving the site.
- The excavation is covered using heavy plates and identified by caution tape, flags, cones or another means to ensure pedestrians and other workers are not endangered when the excavation is left unattended.
- All surface encumbrances that are located so as to create a hazard to employees shall be removed or supported, as necessary, to safeguard employees.

## UNDERGROUND INSTALLATION SAFETY

### PURPOSE

This procedure is to inform those persons who will be installing underground conduit and cables about the policies VerTek LLC requires them to follow. The goal is 100% safe hours on the job.

### OVERVIEW

Vertek LLC installs conduit for the placement of fiber and coax cable. This conduit is either laid in open trenches below the frost line or pulled through directional bores.

Before any conduit may be placed, the location of utility installations, such as sewer, telephone, fuel, electric, water lines, or any other underground installations **MUST** be marked on the ground prior to any trenching or boring. This is done by requesting a LOCATE.

### CONTACTING UTILITY COMPANIES FOR A LOCATE

A LOCATE is a result of the **Call Before You Dig**. Local and state regulation dictate the service you call to begin the process. The locating company has 72 hours to complete the process. If the process is delayed, you **MUST** contact the locating company to determine the ETA of completion.

### VERIFYING THE LOCATION OF UNDERGROUND UTILITIES

Refer to OSHA [“Avoiding Underground Utilities during Horizontal Directional Drilling Operations”](#)

Use Potholing to Verify Utility Lines before Drilling. If possible, physically verify underground utility line locations by potholing along the planned drill path. Potholes are vertical holes dug by hand or with a vacuum excavator. It is important that potholes go to the planned drill path's depth—even if this is beyond the deepest known utility line—to identify any hidden lines.

Potholing also allows the tracker to visually observe the drill stem and drill head during drilling to ensure that the HDD machine operator avoids striking utility lines along the drill path. The tracker typically uses a tracking device to determine whether the drill stem and head are following the planned drill path. The tracker is there to warn the HDD machine operator about utility lines with enough time to change direction if needed.

## THE USE OF SAFETY VESTS

Employees exposed to public vehicular traffic shall be provided with and shall wear warning vests or other suitable garments marked with or made of reflectorized or high-visibility material.

## AVOIDING FALLING MATERIALS AND DEBRIS

No employee shall be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials.

## AVOIDING ACCIDENTS AND INJURY WHILE LOADING OR UNLOADING VEHICLES

Trenching and boring is done using backhoes, directional drillers, and other heavy equipment that is transported to the site on flatbed trucks. Once ramps are installed and inspected, operators may then enter the cabs of these vehicles to offload or load.

## WARNING SYSTEM FOR MOBILE EQUIPMENT

When mobile equipment is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation, and the operator does not have a clear and direct view of the edge of the excavation, a warning system shall be utilized such as barricades, hand or mechanical signals, or stop logs. If possible, the grade should be away from the excavation.

## EMERGENCY RESCUE EQUIPMENT

Emergency rescue equipment, such as breathing apparatus, a safety harness and line, or a basket stretcher, shall be readily available where hazardous atmospheric conditions exist or may reasonably be expected to develop during work in an excavation. This equipment shall be attended when in use.

Employees entering bell-bottom pier holes, or other similar deep and confined footing excavations, shall wear a harness with a lifeline securely attached to it. The lifeline shall be separate from any line used to handle materials and shall always be individually attended while the employee wearing the lifeline is in the excavation.

## PROTECTION FROM HAZARDS ASSOCIATED WITH WATER ACCUMULATION

Employees shall not work in excavations in which there is accumulated water, or in excavations in which water is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation. The precautions necessary to protect employees vary with each situation but could include special support or shield systems to protect from cave-ins, water removal to control the level of accumulating water, or use of a safety harness and lifeline.

If water is controlled or prevented from accumulating using water removal equipment, the water removal equipment and operations shall be monitored by a competent person to ensure proper operation.

If excavation work interrupts the natural drainage of surface water (such as streams), diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation.

Excavations subject to runoff from heavy rains will require an inspection by a competent person.

## STABILITY OF ADJACENT STRUCTURES

Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures for the protection of employees. Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably expected to pose a hazard to employees shall not be permitted except when:

- A support system, such as underpinning, is provided to ensure the safety of employees and the stability of the structure; or
- The excavation is in stable rock; or
- A registered professional engineer has approved the determination that the structure is sufficiently removed from the excavation so as to be unaffected by the excavation activity; or
- A registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees.
- Sidewalks, pavements and appurtenant structure shall not be undermined unless a support system or another method of protection is provided to protect employees from the possible collapse of such structures.

## PROTECTION OF EMPLOYEES FROM LOOSE ROCK OR SOIL

Adequate protection shall be provided to protect employees from loose rock or soil that could pose a hazard by falling or rolling from an excavation face. Such protection shall consist of scaling to remove loose material; installation of protective barricades at intervals as necessary on the face to stop and contain falling material; or other means that provide equivalent protection.

Employees shall be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations. Protection shall be provided by placing and keeping such materials or equipment at least 2 feet (.61 m) from the edge of excavations, or by the use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations, or by a combination of both if necessary.

## INSPECTORS

Daily inspections of excavations, the adjacent areas, and protective systems shall 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 shall be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections shall also be made after every rainstorm or other hazard increasing occurrence. These inspections are only required when employee exposure can be reasonably anticipated.

Where the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, exposed employees shall be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.

Walkways shall be provided where employees or equipment are required or permitted to cross over excavations. Guardrails shall be provided where walkways are 6 feet (1.8 m) or more above lower levels.

**EXCAVATION CHECKLIST EXAMPLE**

<b>DETAILS</b>	
Project Name	Date
Project Location	Competent Person
Foreman	Soil Classification
Excavation Description	
Protective System Used	
Activities in Excavation	
Preplanning	
Comments:	
<b>UTILITIES</b>	
<input type="checkbox"/> Utility company contacted and required amount of time has elapsed and/or utilities already located & marked.	
<input type="checkbox"/> Overhead lines located, noted, and reviewed with the operator	
<input type="checkbox"/> Utility locations reviewed with the operator, & precautions taken to ensure contact does not occur	
<input type="checkbox"/> Utilities crossing the excavation supported, and protected from falling materials	
<input type="checkbox"/> Underground installations protected, supported or removed when excavation is open	
Comments:	
<b>SOIL ANALYSIS</b>	
<input type="checkbox"/> Visual test performed	
<input type="checkbox"/> Manual test performed	
<input type="checkbox"/> Assessment on past conditions (i.e., previously disturbed)	
<b>COMMENTS</b>	

WET CONDITIONS
<input type="checkbox"/> Precautions taken to protect employees from water accumulation (continuous dewatering)
<input type="checkbox"/> Surface water or runoff diverted/controlled to prevent accumulation in the excavation
<input type="checkbox"/> Inspection made after every rainstorm or other hazard increasing occurrence
Comments:
HAZARDOUS ATMOSPHERES
<input type="checkbox"/> Air in the excavation tested for oxygen deficiency, combustibles, other contaminants
<input type="checkbox"/> Ventilation used in atmosphere that are oxygen rich/deficient &/or contains hazardous substances
<input type="checkbox"/> Ventilation provided to keep LEL below 10%
<input type="checkbox"/> Emergency equipment available where hazardous atmospheres could or do exist
<input type="checkbox"/> Safety harness and lifeline used
<input type="checkbox"/> Supplied air necessary (if yes, contact safety department)
Comments:
PROTECTIVE SYSTEMS
<input type="checkbox"/> Sloping
<input type="checkbox"/> Benching
<input type="checkbox"/> Shoring
<input type="checkbox"/> Shielding
<input type="checkbox"/> PE Design: Engineering designs for sloping, benching, sheeting &/or manufacturer's data on trench box capabilities on site.
<input type="checkbox"/> Employees protected from cave-ins & loose rock/soil that could roll into the excavation
<input type="checkbox"/> Spoils, materials & equipment set back at least 2 feet from the edge of the excavation.
Comments:

ENTRY & EXIT
<input type="checkbox"/> Adequate signs posted and barricades provided
<input type="checkbox"/> Exit (i.e. ladder, sloped wall) no further than 25 feet from ANY employee
<input type="checkbox"/> Ladders secured and extend 3 feet above the edge of the trench
<input type="checkbox"/> Wood ramps constructed of uniform material thickness, cleated together @ the bottom
<input type="checkbox"/> Employees protected from cave-in when entering or exiting the excavation
<input type="checkbox"/> Secured to prevent public entry
Comments
Additional Comments

### CRITICAL CONCEPTS WHEN WORKING UNDERGROUND

<b>ATMOSHPERIC HAZARDS</b> <ul style="list-style-type: none"> <li>• Oxygen deficiency (&lt; 19.5%)</li> <li>• Oxygen enrichment (&gt; 23.5%)</li> <li>• LFL (&gt; 10%)</li> <li>• Toxic (&lt; PEL)</li> </ul>	<b>ADDITIONAL HAZARDS</b> <ul style="list-style-type: none"> <li>• Engulfment</li> <li>• Mechanical equipment</li> <li>• Heat</li> </ul>
<b>CONTROLLING ATMOSPHERE HAZARDS</b> <ul style="list-style-type: none"> <li>• Always check space with a meter</li> <li>• Ventilation may be needed</li> </ul>	<b>CONTROLLING ADDITIONAL HAZARDS</b> <ul style="list-style-type: none"> <li>• Disconnect, cap, blind</li> <li>• Lockout/Tagout</li> </ul>
<b>ENTRY TEAM</b> <ul style="list-style-type: none"> <li>• Supervisor</li> <li>• Entrant</li> <li>• Attendant</li> <li>• Provide fresh air</li> </ul>	<b>TEAM FUNCTIONS</b> <ul style="list-style-type: none"> <li>• Safety of the entrant</li> <li>• Any member can stop the entry for safety</li> </ul>
<b>EMERGENCY PROCEDURES</b> <ul style="list-style-type: none"> <li>• Know how to contact rescue service</li> <li>• Attempt non-entry rescue</li> </ul>	<b>PERMIT</b> <ul style="list-style-type: none"> <li>• Must be completed</li> <li>• Entire team signs</li> <li>• Observe the stop time</li> <li>• Return expired permit</li> </ul>

## UNDERSTANDING LOCATE MARKINGS

This procedure establishes minimum standards and procedures that must be followed to ensure the avoidance of underground utilities.

