

Safety Plan

INTRODUCTION

This Safety Plan describes Liberty Utilities safety requirements of Contractors at ALL times on projects. While many of the 650 Line Upgrade Project Applicant Proposed Measures address safety, they are not detailed herein as safety requirements shall apply at all times to all work completed. Liberty Utilities will not tolerate ANY non-compliance with these safety measures.

Liberty Utilities	
Environmental Health Safety and Security	

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1.0 PURPOSE

This document, "Contractor Safety Requirements", represents the current contractor safety requirements that are unique to operations and various lines of business (LOB) at Liberty Utilities.

Safety performance is a prime consideration in the selection of contractors. Liberty Utilities will stipulate Safety performance requirements and responsibilities in our contracts and purchase orders and will hold the contractor accountable for meeting the contractual requirements.

2.0 SCOPE

Liberty Utilities' goal is to establish a long-term working relationship with contractors who share the same safety values and demonstrate those values through their work performance. This document applies to all contractors; however, most of the requirements are directed to contractors who perform work that is related to Liberty Utilities' core business functions: electrical/gas transmission and distribution, LNG and Water/Waste water operations.

Contractor safety at Liberty Utilities involves three broad areas: (1) The Contractor Selection Process (2) Safety Communication (3) Safety Compliance

(1) Contractor Selection

Contractor safety begins with the selection of contractors who have demonstrated a good safety record. This is accomplished through a process overview during the selection process and the scope of work involved.

(2) Safety Communication

Safety communication covers all avenues and forums in which Liberty Utilities and the contractor communicates safety. Communication begins early in the bidding phase and is on-going as an integral part of the contractor-customer relationship. The goal is to ensure clarity and limit misunderstandings.

(3) Safety Compliance

Safety compliance is the process of ensuring that the provisions of the contract are being followed. Liberty Utilities will assign the Owners Representative or other designated individuals to provide guidance and oversight. The Contractor is responsible for their employees and subcontractors and shall be held accountable for ensuring compliance with all applicable safety rules while working on Liberty Utilities property.

2.1 Risk Ranking of Work

 At the beginning of any project, Liberty Utilities will conduct a risk assessment for each anticipated work activity of a contracted service. Liberty Utilities will categorize these activities as low, medium or high risk. <u>Risk</u> refers to the chance of injury, property damage, or adverse public impact should the contractor deviate from the prescribed safety measures.



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- 2. Activities that are designated as "high risk" means that death can result if safety measures are not followed. In general, any work related to electrical transmission and distribution, and gas/LNG operations shall be ranked by Liberty Utilities as High Risk.
- 3. The designation High Risk, Medium Risk, or Low Risk, refers only to the inherent risk associated with the work activity and is not an opinion on the ability of a contractor to work safely. Liberty Utilities will inform contractors prior to the start of work the risk ranking of the activity they will perform.

Guideline	s for Risk Ranking
Risk Level	Guidance and examples
Low	Any activity where error is <u>not</u> likely to result in serious injuries. Examples include copier repair, fire inspection services, office-based, administrative activities, and work-related travel in non-commercial vehicles.
Medium	Any activity where error is likely to result in a non-life threatening injury and where commercial vehicles, related equipment, and PPE may be used. Examples include janitorial services, landscaping, plumbing, carpentry, operation of commercial vehicles, and HVAC services.
High	Any activity where an error may result in death or serious physical harm, and where protective devices (lanyards, hotsticks, and PPE) are required. Examples include cable splicing in manholes, and maintenance and repair work on electrical and gas and water lines.

2.2 Bidder Information Request – Medium/High Risk Work

Liberty Utilities has established a relationship with ISNetworld to serve as the primary contractor information management system of Liberty Utilities bidder documents for medium/high risk work activities. This is the first step in establishing a working relationship with Liberty Utilities. For Contractors already on the Liberty Utilities bid list, ISNetworld will request updated information quarterly form each contractor company.

2.3 Safety Compliance

- 1. Liberty Utilities evaluates contractor compliance by conducting routine site visits, Safety Observation and attending periodic contractor safety meetings.
- Individual contractor personnel who habitually violate safety rules should be identified, and the contractor should remove the individual(s) from the project. Liberty Utilities reserves the right to remove any contractor employee(s) who violate or pose a safety risk to themselves, our employees or the general public.
- 3. If a contractor is observed to be operating in a manner that creates an imminent danger to persons or property, it is the responsibility of all individuals observing the hazard to stop the job or that portion of the job impacted until the issue has been



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resolved to the satisfaction of Liberty Utilities, the Owners Representative or Safety Representative.

- 4. The contractor must implement corrective actions and establish measures to prevent a recurrence through Incident Analysis (IA) process.
- 5. Willful and repeat violations of safety requirements as well as being unsatisfactory or noncompliant with contract provisions by the contractor, may be considered a breach of the contract and reason for contract termination.
- 6. Liberty Utilities may document safety compliance by completing a "Contractor Performance Evaluation" within ISNetworld. This documents both good and bad safety performance and this feedback will be used in the decision process for awarding future contracts.

3.0 DEFINITIONS

All definitions are included within the body of this procedure.

4.0 REFERENCES

This document does not reference actions that are required by OSHA, other laws, rules, or regulations. These are requirements that should be understood by the contractor and contractor compliance with all applicable federal, state and local laws, rules, and regulations is expected by Liberty Utilities as a contractual condition.

5.0 **RESPONSIBILITY**

Roles and responsibilities are outlined in the "Procedure" section of this document.

6.0 PROCEDURE

6.1 GENERAL SAFETY REQUIREMENTS

6.1.1 Introduction

- 1. All contractors are required to comply with the requirements of the Occupational Safety Administration (OSHA), all other applicable federal, state, and local laws, ordinances, regulations, and other project and site-specific permits unless superseded by Liberty Utilities procedures.
- 2. This document represents policies and safety-related work methods that are unique to Liberty Utilities and that may go beyond OSHA rules. Contractors must follow these requirements as well as their own rules that meet or exceed OSHA and other regulatory requirements.
- 3. In cases where there is more than one method of compliance with a given safety rule or regulation, the contractor may deviate from Liberty Utilities



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practices if they can demonstrate to Liberty Utilities that the alternative practice provides an equal or greater margin of safety.

4. Liberty Utilities will provide more detailed information and guidance regarding specific procedures prior to commencement of work.

6.2 ADMINISTRATIVE SAFETY REQUIREMENTS

6.2.1 Pre-Bid Meetings

Applies to: All contractors, as needed.

The pre-bid meeting is coordinated by Liberty Utilities Procurement to provide bidders with an opportunity to acquaint themselves with contractual requirements and specific safety issues concerning the project, including company-specific safety rules and known site conditions. This meeting may not be necessary for all contractors.

6.2.2 Project Safety Plan

Applies to: High and medium risk ranked services in detail commensurate with the scope of the project or activities.

- 1. Contractors who perform high risk-ranked services may be asked to submit a project-specific safety plan prior to the **start of the project and/or at** preconstruction meeting. Your Liberty Utilities representative will provide you with specific requirements of the format and/or forms to be completed.
- 2. At a minimum, the project safety plan shall refer to a completed safety hazards checklist and the Emergency Contact Sheet. This format is ideal for short-duration, small, and/or simple projects. This minimum safety plan shall be referred to as the SHORT VERSION.
- 3. For long-term, large, and/or complicated projects, the Liberty Utilities representative will require the contractor to complete a more formalized safety plan. This plan shall be referred to as the LONG VERSION.
- 4. At a minimum, the LONG VERSION safety plan shall include the following elements:

A. Roles and Responsibilities

The plan shall identify who will be responsible for the project oversight and their qualifications. For example, if the work requires excavation, there must be someone on-site who would be qualified as a competent person.



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For multi-employer work-sites, the general contractor is responsible for all their employees and subcontractors. The safety plan shall clearly state this responsibility.

B. Scope of Work

Briefly state the scope of work as provided by Liberty Utilities. The plan must specifically address the project or services requested by Liberty Utilities. Therefore, these plans should be short and-to thepoint.

C. Task and Hazard Identification and Risk Assessment

The contractor shall identify all significant tasks and the anticipated hazards. Liberty Utilities calls this process a risk assessment.

The contractor's cost to provide adequate safety measures and to comply with Liberty Utilities requirements must be considered and budgeted in the bid/proposal.

D. Hazard Mitigation Procedures and Work Methods

For each hazard, the contractor shall specify measures that will be taken to mitigate these hazards.

A table format is the simplest way to organize and present the task, hazard, and mitigation steps. For example:

Location: Substat	ion Yard	
Task	Hazard	Mitigation Steps
Material Handling	Contact with overhead energized lines/equipment	Off load in the clear and have a safety observer
		present

E. Incident Analysis and Reporting

Follow the requirements referenced in this document.

F. Compliance Monitoring

Explain how you will ensure that both your employees and subcontractors will achieve safety compliance.

G. Environmental Compliance

Based on the scope of the work, any anticipated environmental risks shall be addressed by following all applicable Liberty Utilities procedures. Refer to Environmental Screening Checklist or equivalent.



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6.2.3 Contractor Orientation

Applies to: All contractors, as needed.

- 1. Contractor orientation shall be conducted by a Liberty Utilities Representative and is intended to serve as a resource in order to provide the contractor with the tools necessary to educate their employees and subcontractors. The session is not intended to train the contractor management, their employees, or subcontractors.
- 2. The extent and content of the orientation session shall be commensurate with the scope and type of the contractor's activities.
- 3. The contractor shall agree to provide management representation at the orientation session to help assure that the contractor has been informed of Liberty Utility requirements and expectations for proper compliance.