### NOTIFICATION

- Contact “Utility Locator” as required by state, county, and local laws.
- Review permitted CDs and “Utility” site specific design drawings when they become available, lay out (paint white line) the proposed routing of utility trench(s). Observe all water hose bibs, gas meters, sprinkler heads, perimeter lighting, etc., in the area and determine the apparent route in reference to the site and proposed utility routing(s).
- Retain a private underground locator service if necessary.

### PRE-JOB CONFERENCE AND LINE IDENTIFICATION

- Invite utility company representatives to the pre-construction job walk.
- Contact utility owner and learn their method for locating utilities.

### COLOR-CODES AND SYMBOLS FOR MARKING UNDERGROUND FACILITIES

## Call Before You Dig

### Locator Mark Colors



**Know what's below.  
Call before you dig.**

	<b>Electric Power Lines</b>
	<b>Gas, Oil, or Steam</b>
	<b>Communication Lines, CATV</b>
	<b>Potable Water</b>
	<b>Reclaimed Water, Irrigation, Slurry</b>
	<b>Sewers and Drain Lines</b>
	<b>Temporary Survey Markings</b>
	<b>Proposed Excavation</b>

## UTILITY LOCATING (POTHOLING), MARKING AND PROTECTION

All utilities must be physically located by any of the following three methods:

1. Non-destructive vacuum extraction (potholing) must be used to verify existence of, and determine the exact location, of the marked utility.
2. Other methods such as Ground Penetrating Radar, Subsurface Utility Tracing, Lateral Identification, and Directional Boring Profile Mapping.
3. Hand digging (potholing) with non-conductive tools when locating underground utilities.

Extra care shall be applied when locating gas lines.

### POTHOLING

Refer to OSHA [“Avoiding Underground Utilities during Horizontal Directional Drilling Operations”](#)

Use Potholing to Verify Utility Lines before Drilling. If possible, physically verify underground utility line locations by potholing along the planned drill path. Potholes are vertical holes dug by hand or with a vacuum excavator. It is important that potholes go to the planned drill path's depth—even if this is beyond the deepest known utility line—to identify any hidden lines.

Potholing also allows the tracker to visually observe the drill stem and drill head during drilling to ensure that the HDD machine operator avoids striking utility lines along the drill path. The tracker typically uses a tracking device to determine whether the drill stem and head are following the planned drill path. The tracker is there to warn the HDD machine operator about utility lines with enough time to change direction if needed.

### MECHANICAL DIGGING

- Select appropriate equipment to minimize vibration/shock to underground utilities.
- Dedicate a ground spotter while digging.
- Once the utility is exposed, brace, sheet or shore the utility to eliminate damage.

## IN THE EVENT OF A UTILITY HIT

- If damage occurs to a line, implement the Emergency Action Plan.
- If a gas line is damaged contact the local fire department and emergency services using 911 or a local emergency number.
- Immediately contact the affected utility company.
- Emergency numbers for all utility companies MUST be available at every worklocation.
- Each incident shall be investigated, and corrective actions and preventive actions documented, communicated, and tracked to closure.

## OTHER UTILITY INFORMATION

If the work activity involves drilling, core boring, saw cutting, demolition, trenching, excavating, directional boring, plowing, grading, or any other method of penetrating a surface that may contain public or private utilities, or when structural integrity may be compromised, first utilize the appropriate subsurface object location methodologies.

Note that cutting of rebar, embedded tensioned members, or other embedded structural members is not permitted. Cutting of embedded structural objects may only take place after first obtaining the appropriate written engineering approval(s).

- Use as-built drawings for the building, facility, or exterior area.
- Use the local/state One-Call system for location of public utilities. Use a private utility locating service for areas to be disturbed on private property.
- Examine the surrounding area for unmarked service to vent risers, hydrants, manholes, utility vaults, valve caps, generators, light poles, irrigation systems, traffic controls, cable boxes, phone boxes, transformers, etc., as the final line of defense.

## WORKING IN PERMIT-REQUIRED CONFINED SPACES

This policy establishes minimum safety standards and procedures that must be followed when classifying, entering, and working within confined spaces.

### DEFINITIONS

**Acceptable Entry Conditions:** Conditions that must exist in a permit required space before anyone can safely enter it and perform work within.

**Attendant:** An individual stationed outside one or more permit spaces whose responsibility is to monitor authorized entrant(s) and perform other duties assigned in this Manual.

**Authorized Entrant:** An individual who is trained and authorized by VerTek, LLC to enter permit required spaces.

**Confined Space:** A space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- Has limited or restricted means of entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults and pits are spaces that may have limited means of entry); and is not designed for human occupancy.

**Entry Permit:** A written document issued by VerTek, LLC allowing for, and specifying conditions of, entry into a permit space.

**Entry Supervisor:** A person responsible for reviewing the conditions at a permit space, and for authorizing entry and overseeing entry operations, as well as for terminating entry as required.

**Hazardous Atmosphere:** A condition of the air imposing a risk of death, injury,

**Incapacitation:** impairment of abilities to self-rescue (that is escape unaided from a permit space), or acute illness because of the presence of one or more of the following:

- Flammable gas, vapor, or mist more than 10% of the Lower Flammable Level (LFL),
- Airborne combustible dust at a concentration that meets or exceeds its LFL (Can be approximated where the dust obscures vision at 5 feet or less),

- Concentration of oxygen below 19.5% or above 23.5%,
- Concentration of any substance for which a permissible dose or exposure limit is published in Title 29 CFR 1910 Subpart G, Occupational Health and Environmental Control or in Subpart Z, Toxic and Hazardous Substances,
- Any other condition of the air that is Immediately Dangerous to Life or Health (IDLH). Non-Permit Confined Space: It is a confined space that does not pose a significant risk to health and safety of individuals present within.

**Permit Required Confined Space:** A confined space that has one or more of the following characteristics:

- Contains or has the potential to contain a hazardous atmosphere,
- Contains a material that has the potential for engulfing an entrant,
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross section,
- Contains any other recognized serious safety or health hazard.

**Retrieval System:** Equipment used for non-entry rescue of persons from a confined space

## SPACE EVALUATION

Every space that meets the definition of a confined space listed above shall be examined for existence of hazardous conditions in accordance with the safety standards and procedures outlined in this Manual.

VerTek, LLC will maintain and update this Safety Manual, and make it available upon request to all individuals listed in the scope paragraph above.

## ENTRY INTO NON-PERMIT REQUIRED CONFINED SPACES

Entry into non-permit required confined spaces is not subject to the safety standards and procedures in the Manual. Notwithstanding the foregoing, employees are required at all times to evaluate the potential hazards of all jobs prior to beginning of work. The Supervisor or the Safety Manager should be consulted in the event any questions or concerns arise during the evaluation.

## ALTERNATE PROCEDURES

Permit-required confined spaces can be reclassified as non-permit required spaces as described below:

- If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, the permit space may be reclassified as a non-permit space for as long as the non-atmospheric hazards are eliminated.

The entry supervisor or authorized entrant, using properly calibrated direct-reading instrumentation, will test for oxygen content, flammable gases and vapors, and potential toxic air contaminants. Readings will be taken in the order listed in this paragraph. Acceptable readings include:

- Oxygen Content: Between 19.5% and 23.5%.
- Flammable Gases/Vapors: Below 10% of the lower flammable limit.
- Toxic Air Contaminant: “Any air conditions defined as a hazardous atmosphere” by this Manual.

## TESTING

Testing shall be done from the exterior of the entrance to the space. At no time shall any portion of an employee’s body break the plane of the entrance to the space to conduct atmospheric testing. If entry into the space is required to conduct testing or eliminate hazards, entry shall be done in accordance with permit space entry procedures outlined in this Manual.

If, after testing is complete, it is determined there are no atmospheric hazards or any other hazards that could potentially cause injury or harm, the space can be reclassified as a non-permit space and eliminated from the permit-space entry procedures. The atmosphere will be monitored continuously during the entry. This reclassification may remain in force as long as atmospheric hazards are not present.

## PREPARATION OF THE SPACE

An entry supervisor will be assigned to complete the permit.