6.2.4 Worker Qualification Assurance

Applies to: All contractors, as-needed.

1. In order to meet Liberty Utilities safety requirements, the contractor may be asked to describe how workers, including subcontractors, are qualified. The contractor must supply information concerning the type of skills assessment performed, training programs and how they ensure that employees demonstrate competencies. Liberty Utilities reserves the right to certify contractor competency as needed.

6.2.5 Pre-Construction Meetings

Applies to: High Risk Ranked Projects or Activities

- 1. The project manager, or other designated User's Representative shall hold a pre-construction (project kickoff) meeting prior to the start of a high risk-ranked project/service. Other attendees may include; the EHSS department, as well as contractor management as needed.
- 2. The contractor's Project Safety Plan will be discussed at this meeting including a final review of the safety hazards checklist to insure a proper hazard mitigation plan.
- 3. These hazard mitigation measures shall be reviewed and work shall not commence until these hazards have been adequately addressed. The Owners Representative, will discuss with the contractor the methods by which compliance will be achieved with accepted safety requirements.
- 4. An Emergency Call List should be exchanged with the contractor. This list must contain 24-hour contact information for key contractor and project



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personnel, including Owners Representative and EHSS Department. This list should be distributed to all concerned, as determined by the project team, prior to the start of work.

5. For routine maintenance services, a review of associated safety issues and specific facility issues, restrictions or practices, such as evacuation procedures, must be discussed with the contractor upon initial hiring. Any changes in the facility that may affect the safety of contractor or Liberty Utilities employees or third parties must be communicated immediately.

6.2.6 Safety Meetings

Applies to: All contractors, as-needed.

- 1. The contractor shall have regular monthly safety meetings with documented attendance of their employees and subcontractors.
- 2. The safety meetings shall be documented in writing, and shall be available for inspection during the project period, and for 30 days after the project is completed.

6.2.7 Job Safety Briefs

Applies to: All contractors, as-needed.

- 1. Job safety briefs shall be documented in writing. Written job safety briefs with the contractor letterhead, shall be available at the job site for inspection and retained for 30 days after the job is completed.
- 2. Each crew shall conduct these job safety briefs prior to each day's work, when there are changes to the work order or plan, and when a new worker/visitor joins the crew additional briefs are required.

6.2.8 Incident Analysis

Applies to: All contractors (regardless of risk ranking).

- 1. All contractors are required to report to Liberty Utilities, any work-related incidents involving injury or illness to employees, the public or property damage to the contractor's or Liberty Utilities' equipment. The first priority is to ensure that the injured receive medical treatment.
- 2. Your Liberty Utilities contact will explain these reporting requirements in more detail prior to commencement of work.
- 3. An incident is defined as an unplanned event that has a human component, and results in, or could potentially result in, at least one of the following outcomes: (1) Harm to people; (2) Damage to property; (3) Adverse public impact.



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- 4. Categories of incidents include:
 - 1. Injury incidents that cause harm to people;
 - 2. Property Damage incidents that cause damage to property;
 - **3.** Adverse Public Impact incidents that disrupts service to the public or results in adverse public reaction;
 - **4. Near-Miss** an incident which had the potential under different circumstances to result in an injury.
 - 5. A <u>hazardous condition</u> is defined as: A condition that can and is rectified immediately by the person who identified the hazard

Significant hazard: A condition that requires others to take actions to rectify and requires further investigation as to how the situation came to occur.

6.2.9 Incident Response Steps

In the event of an incident, the contractor shall provide details of the incident to Liberty Utilities that follows the steps below.

- 1. Contractor supervisor collects basic information about the incident from the employee or witnesses:
 - 1. What happened?
 - 2. Who and how many people were injured?
 - 3. What treatment was administered?
 - 4. What was the nature and seriousness of the injury?
 - 5. Where did the incident occur?
 - 6. When did the incident occur (date, time of day)?
 - 7. Were there any witnesses?
- 2. Contractor supervisor immediately calls the Owners Representative or Liberty Utilities point of contact. All incidents should be entered into the TRACS as soon as possible by the Liberty Utilities representative.
- 3. Contractor shall conduct an investigation and provide a written report if directed to do so by Liberty Utilities to the Owners Representative for review and entry into the incident management system (TRACS).
- 4. The contractor will then conduct an investigation that will identify contributing factors relating to the incident and the corrective actions that will be taken to prevent reoccurrence. The contractor will notify the Liberty Owners Representative when any action items have been completed. The



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results of the IA shall be described in a report prepared by the contractor and provided to Liberty Utilities. The contractor shall use Liberty Utilities Incident Reporting forms which will be provided by your Liberty Utilities Representative.