The following steps will be completed and checked off as applicable on the permit:

- All connecting lines, ducts and pipes connected to chemical, gas and utility sources will be broken and capped or blanked,
- Heating devices (e.g. jackets, coils, mantels, etc.) will be rendered safe either through line breaking/blanking or electrical lockout/tagout,
- All mechanical, hydraulic, and electrical hazards (e.g. agitators, machine drives, electrical lines, etc.) will be controlled through lockout/tagout,
- The space will be rinsed and/or dried if there is a build-up of hazardous or slippery material on the walls of the space,
- The space will be cooled down to 110 degrees Fahrenheit or less,
- Safe access to the space will be provided,
- Any open entrances will be appropriately blocked to prevent accidental entry,
- Adequate lighting will be provided either through low voltage lighting or through 110 Volt plugged into a Ground Fault Circuit Interrupter (GFCI),
- The space will be metered, in the order listed, to determine the following: 1. Oxygen content:  $\geq 19.5\%$  and  $\leq 23.5\%$ ,
- Lower Explosive Limit:  $\leq 10\%$ ,
- All chemical exposures less than the OSHA PEL and/or other exposure guidelines used by our facility.
- For vertical entries, the retrieval system will be set-up at the entry point.

## PERMIT COMPLETION

Follow these steps when completing an entry permit:

- The permit shall be completed by the entry supervisor.
- All information requested on the permit shall be completed by the entry supervisor or NA (Not Applicable) shall be written in.
- The time of permit issuance shall always be written in. In no case shall a permit remain valid for more than 8 hours. If the job runs past 8 hours, a new permit shall be issued.
- Expired permits shall be returned to the Safety Manager.

## PERSONNEL PREPARATION

To prepare personnel for entry into a confined space:

- An entrant(s) and attendant(s) will be assigned. All personnel involved with the entry and their representative, can observe all aspects of the preparation.
- The Rescue Service will be notified that an entry will be taking place, if required.
- Proper personal protective equipment will be selected and obtained for the entrant. The rescue service will also have access to an adequate supply of the required PPE for a rescue team and a stand-by team.
- Communication methods will be selected based on the size, location and characteristics of the space.
- The entry supervisor will brief the entrant(s) and attendant(s) on all aspects of the job.
- At any time, the entry supervisor, the entrant and/or the attendant can cancel the permit and cause the entry to be either postponed or stopped due to a safety concern.

## ENTRY

Consider these points before planning an entry into a confined space:

- All required equipment for entry, including: communication, lighting, access, safety and rescue as well as the tools needed to accomplish the job will be available at the entrance.
- Continuous space atmosphere monitoring will be established either by the attendant or by the entrant.
- The attendant will stay in the immediate area of the entrance to the space and will stay in contact with the entrant.
- The entry supervisor will formally approve the entry to begin. At any time during the job the entry supervisor, entrant or the attendant can cancel the permit and cause the entry to be either postponed or stopped due to safety concerns.
- The attendant will document meter readings at intervals decided upon by the entry supervisor, but not longer than one hour.
- The attendant will immediately communicate any exterior condition to the entrant that could affect her/his safety (e.g. fire alarm, severe weather, etc.).

## ENTRY COMPLETION

At the completion of the entry:

- The entry permit will be closed out by listing the time of space exit and any other pertinent information.
- The Rescue Service will be notified that the entry is complete, if required.
- The entry closure will be replaced.
- Blanked and capped piping, tubing, ducts etc. will be re-attached.
- Disconnected hydraulic, mechanical and/or electrical equipment will be reattached.
- Lockout/Tagouts will be released.
- Operating personnel for the space will be notified that it can be returned to production (if applicable).
- All safety and entry equipment will be cleaned and returned to storage locations.
- The cancelled permit will be returned to the program administrator.

## DUTIES OF PERSONNEL ENTRY SUPERVISOR

The entry supervisor shall:

- Know and understand the hazards that may be faced during entry, including information on the signs or symptoms, and consequences of the exposure.
- Verify, by checking that the appropriate notations have been made on the permit; that all tests specified by the permit have been conducted; and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.
- Terminate the entry and cancel the permit when reasons for entering the space have been completed or when an unacceptable condition within the space or outside the space is detected.
- Verify that rescue services are available and that the means of calling the rescue service is operable. The entry supervisor shall ensure that the attendant knows the method for summoning help if rescue is required.

- Determine that throughout the entry process, all responsibilities and functions remain consistent with safety, regardless of production requirements, time or cost.
- Enforce this policy to ensure safe entry into any space identified as a permit-required confined space.

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## ENTRANT

All entrants shall know the following:

- Hazards that may be faced during entry, including information on the mode, signs, or symptoms, and consequences of the exposure.
- Proper use of equipment as required above.
- Means and methods of communication so the attendant can properly monitor work of entrants and so the attendant can provide warning for evacuation.
- Alert the attendant whenever the entrant recognizes warning signs or symptoms of exposure to a dangerous situation, or the entrant detects a condition that would warrant immediate evacuation.
- When immediate exit is required. Examples include:
  - When given an order by the attendant or entry supervisor
  - When signs or symptoms of exposure are detected
  - When any prohibited condition is recognized.

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## ATTENDANT

All attendants shall:

- Know the hazards that may be faced during entry or while in the space, including information on the mode, signs or symptoms, and consequences of the exposure to suspected hazards.
- Be aware of possible behavioral effects of hazard exposure in authorized entrants.
- Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants is precise at all times.
- Remain outside the permit space during entry operations until relieved by another authorized attendant(s).

- Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space when conditions warrant an immediate evacuation.
- Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:
- If the attendant detects a hazardous condition,
- If the attendant detects a change in the behavior of any authorized entrant which would suggest an exposure to a hazard, and
- If the attendant detects a situation outside the space that could endanger the authorized entrants,
- If the attendant cannot effectively and safely perform all the duties required as outlined in this policy.
- Summon rescue and other emergency services as the attendant determines that authorized entrants may need assistance to escape from permit space

## HAZARDS.

Do the following when unauthorized person(s) approach or enter a permit space while entry is underway:

- Warn the unauthorized person(s) that they must stay away from the permit space,
- Advise the unauthorized persons they must exit immediately if they have entered the permit space,
- Inform the authorized entrants and the entry supervisor, if unauthorized person have entered the permit space.
  - Perform non-entry rescue (rescue attempts that do not cause the attendant to break the plane of the entry to the space) when it is determined a rescue of entrants is required.

## TRAINING

Training shall be provided for all personnel who are attendants, entrants or entry supervisors as follows:

- Before the employee is assigned duties relating to permit required confined space entry,

- Before the employee's assigned duties change,
- Whenever there is a change in operations that presents a hazard that the employee has not been trained in previously,
- Whenever there is an indication that the procedure is not being followed safely and/or when there are indications that employee practices or knowledge do not meet the requirements.
- All training will be certified in writing with the employee's name, the signature of the trainer, and the date of training in addition to an outline of material presented.

## HEARING PROTECTION

This procedure establishes minimum requirements to evaluate noise exposure in VerTek, LLC' facilities and to protect personnel from noise induced hearing loss.

### DEFINITIONS

**Action Level:** The action level for noise exposure is: 85 dBA for an 8-hour Time Weighted Average (TWA)

**Audiogram:** A screening test to determine hearing acuity through administration of air conduction tones transmitted through headphones.

**Baseline Audiogram:** The initial audiogram taken upon hire or assignment to a noisy area.

**Decibel:** Abbreviated dB-a measure of sound pressure or loudness. For purposes of OSHA compliance noise is measured in dBA (decibels on the A scale, slow response)

**Dosimeter:** An electronic device that converts sound pressure into an electronic signal that is stored for future evaluation. All continuous, intermittent and impulse sound between 80 and 130 decibels will be integrated into the readings.

**Noise:** Unwanted sound.

**Sound Level Meter (SLM):** An SLM is a device that is capable of giving a direct, instantaneous reading of the sound pressure or loudness. The SLM can also record the highest impulse noise that has occurred. The SLM has three scales: A, B and C, and a Fast and Slow Response capability.

**Standard Threshold Shift:** A permanent change in hearing (worsening) found when comparing an annual audiogram with a baseline audiogram.

## NOISE EXPOSURE

Whenever feasible, noise exposure exceeding that listed below will be controlled by engineering or administrative means. When it is impractical to use engineering or administrative controls a hearing conservation program will be implemented.

Noise Level	Exposure Limit
90 dBA	8.0 hours
92 dBA	6.0 hours
95 dBA	4.0 hours
97 dBA	3.0 hours
100 dBA	2.0 hours
102 dBA	1.5 hours
105 dBA	1.0 hours
110 dBA	30 minutes
115 dBA	15 minutes

*Table 1. OSHA's Permissible Noise Exposure Limits.*

## MONITORING

Whenever information indicates that noise exposure may be at or above 85 dBA, in an area or department, monitoring will be performed utilizing either a Sound Level Meter or a Dosimeter.

All instruments used for noise monitoring will be calibrated before and after use and a record maintained of the calibrations and readings derived through monitoring.

Whenever readings are taken for OSHA compliance purposes the meter or dosimeter will be set to the A scale, Slow response. Monitoring will be repeated whenever a change in production, process, equipment, or controls increases, or could increase exposure.

Employees will be allowed to observe monitoring. Employees who have an 8-hour TWA of 85 dBA or greater will be notified of the results of the monitoring in writing.

## HEARING CONSERVATION PROGRAM

All employees who are exposed to noise level of 85dBA or greater 8-hour TWA, will be required to participate in the hearing conservation program.

This program will consist of:

- Audiometric testing,
- Mandatory hearing protection, ☐ Training.

## AUDIOMETRIC TESTING

Audiograms will contain the following information, or the information will be readily accessible and linked to the audiogram:

- Name and job classification of the individual,
- Date of the audiogram,
- The examiner's name,
- Date of the last acoustical or exhaustive calibration of the audiometer,
- Employee's most recent noise exposure assessment,

The background sound pressure levels in the audiometric test room/booth.

## BASELINE AUDIOGRAM

A baseline audiogram will be obtained as soon as possible, within the first six months after employment or assignment to an area with noise exposure at or above a Time Weighted Average of 85 dBA or if our facility chooses to use a mobile test van the baseline audiogram will be completed within one year of employment or initial assignment to a noise exposure area.

At least 14 hours without workplace exposure will precede the baseline audiogram.

Hearing protectors can be used as a substitute for the 14 hours without exposure. Employees will also be notified to stay away from significant non-occupational noise for 14 hours. Annual Audiograms

Annual audiograms will be provided for all employees who are exposed to noise at or above a Time Weighted Average of 85 dBA. Standard Threshold Shift (“STS”)

The annual audiogram will be compared to the baseline audiogram to determine if a standard threshold shift has occurred. A standard threshold shift is defined as a change in hearing threshold of an average of 10 dB at 2000, 3000 or 4000 Hz in either ear.

If an STS is determined a retest will be conducted within 30 days. The retest results can then be used as the annual audiogram.

Any audiogram showing an STS will be referred to audiologist, otolaryngologist or physician for evaluation.

If an STS occurs the following will be done:

- The employee will be notified in writing within 21 days of the determination.
- The employee will be refitted and retrained in the use of hearing protection.
- The medical opinion of the evaluating practitioner will be followed and/or communicated to the employee regarding the need for follow-up medical evaluation either for occupational or non- occupational reasons. Communication with the employee will be in writing.

Age correction will be considered as permitted by OSHA. See Appendix F of 29 CFR 1910.95, Occupational Noise Exposure.

When the audiologist, otolaryngologist, or physician determines that an STS has occurred, the revised audiogram will be used as the new baseline.

The STS will be recorded on the OSHA 300 Log if:

- Hearing level is 25 dB or greater from audiometric zero at any test point,
- An STS of 10 dB or greater is identified,
- A medical professional says the hearing loss is work related.

## MEDICAL MANAGEMENT

All audiometric testing will be conducted by individuals who are certified by the Council of Accreditation in Occupational Hearing Conservation.

Technicians will report to an audiologist, otolaryngologist or physician who will advise management regarding program administration, employee audiometric health and other matters pertaining to the Hearing Conservation Program.

Our Medical Manager will ensure that all audiometric testing requirements are met.

## HEARING PROTECTORS

All employees with a noise exposure at or above a Time Weighted Average of 85 dBA will wear company provided hearing protectors for their entire shift while in areas with noise exposure at or above 85 dBA.

Hearing protection will provide the greatest attenuation possible and in no case allow greater than 80dBA calculated exposure.

VerTek, LLC will provide a choice of at least two suitable hearing protectors. If noise exposure increases, we will re-evaluate all hearing protection to ensure adequate protection.

## TRAINING PROGRAM AND ACCESS TO INFORMATION

All employees exposed to noise at or above the time weighted average of 85 dBA will receive training as outlined below.

The content of the training will be:

- Areas with noise exposure,
- Facility rules requiring use of hearing protection,
- The effects of noise on hearing,
- The purpose of hearing protectors including advantages, disadvantages, attenuation, and fitting and care instructions for each available type,
- The purpose for an explanation of the procedure for audiometric testing.

Training will be provided at time of hire or assignment into an area with noise exposure at or greater than 85 dBA and repeated annually thereafter.

## RESPIRATORY PROTECTION

This portion of the Manual establishes minimum respiratory protection standards and procedures for VerTek, LLC' facilities.

### DEFINITIONS

**Fit factor:** Means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

**Fit Test:** A procedure that can be used to help determine the effectiveness of a respirator's fit to the individual face. There are two types of fit tests:

**Qualitative:** a pass/fail test that relies on the individual's response to a test agent.

**Quantitative:** a numerical measure of respirator leakage.

**IDLH:** Immediately Dangerous to Life or Health Atmosphere is an atmosphere that possesses an immediate threat to life, an irreversible adverse health effect, or would impair the ability to escape from the atmosphere.

**Respirator:** Any disposable or reusable, device that covers the breathing zone of an individual for the purpose of removing airborne contaminants.

**SCBA:** Self Contained Breathing Apparatus.

### RESPIRATOR USE

Respirators will only be used to control airborne contaminants when engineering and/or administrative controls are not feasible.

### RESPIRATORY PROTECTION PROGRAM

VerTek, LLC has established a Respiratory Protection Program which includes the following:

- Procedures for selecting respirators,
- Medical evaluation for respirator users,
- Fit test procedures for tight fitting respirators,

- Procedures for proper use of respirators,
- Procedures for maintaining and storing respirators.
- Respirator Selection

VerTek, LLC will do the following for all respirators:

- Evaluate all potential respiratory hazards and provide an estimate of the exposure.
- Where it is not possible to quantify employee exposure an area will be classified as an IDLH atmosphere and protection will be predicated on that level of protection.
- Use only NIOSH certified respirators within their use limitations.
- Select respirators from enough models and sizes to ensure proper fit and acceptance on the part of the respirator user.

### **IDLH ATMOSPHERES**

Respirators used in IDLH atmospheres will be either full face piece pressure demand SCBA with a rated service life of 30 minutes or full-face piece pressure demand supplied air with an auxiliary self-contained air supply.

Escape only units will be NIOSH certified for the contaminant in the IDLH area.

### **NON-IDLH ATMOSPHERES**

Respirators will be appropriate for the contaminants in the area.

Respirators will be either atmosphere supplying or air purifying equipped with an end of service life indicator. As an alternative, VerTek, LLC may establish an appropriate cartridge/canister change schedule considering the respirator and the contaminant exposure.

### **PARTICULATES**

Use respirators such as High Efficiency Particulate Air (HEPA) or a particulate filter certified by NIOSH.

## MEDICAL EVALUATION

A designated health care provider will perform evaluations using a questionnaire or an initial examination.

This evaluation will be administered confidentially, at no cost to the employee, during the employee's normal working hours. The employee will have an opportunity to discuss the questionnaire and examination results with the health care provider.

The Safety Manager will provide the health care provider with the following supplemental information:

- The type and weight of the respirator to be used by the employee,
- The duration and frequency of respirator use (including use for rescue and escape),
- The expected physical work effort,
- Additional protective clothing and equipment to be worn
- Temperature and humidity extremes that may be encountered
- A copy of this written respirator protection program
- A copy of the respiratory protection standard (29 CFR 1910.134).

Additional medical evaluations may be necessary as determined by the health care provider.

A decision about when the next medical re-evaluation will occur will be made by the health care provider. The health care provider will provide the Safety Manager with a written opinion on the employee's ability to use the respirator. This opinion will be kept on file.

These medical records will be kept for thirty (30) years after the last day of employment, as required by OSHA standard 29 CFR 1910.1020.

## FIT TESTING

Prior to initial use, and annually thereafter, all employees required to wear respirators will be fit tested using one of the methods described in this section and appropriate for the type of respirator to be used.

Quantitative fit testing procedure must be used for all tight-fitting face pieces requiring fit factors greater than 100.

Qualitative fit testing procedures (using either irritant smoke, isoamyl acetate, saccharine or Bitrex) can be used for fit testing tight fitting face pieces with fit factors of 100 or less.

The record of the most recent fit test will be maintained in the employee's respirator program file and will contain:

- The name of the employee tested,
- The type of fit test performed,
- The specific make, model, style and size of respirator tested,
- The date of the test,
- The pass/fail results for qualitative fit tests (or the fit factor and strip chart recording or other recording of the test results for quantitative fit testing).

Additional fit testing will be conducted upon visual observation of changes in the employee's physical condition, which could affect respirator fit. This could include facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight, and may be reported by any of the following:

- The employee,
- The health care provider,
- The supervisor,
- The program administrator.

## USE OF RESPIRATORS

Basic use requirements for respirators are as follows:

- Any employee having any condition that interferes with the face to face piece seal, including any facial hair that comes between the sealing surface is prohibited from wearing a respirator.
- Any employee having any condition that interferes with valve function, including facial hair, is prohibited from wearing a respirator.
- All personal protective equipment including corrective glasses or goggles must be worn in a manner that does not interfere with the face to face-to-face piece seal.
- Employees shall perform a user seal check each time they put on a tight-fitting respirator.

- Supervisors shall monitor all employees using respirators for the degree of employee exposure and stress. Whenever there is a change in working conditions which will affect respirator effectiveness, the use of respirators will be re-evaluated.
- In order to prevent eye or skin irritation associated with respirator use, employees shall leave the work area to wash their faces and respirator face pieces.
- If employees detect vapor or gas breakthrough, or changes in breathing resistance, they shall leave the work area to replace the filters or cartridges.
- If employees detect leakage of the face piece, they shall leave the work area and only re-enter it with a properly working respirator.
- If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece, the respirator must be repaired or replaced before the employee can return to the work area.
- If the respirator end of service life indicator (ESLI) indicates the need to change the filter or cartridge, employees will leave the work area to replace it.

#### MAINTENANCE AND CARE

- Managers are responsible for ensuring that respirators are properly cleaned, disinfected, stored, inspected and repaired as required.
- Employees with defective respirators should take them to their supervisor for inspection and repair, or for issuing a new respirator.
- Employees will be provided with respirators that are clean, sanitary and in good working order.
- Respirators issued to individual employees will be cleaned and disinfected as often as necessary to remain in a sanitary condition.
- Respirators used in fit testing, and respirators used by more than one employee, will be cleaned and disinfected before being worn by different people.
- Respirators will be stored to protect them from damage, contamination, sunlight, extreme temperatures, excessive moisture, and damaging chemicals.

- Respirators will be packed or stored to prevent deformation of the face piece and exhalation valve.
- Employees will inspect their respirators before each use and during cleaning. If any defect is found the respirator will be immediately removed from service, and either discarded or repaired prior to use. Inspections will include:
  - A check of respirator function, o A test of the tightness of connections,
  - A visual inspection of the conditions of various parts including the face piece, head straps, valves, connecting tube and cartridges, canisters or filters, and any other part that may affect the performance of the respirator,
  - A check of elastomeric parts for pliability and signs of deterioration,
  - A check that the label and color-coding indicating NIOSH approval is not removed and remains legible on all filters, cartridges and canisters.
- Repairs or adjustments to respirators will be made only by people appropriately trained to perform such operations.
- Repairs or adjustments will only use the respirator manufacturer's NIOSH approved parts designed for the respirator.
- Repairs to respirators will be made only according to the manufacturer's recommendations and specifications for the type and extent of repairs to be made.
- Reducing and admission valves, regulators and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

## PROGRAM EVALUATION

The Safety Manager will evaluate this program as necessary to ensure that the program is being properly implemented and to consult with employees to ensure optimal use of respirators. This evaluation will be performed at least annually.

Employees who use respirators will be consulted to determine their views on program effectiveness and any problems with the program.

The Safety Manager will ensure that all concerns identified during this assessment are addressed.

- Initial factors to be assessed during each evaluation include:
  - Respirator fit, including the ability to use the respirator without interfering with effective workplace performance,
  - Appropriate respirator selection for the hazards to which the employee is exposed, o Proper respirator use under the workplace conditions the employee encounters, o Proper respirator maintenance, and o Any other aspect of this program.

## TRAINING

Employees who are expected to use respirators will be trained as follows:

- Prior to initial use, Annually.
- When changes in the workplace or the type of respirator require additional training.
- When the employee has not retained the required understanding or skill as indicated by inadequacies in the employee's knowledge or use of the respirator.
- Whenever any other situation arises, which indicates that additional training is necessary, to ensure the optimal use of respirators.

The training will be comprehensive and provided in a format understandable to the employee, and at no cost to the employee.

Training on the hazards of chemicals will be done according to the chemical hazard communication program (and in compliance with Title 29 CFR 1910.1200).

Employees will be trained on the proper use of respirators, including putting them on and removing them, any limitations on their use and maintenance, and any other knowledge required for them to complete their tasks as assigned in this program.

Employees will be trained until they can demonstrate their knowledge of all of the following:

- Why the respirator is necessary.
- How improper fit, usage, or maintenance can compromise the protective effect of the respirator.
- The limitations and capabilities of the respirator.
- How to use the respirator effectively in emergency situations including situations in which the respirator malfunctions.
- How to inspect, put on and remove, use and check the seals of the respirator.
- The procedures for maintenance and storage of the respirator.
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
- The general requirements of this program and the OSHA respiratory protection standard

## AERIAL LIFT SAFETY

This policy established procedures to be followed that will assure safe operation of aerial work platforms which include without limitation, bucket trucks, boom lifts, scissor lifts, and push around lifts.

### DEFINITIONS

**Aerial Work Platform:** Any vehicle mounted device, vertically adjustable, telescoping, articulating or both which is used to position personnel along with their tools and necessary materials at overhead work locations.

**Boom Lift:** An aerial work platform that is self-propelled, integral frame, boom supported platform which telescopes and rotates beyond the base dimensions to position personnel along with their tools and necessary materials at overhead work locations.

**Articulating boom platform:** An aerial work platform with two or more hinged boom sections that are self-propelled, integral frame, boom supported platform which telescopes and rotates beyond the base dimensions to position personnel along with their tools and necessary materials at overhead work locations.

**Extensible boom platform:** An aerial work platform (except ladders) with a telescopic extensible boom. **Personnel Platform:** Carrying device (basket or bucket), which is a component of an aerial work platform.

**Scissor Lift:** A self-propelled vertically adjustable, integral chassis work platform that is used to position personnel along with their tools and necessary materials at overhead work locations.

### GENERAL REQUIREMENTS

Aerial lift platforms shall be designed and constructed in conformance with applicable requirements of the American National Standards for Vehicle Mounted Elevating and Rotating Work Platforms.

### OPERATOR REQUIREMENTS:

- Complete “Aerial Work Platform Operator Training” course.
- Read and understand the manufacturer’s operating instructions and safety rules.
- Read and understand all decals, warnings, and instructions.

Before each day or at the beginning of each shift, the aerial platform shall be given a visual inspection and functional test including, but not limited to the following:

- Operating and emergency controls
- Safety devices such as but not limited to back up alarms
- Personal protective devices
- Air, hydraulic, and fuel system leaks
- Cables and wiring harnesses
- Loose or missing parts
- Tires and wheels,
- Placards, warnings, control markings, and operating manuals
- Outriggers, stabilizers, and other structures
- Guardrail system
- Items specified by manufacturer.

If any items are found to be not working properly the unit shall be placed out of service until repaired.

## WORKPLACE INSPECTION

Before the aerial platform is used, and during use, the user and operator shall check the area in which the aerial platform will be operated for possible hazards such as, but not limited to:

- Drop-offs or holes
- Bumps and floor obstructions: Look around - a change of elevation of only 3 inches on the ground can mean a difference of 3 to 5 feet 40 to 80 feet up
- Debris: Pick up and clean up the area you are going to work
- Overhead obstructions and high voltage conductors: These machines are not insulated and will conduct electricity. Minimum clearance from overhead power lines shall be 10 feet or more as required
- Hazardous locations & gaseous atmospheres: These lifts do not have explosion proof switches

- Inadequate surface and support to withstand all load forces imposed by the aerial platform in all operating configurations; this includes checking the tire inflation. (Tire inflation 45 to 95 psi - look for decal indicating pressure)
- Wind and weather conditions: if winds are greater than 25 MPH do not operate an AWP outside
- Presence of unauthorized persons: Keep the area below clear of people
- Other possible conditions: Read and understand the manufacturer's operating instructions and safety rules

## SCISSOR LIFTS

### Requirements for Operation:

The aerial platform shall be used in accordance with this policy. The user shall ensure that before each movement of the aerial platform or if repositioning the platform, the operator shall ensure that:

- The aerial platform is operated on a surface within the limits specified by the manufacturer.
- The outriggers, stabilizers, extendible axles or other stability enhancing means are used as required by the manufacturer.
- Guardrails are installed and access gates or openings are closed per manufacturer's instructions.
- The load and its distribution on the platform and any platform extension are in accordance with the manufacturer's rated capacity for that specific configuration. There is adequate clearance from overhead obstructions.
- A minimum distance of 10 feet from energized lines is maintained at all times between the lines and the operator and platform.
- Tying off to an adjacent pole, structure, or equipment while working from an aerial lift platform is not be permitted.

Operators shall always stand firmly on the floor of the platform and shall not sit or climb on the edge of the platform or use planks, ladders, or other devices for an elevated work position.

**NOTE: Any person working for VerTek, LLC operating a boom lift or scissor lift (in the platform) shall wear a full body harness and shock absorbing adjustable lanyard (shortened to its shortest usable length) attached to the manufacturer's anchorage point at all times.**

When an anchorage point is not installed on a scissor lift, the operator shall still be required to wear the full body harness and shock-absorbing lanyard while operating the scissor lift within the platform.

Understand that the machine may operate faster than expected and may not stop as quickly as expected. It is recommended that operators test movement speed and stopping distance of unit from a safe distance when operating from ground.

The operator must be made aware of these additional safety considerations:

- Make sure the deck extension is retracted and locked.
- Do not walk next to the lift when going through doorways.
- If equipment will not climb the trailer/truck or slippery conditions prevail, utilize the winch attached to the transport vehicle to assist the equipment in climbing the trailer.
- Always chain down equipment before moving the truck and/or tilting or leveling the bed.
- Do not unchain equipment until bed is tilted.
- Aerial lift platform load limits specified by the manufacturer shall not be exceeded.
- The brakes shall be set and outriggers shall be positioned on pads or a solid surface.
- Articulating and extensible boom lift platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the operator on the platform, except in case of an emergency.
- Before moving an aerial lift platform, make sure that outriggers are in the stowed position.

## OPERATION ON FIRM, FLAT AND LEVEL SURFACES

The operators must be made aware of these special safety issues when operating on a firm, flat and level surface:

- Conduct a work area inspection to identify potential safety hazards before operating the lift.
- It is recommended that the operator drive the equipment from inside the platform.
- Wear your harness/lanyard, hooked to the manufacturer's anchorage point, when driving the lift.
- When in the platform make sure the control box is positioned so drive direction is correct.
- Make sure the deck extension is retracted and locked.
- Be aware of your surroundings 360 degrees and blind spots.
- Maintain safe clearances from all other obstacles, holes, and drop-offs.

## OPERATION WHEN THE SURFACE IS NOT FIRM, FLAT AND/OR LEVELED

The operators must be made aware of these special safety issues when operating on a surface that is not firm, flat, and level:

- The operator shall drive the equipment from the ground rather than from inside the platform.
- Maintain safe clearances from all other obstacles, holes and drop-offs.
- Never put yourself between the lift and another object, even if you are sure of the direction of travel.
- Never put yourself in the drive path of any machine, even if you are sure of the direction of travel.
- Be aware of your surroundings 360 degrees; watch where the lift is going and where you are walking.
- Be aware of the steer tires; they can steer almost 90 degrees to the machine and run over you.
- Hold the control box in your hands and extend the control box tether cord away from the lift and out of the drive path or potential fall path of the lift.
- Do not operate the lift from the ground with the control box hanging on the platform or guardrails.

- Watch the direction arrows. Be sure of which direction the machine will move before operating the controls.

## BOOM LIFTS

Ensure all personnel in the platform are wearing fall protection devices consisting of a full body harness and shock absorbing adjustable lanyard (shortened to its shortest usable length) attached to the manufacturer's anchorage point at all times, and other safety gear as required at all times.

When loading or unloading any boom lift on any type of slope or ramp always load or unload with counterweight uphill from the platform basket.

Always secure boom lifts to the truck before rotating the boom on the truck.

Always secure the boom and/or basket to the truck with a nylon tie down strap to prevent boom rotation while in transport.

## REQUIREMENTS FOR OPERATION

Make sure the operators are well versed in these requirements and do not use the boom lift for any other purpose:

- The work platform shall be used only in accordance with the Manufacturer's Operating
- Instructions and Safety Rules.
- Only trained and authorized personnel shall be permitted to operate the aerial work platform.
- Always maintain a three-point contact when getting on and getting off the machine.
- Two feet, one hand or two hands, one foot always on the machine.
- Face the ladder/basket when getting on and off the machine. DO NOT swing out and off of the machine when getting off.
  - Once on the machine, close the guardrail gate or chain, and then connect your snap hook to the anchorage point.
  - Clean your shoes off; Mud, grease and oil can cause you to slip.
  - Lower the lift all the way down.
  - Do not get off until the lift is all the way down and shut off.
  - Close all gates and attachment chains.

Before each elevation of the work platform, the operator shall:

- Check for overhead obstructions and high voltage lines. A minimum distance of 10 feet from energized lines shall be maintained at all times between the lines and the operator and platform.
- Ensure that the work platform is elevated only on a firm and level surface. (DO NOT SHIM AERIAL LIFT WITH a 2 x 4, 2 x 6, etc.).
- Ensure that the load and its distribution on the platform are in accordance with the manufacturer's rated capacity. The manufacturer's recommended load limits shall never be exceeded.
- ALWAYS ENGAGE STOP BUTTON BEFORE LEAVING THE BASKET. This will shut off all power to the platform controls.

### OPERATION WHILE THE PLATFORM IS ELEVATED

The operator is required to look in the direction, and keep a clear view of the path, of travel, and assure that the path of travel is firm and level.

The operator shall maintain a safe distance from obstacles, debris, drop-offs, floor depressions, ramps, or other hazards.

The operator shall maintain a safe distance from overhead obstacles. The operator shall limit travel speed according to site conditions.

Site conditions to be observed include:

- ground surface
- congestion
- slope
- location of personnel
- other factors that may create a hazard of collision or injury to personnel or operator. Stunt driving and horseplay shall not be permitted.

The operator shall report all defects or malfunctions that become evident during operation and shall stop use of the aerial work platform until correction has been made.

Altering or disabling of safety devices or interlocks is prohibited.

Care shall be taken to prevent ropes, electric cords, hoses, etc., from tangling with the work platform when the platform is in motion.

The operator shall ensure that the area surrounding the aerial work platform is clear of personnel and equipment before lowering the platform.

The operator is required to watch out for Boom Lift pinch points.

- The area between the tail swing of the boom lift and a wall is considered a pinch point. This area is required to be closed off to all personnel traffic while boom lift is in operation.
- The area between the main mast and the body.
- The access door.

The operator is required to watch out for Scissors Lift pinch points.

- The access door.
- The scissors stack.
- The slide out deck (if equipped).

The operator is required to be aware of the direction of the boom lift. The platform rotates 180 degrees. The controls are backwards when the platform is rotated 180 degrees. Directional arrows are on the base of the machine to assist the operator.

## TOWER SAFETY

### PURPOSE

Establishes minimum guidelines for the erection of towers.

Supervisors and tower crews must possess the necessary skills to safely install, dismantle, and rig towers. No one shall attempt to install or dismantle any tower or tower component without the necessary skills and experience. VerTek, LLC Supervisors shall ensure crew members are physically capable of safely performing assigned tasks.

### PLANNING ERECTION OF TOWERS

VerTek, LLC Managers shall supervise and direct the installation and shall be solely responsible for all construction means, methods, techniques, sequences, and procedures. Prior to the start of tower erection, the Field Supervisor shall:

- Ensure there is an emergency response plan in place that has been reviewed with all site personnel prior to commencing work.
- Obtain and review tower erection drawings, installation and/or erection manuals as part of the JHA review.
- Inspect the tower foundation to ensure it is installed per design. Concrete strength shall be verified to meet or exceed the minimum strength criteria.
- Identify any potential hazards such as overhead power lines or buildings and identify the proper precautions to be followed for crane operations.
- Assess whether the tower can be assembled on the ground (this would reduce fall hazards associated with the task).
- Ensure that tools, cranes, rigging, and machinery brought to the site are in good condition and properly equipped with safeguards.
- Select appropriate ladders for the task and inspect to ensure that ladders are in good condition.
- Ensure the means of electrical grounding meet local and national codes. Cranes may also need to be grounded when working near or around power lines.
- Ensure that supervisors and their employees review hazards and develop appropriate control measures for each significant task. Conduct a daily Job Hazard Analysis.

- Develop rigging plans in compliance with the requirements of the Crane and Rigging Operations section of this document.
- Ensure tower erectors/climbers are in compliance with the Competent Tower Climber requirements of this document.
- Select the most appropriate means of accessing the tower. Consideration shall be given to the use of crane suspended personnel platforms or aerial lifts.
- Ensure that tower erection activities are not performed during severe weather (heavy winds, lightning, ice, etc.).
- Check condition of pegs, safety climb and other structural connections to ensure safe climbing surface/anchor points.

### TOWER DELIVERY AND OFFLOADING

Special care shall be taken during unloading, hauling, and offloading to prevent personnel injury or damage to the tower and component parts.

- Ensure that the lay down area boundaries are established and communicated to all personnel.
- Ensure the wheels of the delivery vehicle are properly chocked to prevent unexpected movement while unloading.
- Ensure that tag lines are used when lifting tower components by crane or other lifting devices (boom truck, gin poles, etc.).
- Do not roll or drop any sections from the truck to the ground. Do not drag or stack the components in such a way that personnel injury or damage may occur.
- Ensure that all tower components are present and in satisfactory condition. The manufacturer shall be contacted for any missing or damaged parts.
- The use of misused, damaged, overloaded, or used parts is prohibited.
- Blocking/Cribbing should consist of hard wood lumber or other suitable materials placed in such a manner that will allow the removal of slings and rigging.

## ERECTING TOWERS

- Maximize ground assembly to reduce potential fall hazards to employees.
- Install climbing pegs, step bolts, or ladder sections while the tower pieces are still on the ground.
- Check that all bolting has been completed and tightened to AISC standards. Double worker verification is a good practice.
- Some towers supply nut locking devices that shall be used when required.
- Prior to lifting the first piece of steel, plan for the installation, use, and removal of temporary vertical lifelines (rope and/or retractable) used for fall protection. In most cases, excessively long sections of lifeline may be eliminated if a ground crew member attaches independent lifelines to each new section being raised. Rope lifelines shall be tethered to the tower or weighted to allow free travel and operation of rope grab devices.
- Install the permanent safety climb as soon as physically possible (as soon as the components are available to do so).
- Use tag lines when lifting tower components by crane or other lifting devices (boom truck, gin poles, etc.).
- Install antenna mounts to the maximum extent possible on the ground rather than at elevation.
- Ensure that any temporary or permanent attachments (antenna support arms/boom gates/platforms) to the tower or structure do not interfere with the climbing ladder, step bolts, or safety climb device.

## SPECIFIC TOWERS / POLES MONOPOLE SLIP JOINTS

Slip joint assemblies require the proper amount of overlap. The manufacturer's structural drawings usually list the design slip value and the allowable overlap range and target values. Inspection of the internal area of the slip joint and mating surfaces should be conducted prior to erection; a clean inside surface free of galvanizing build up or debris will save problems during the installation and allow a proper fit.

## GUYED TOWERS SPECIFIC

- Cranes should be used to the maximum extent possible in guyed tower installation.
- Guyed towers are not self-supporting at any height. Use of temporary steel guys may be required.
- When it is impractical to use a crane, use a tugger/winch and/or gin pole as an acceptable alternative.
- Use of tugger/winch and/or gin poles requires:
  - Operator training
  - Careful planning to ensure load rating
  - Condition of equipment verified satisfactory before use
  - Guy wires shall be grounded by mechanical means.
  - Guy wires shall be free of kinks.

**NOTE:** Critical areas of attention during installation are guy radius to the distance specified, anchor elevation, anchor alignment, anchor rod slope, anchor rod alignment with guy radius, anchor head plumbness, and guy wire initial tension. All tolerances should be within manufacturer's tolerances.

## SELF-SUPPORTING OR LATTICE TOWERS

Caution must be taken when erecting pre-assembled horizontal sections from the assembly area to the vertical position. Racking may cause damage to the assembly. A second crane or tail hook may be required depending on the size of the assembly.

- Face spread dimension center to center of anchor bolts circles shall be per manufacturer's tolerances.
- Maximum difference between any two foundation elevations shall be per manufacturer's tolerances.
- Wave guide devices shall not be used as personal fall protection anchorage points.
- Personnel shall not use wave guide devices for climbing.

## PLATFORM INSTALLATIONS ON EXISTING TOWERS

Prior to climbing:

- Conduct pre-climb safety meeting and document completion on the provided JHA form.
- Inspect the tower from the ground for missing members, obvious structural damage, bent supports, excessive corrosion, insects and bird nests, ice build-up, etc. (use of binoculars is recommended).
- Inspect the safety climb device and ensure that it is free of obstructions, in good condition, and correctly attached at both ends.
- Ensure that the step bolts are aligned, evenly spaced, and completely secured throughout the structure.
- Ensure that the area to be accessed is free from obstructions.
- Determine the potential exposure to RF radiation near or in front of any operating antenna.
- Identify possible anchorage points for fall protection devices.
- Identify nearby hazards (power lines, AM transmission sources, and other RF generating sources, etc.).

## SECURING TOOLS, EQUIPMENT, AND MATERIALS WHILE WORKING AT ELEVATION

All materials, tools and equipment must be secured in a manner that prevents a hazardous condition.

- Hand tools shall be secured by lanyards while working at elevation.
- Canvas bags with locking snap hooks or suitable alternatives shall be used for raising and lowering tools, equipment, and materials.
- An exclusion zone shall be established as needed when overhead work is being performed (e.g., use of “Red – Danger Do Not Enter” barricade tape would be acceptable).
- Material shall be raised or lowered one item at a time to prevent loss of control or overloading.

## SAFE TOWER CLIMBER OPERATIONS

### PURPOSE

This procedure establishes minimum standards and procedures to be used for employees climbing on towers, antennas, and similar structures. All provisions of VerTek, LLC' Fall Protection Policy shall be followed.

### DEFINITIONS

**Active Fall Protection Systems:** A fall protection system that requires authorized persons to wear or use fall protection equipment and that requires fall protection training.

**Anchorage:** The terminating component of a fall protection system or rescue system that is intended to support any forces applied to the system.

**Authorized Climber:** An individual with physical capabilities to climb, who, regardless of previous climbing experience, has been trained in fall protection regulations, including the equipment applicable to communication structure work, and instruction for proper use of such equipment.

**Authorized Person:** A person approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location or job site. An authorized person is required to receive training and to periodically demonstrate the ability to safely use the appropriate fall protection equipment.

**Body Harness:** An assembly of webbing arranged to support the human body for fall protection purposes, including during and after fall arrest.

**Clearance Requirement:** The distance below an authorized person that must remain clear of obstructions in order to ensure that the authorized person does not make contact with any objects that would cause injury in the event of a fall.

**Competent Climber:** A competent climber is an individual with the physical capabilities to climb; who has actual tower climbing experience; is trained in fall protection regulations including the equipment that applies to tower work; is capable of identifying existing and potential fall hazards; and has the employer's authority to take prompt corrective action to eliminate those hazards.

**Competent Person:** An individual designated by the employer to be responsible for the immediate supervision, implementation, and monitoring of this fall protection program who, through training

and knowledge, is capable of identifying, evaluating, and addressing existing and potential fall hazards, and who has the authority to take prompt corrective action with regard to such hazards.

**Competent Rescuer:** An individual designated by the employer who by training, knowledge, and experience is capable of implementation, supervision, and monitoring of this fall protection rescue program.

**Continuous Fall Protection:** One or more fall protection systems that provide fall protection (100%) without interruption.

**Fall Arrest:** The action or event of stopping a free fall, or the instant in which the downward free fall has been stopped.

**Fall Arrest System:** The collection of equipment components that are configured to arrest a free fall.

**Fall Protection:** Any equipment, device or system that prevents an accidental fall from elevation or that mitigates the effects of such a fall.

**Fall Hazard:** Any location where a person is exposed to a potential free fall.

**Fall Restraint System:** A device or devices, including any necessary components, that prevents an authorized person from reaching a fall hazard.

**Rescue Plan:** A written process that describes in a general manner how rescue is to be approached under the specific parameters, such as location or circumstances.

**Rescue System:** An assembly of components and subsystems used for rescue.

**Rescuer:** Person or persons acting to perform an assisted rescue by operation of a rescue system.

**Qualified Person:** A person with a recognized degree or professional certificate and with extensive knowledge, training, and experience in the fall protection and rescue field, who is capable of designing, analyzing, evaluating and specifying fall protection and rescue systems to the extent required by this Manual.

## PROCEDURES

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### AUTHORIZED CLIMBER

- The authorized climber shall be aware of and adhere to the provisions of the national, state, and local codes and VerTek, LLC policies that apply to the fall protection equipment and procedures utilized in his or her work.
- The authorized climber shall be knowledgeable and capable of properly using the fall protection equipment utilized by VerTek, LLC.
- The authorized climber shall be capable of properly inspecting, maintaining, storing, and caring for the fall protection equipment provided by VerTek, LLC.
- The authorized climber shall bring to the competent climber's attention any unsafe or hazardous conditions or acts that may cause injury to him or any other climber.

### COMPETENT CLIMBER

- The competent climber shall be aware of and adhere to the provisions of the national, state, and local codes and VerTek, LLC policies that apply to the fall protection equipment and procedures utilized in his or her work.
- The competent climber shall be capable of all of the duties and responsibilities of an authorized climber.
- The competent climber shall be capable of identifying fall hazards at company worksites.
- The competent climber shall be capable of creating fall protection procedures for fall hazards encountered at company worksites.
- The competent climber shall be capable of selecting proper fall protection systems, including anchorages, connecting means, body supports and other components for fall hazards encountered at company worksites.
- Competent climbers shall be capable of identifying those circumstances where a qualified person is required to specify fall protection systems or components.
- The competent climber shall be capable of establishing the clearance requirements for the fall protection systems utilized by the company.
- The competent climber shall be capable of identifying and imposing limits on workplace activities to control fall hazards, which may occur at company worksites.
- The competent climber shall be capable of properly inspecting, maintaining, storing, and caring for the fall protection equipment issued by the company.

- The competent climber shall be authorized to remove from service personal fall arrest systems and components that have been subjected to the forces of arresting a fall.
- The competent climber has a duty to periodically inspect all fall protection and rescue equipment at a frequency prescribed by the manufacturer.
- The competent climber shall have duty to verify that rescue of all climbers can be accomplished by implementing a rescue plan.
- The competent climber may participate in the investigation of incidents related to falls from heights.

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### COMPETENT RESCUER

- The competent rescuer shall be aware of and adhere to the provisions of the national, state, and local codes and VerTek, LLC policies that apply to the fall protection equipment and procedures utilized in his or her work.
- The competent rescuer shall be capable of all of the duties and responsibilities of a competent climber.
- The competent rescuer shall be capable of anticipating the potential for rescue from structures built or maintained by VerTek, LLC.
- The competent rescuer shall be capable of preparing, updating, reviewing and approving the fall rescue plans utilized by VerTek, LLC.
- The competent rescuer shall be capable of identifying the resources necessary to conduct a safe and effective rescue and shall be capable of verifying that those resources are available for a prompt rescue.
- The competent rescuer shall be capable of verifying that all potential rescuers have been properly trained. Their training shall include the specific types of rescues that may be encountered, and the companies rescue equipment is available for use.
- The competent rescuer shall be familiar with the hazards associated with the rescue from elevations and the procedures necessary to mitigate the hazards within the area of the rescue.
- The competent rescuer shall be capable of developing and utilizing proper procedures for selecting, inspecting, assembling, using, storing, and maintaining any rescue equipment used by the company.

## TRAINING REQUIREMENTS

Having a certificate of completion of any training course does not guarantee the employees performance later. The certificates only demonstrate that their holder has completed the program. The company and training instructor will determine if an employee is fit to perform the duties for which training was received.

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### AUTHORIZED CLIMBER

Authorized climbers shall receive training, which covers fall protection regulations, equipment commonly used in communication structure work, and instruction for proper use of equipment.

Authorized climbers shall receive training prior to tower climbing operations.

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### COMPETENT CLIMBER

Competent climbers shall receive training by an instructor certified to conduct the training.

Competent climber applicants shall have as a prerequisite to Competent Climber Certification 90 days of documented, full time, climbing experience utilizing fall protection equipment.

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Competent Climbers shall be evaluated per the program administrator's criteria.'

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### COMPETENT RESCUER

Competent rescuer shall receive training by an instructor certified to conduct the training.

Competent rescuer applicants shall have as a prerequisite to competent rescuer training a minimum of 90 days, documented, full time climbing experience related to the tasks expected of them at the workplace. The 90-day experience for competent rescuers may correspond to the same experience received as a competent climber.

Competent rescuers shall be evaluated and practice hands-on scenarios annually to confirm their knowledge and abilities.

## GENERAL REQUIREMENTS

Only personnel meeting VerTek, LLC' requirements for Competent Tower Climber and Rescuers, will be authorized to perform elevated work on structures requiring climbing (towers, chimneys, etc.) or while completing controlled descent applications.

Elevated work is defined as work on any structure that presents a fall hazard of 6 feet or greater, including controlled descent applications. Excluded from this definition is the use of stepladders, extension ladders, scaffolds, man-lifts, and man-baskets, which are covered separately by OSHA standards.

A competent person shall conduct periodic assessments (at least annually) of the effectiveness of user training and determine the need for more training and/or retraining. Training assessment may be evaluated by several techniques. Personnel should demonstrate their working knowledge of personal fall arrest systems, equipment, and procedures through a written or practical demonstration or both.

Each employee shall be trained (or retrained) whenever there is reason to believe he or she lacks the understanding and skill required.

Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete.
- Changes in types of fall protection systems or equipment to be used render previous training obsolete.
- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skills.

#### **SUPERVISOR RESPONSIBILITIES:**

- Conduct a pre-job safety meeting of the safe work plan to all employees prior to commencing work.
- Ensure all elevated work activities are included in the Job Hazard Analysis (JHA) for the jobsite.
- Ensure that only competent climbers perform elevated work.
- Ensure all Personal Fall Arrest System (PFAS) components meet inspection requirements and are being worn properly prior to allowing elevated work to commence.
- Ensure that rescue equipment and trained personnel are on site to perform rescue. Elevated work shall not be performed without another competent tower climber and rescue equipment available for immediate rescue response.
- Monitor competent climber personnel work practices and worksite conditions.

- Enforce the Fall Protection Program Policy which includes prohibitions against:
  - o Climbing a structure or working at a height of 6 feet and higher without utilizing a Personal Fall Arrest System.
- “Riding the Line” - The act of attaching one’s self to any line that is meant to haul materials and riding it up a tower or structure rather than climbing or using another approved method of ascending.
- Immediately correct unsafe conditions and work practices.
- Immediately report incidents/accidents to the Safety Team Area Representative.

### CLIMBING POLICIES AND PRACTICES

- A competent person shall inspect the tower for damage, deterioration, structural deficiencies, functionality of safety features, and available anchor points prior to climbing operations.
- Two employees shall be on site at all times when elevated work is in progress. At least one employee must be a competent person.
- Tower climbers shall carry valid wallet cards or similar documentation. Tower climbers shall participate in a pre-climb meeting prior to each climb.
- Tower climbers shall inspect Personal Fall Arrest System (PFAS) components prior to each use.
- Tower climbers shall immediately remove from service any components of a PFAS that are found to be defective.
- Tower climbers shall comply with the “No Free Climbing” policy while performing elevated work.
- Tower climbers shall utilize a full body harness as part of their Personal Fall Arrest System (PFAS). Body belts shall not be used. Climbing without the proper use of an approved Full Body Harness is prohibited and shall carry the same consequences as Free Climbing.
- Tower climbers shall wear clothing that does not interfere with safe climbing, and avoid wearing loose fitting clothing, bootlaces, and jewelry.
- Tower climbers shall never connect fall protection equipment to step bolts, pegs, and other non- rated anchorages for fall protection unless engineering documentation exists to support acceptable use.

## EVALUATE FALL HAZARDS

When evaluating fall hazards, the Field Supervisor shall assess the fall hazards and the available control measures. Eliminate the fall hazards associated with the work task entirely (for example, perform as much work as possible at ground level).

Utilize fall prevention controls by selecting the most suitable controls from the following:

- Guardrail systems (e.g., work platforms with approved handrails, scaffolds, etc.)
- Mechanical lifting systems (e.g., JLG, scissor lift, man-baskets, etc.)
- Climbing systems (e.g., stairways, fixed or portable ladders, etc.),

## WORK POSITIONING SYSTEMS (E.G., CONTROLLED DESCENT).

Use a Personal Fall Arrest System (PFAS) including all required components and additional hardware:

- Full body harness (required)
- Shock-absorbing lanyards (required), o Connectors (required)
- Suitable anchorage capable of supporting 5,000 lb. or at least twice the anticipated load (T-arms, spider arms, and/or platform arms are not suitable anchor points)
- Lifelines (additional hardware),
- Rope grabs (additional hardware),
- Controlled descent device (additional hardware)

## DEVELOPING AN APPROACH TO MANAGE FALL HAZARDS

When developing the approach to manage fall hazards, antenna support arms must be rated to support the weight of the total anticipated load (employee, materials, tools, etc.).

When positioning lanyards are not in use, adequate work surfaces must be available for the employee to work hands free. Where structures do not have a permanent “safe-climb” device, the use of a Y-lanyard is required for fall arrest and the “clip-and-climb” method shall be employed to access the tower for the installation of a temporary lifeline.

If the above requirements cannot be met, an alternate means of access must be utilized.

## ELECTROMAGNETIC ENERGY (EME) AND RADIO FREQUENCY (RF) POLICY

### OVERVIEW

This procedure establishes guidelines for employees who may be exposed to Electromagnetic and Radio Frequency energy. Contractors and employees acknowledge that there are safety protocols for working in proximity to LTE and 5G frequencies, and that in some systems and states, there are rules for antenna shutdown to avoid overexposure. Contractors and employees also acknowledge that all RF antenna installations will comply with FCC, state, and local regulations regarding same.

### GENERAL REQUIREMENTS

Technicians with potential exposure to EME/RF shall ensure the following general precautionary requirements are met:

- Only authorized entrants shall be allowed access.
- Obey all posted signs.
- Assume all antennas are active.
- Notify owners and disable appropriate transmitters prior to working on the system.
- Maintain minimum 10 feet clearance from all working antennas.
- Do not stand or work in front of an energized antenna.
- Use personal RF monitors while working near EME/RF sources.
- Never operate transmitters without shields.
- Do not operate base station antennas in any equipment room.

### TRAINING AND QUALIFICATION VERIFICATION

All personnel entering an EME-controlled area shall be trained as required. Training shall include the measures that may reduce potential exposure.

All personnel who will be required to wear protective equipment (RF suits, etc.) shall be trained in their proper use, inspection, and limitations.

**NOTE:** If EME Exposure cannot be reduced to within the occupational exposure limits by following the general precautionary measures mentioned above, the employee shall utilize personal monitoring equipment.

**VERTEK, LLC SAFETY MANUAL RECEIPT AND ACKNOWLEDGEMENT BY CONTRACTOR**

I am the Authorized representative of the company listed below. I acknowledge receipt of the VerTek LLC Safety Manual. I understand that I and those I employ or subcontract to are responsible for following all the rules and procedures outlined in the VerTek LLC Safety Manual.

I understand that I am responsible to ask my supervisor and/or VerTek LLC management any questions that are needed to complete my understanding of the Safety Manual.

I understand that violations of company safety regulations will result in disciplinary action up to and including termination.

<b>Contractor Company Name</b>		
<b>Address</b>		
<b>Phone</b>		
<b>Email</b>		
<b>Signature</b>		<b>Date:</b>
<b>Print Name &amp; Title</b>		
<b>VerTek LLC Project Manager Signature</b>		<b>Date:</b>
<b>PM Print Name</b>		

**Sign and return to the VerTek, LLC.**

**Human Resources Department, [rhealey@vertekllc.com](mailto:rhealey@vertekllc.com)**

**VERTEK, LLC SAFETY MANUAL RECEIPT AND ACKNOWLEDGEMENT BY EMPLOYEE**

I acknowledge receipt of the VerTek LLC Safety Manual. I understand that I and those I manage are responsible for following all the rules and procedures outlined in the VerTek LLC Safety Manual.

I understand that I am responsible to ask my supervisor and/or VerTek LLC management any questions that are needed to complete my understanding of the Safety Manual.

I understand that violations of company safety regulations will result in disciplinary action up to and including termination.

<b>Employee Name</b>		
<b>Mailing Address</b>		
<b>Phone</b>		
<b>Email</b>		
<b>Signature</b>		<b>Date:</b>
<b>Print Name</b>		
<b>VerTek LLC Project Manager Signature</b>		<b>Date:</b>
<b>PM Print Name</b>		

**Sign and return to the VerTek, LLC.**

**Human Resources Department, [rhealey@vertekllc.com](mailto:rhealey@vertekllc.com)**