5. Contractor vehicle accidents occurring during the performance of work will also be investigated and reported to Liberty Utilities.

6.3 TECHNICAL SAFETY REQUIREMENTS

6.3.1 Personal Protective Equipment (PPE) Requirements – General

Applies to: All contractors (regardless of risk ranking)

- 1. Basic PPE attire at construction sites and other similar work zones include, at a minimum: hard hat; safety shoes and safety glasses.
- 2. The contractor shall ensure that their employees and subcontractors use protective **safety toe** footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where such employee's feet are exposed to electrical hazards. Electrical Hazard (EH) rated footwear is required when working on or around electrical equipment over 50 volts, or in an area of expected downed wires. This requirement is based on OSHA 1910.136 and ASTM standard F-2413-05.
- 3. Guidance for additional PPE is referenced in other sections of this document.

6.3.2 Flame Resistant Clothing Requirements

- 1. Flame Resistant (FR) clothing shall be worn when personnel work on energized equipment/lines or when distance and position will expose the worker to electric arc or flame hazards. FR clothing shall also be worn during live gas work as outlined in a PPE Matrix. FR clothing also includes arc/flash- resistant rain gear. This additional ensemble may also be required as part of the job.
- 2. FR clothing shall be worn as the outermost layer of clothing.
- 3. FR clothing shall be worn when workers measure voltages or test or ground electrical equipment or lines.
- 4. FR clothing shall be worn when work requires the use of rubber protective equipment or the use of insulated live line tools.



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- 5. FR clothing shall be worn when workers control/operate electrical equipment over 50 volts at the device location or are within 10 feet of equipment which is being physically operated by another worker.
- 6. FR clothing shall be worn where a hazard identification sign is posted.
- 7. Contractors shall wear the appropriate FR clothing when working on or near energized equipment or when distance and position will expose the contractor to electric arc or flame hazards. For substations and production plants, visitors are not required to wear FR clothing unless they are engaged in electrical work. Your Liberty Utilities contact will be able to determine whether FR clothing will be required based on the specific contractor task. Note: Gas contractor FR requirements may differ slightly. Please refer to Liberty Utilities PPE Matrix for Gas operations as needed.
- 8. FR clothing shall meet the appropriate minimum arc rating, Cal/cm² (HRC) based on the Liberty Region for which you work for energized electrical equipment, unless otherwise specified based on increased potential exposure. The FR clothing system shall consist of an arc-rated FR shirt and FR pants or an FR coverall.
- 9. Additional FR clothing protection may be required when performing work on the distribution system stations and certain tasks.
- 10. Contractors who may be involved with tasks requiring the implementation of this program shall be informed by Liberty Utilities. Contractors will be required to follow all aspects of OSHA and the National Electric Safety Code (NESC), Rule 410 A3 as it applies to the tasks they perform.

6.3.3 Rubber Gloves and Sleeves

- 1. Rubber glove use is required for work on all electrical apparatus at 50 Volts or greater. Rubber gloves shall be donned before the worker leaves the ground and shall be worn until the worker returns to the ground (commonly referred to as "ground to ground", "cradle to cradle").
- 2. Class 0 gloves are required for exposures up to 1000 Volts.
- 3. Class 2 gloves are required for voltages between 1000-15,000 Volts.
- 4. Rubber sleeves must be worn where work is conducted within the minimum approach distances of primary electrical apparatus that is not tested deenergized and grounded.



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- 5. For voltages 23 kV and above, workers can use specialized equipment or work practices as long as these workers have been appropriately trained and qualified. Liberty Utilities may request a letter of assurance from the contractor.
- 6. Rubber glove exceptions for specific jobs (other than those listed in this section) are permitted only with the written approval of the local Liberty Utilities Operations Leadership.

6.3.4 Exceptions (no gloves required)

No rubber gloves are required:

- When working in a properly established equipotential zone.
- When the operator remains at the same potential as the equipment by being off the ground and on the equipment.
- When a qualified worker performs transmission "hot stick" work on lines 69 kV or greater and no other energized wires are on the pole or structure below the worker.
- When work is performed on transmission structures carrying only energized conductors (115kV and above) and the Live Line Techniques are not being employed. While performing these activities, the worker shall utilize conductive clothing such as conductive gloves, conductive boots, leg straps and/or any other applicable conductive clothing.
- When climbing a steel structure to perform structural reinforcements while maintaining minimum approach distances from energized conductors or apparatus.
- When climbing a steel structure to access an area that has been properly grounded.

6.3.5 Isolation of High Voltage Electrical Apparatus

Applies to: All contractors, as-needed.

1. Non-Reclosing Criteria and Live-Line Maintenance and Construction

The appropriate interrupting devices (breakers, reclosers, circuit switches, etc.) will be placed on NON-RECLOSING in accordance with Liberty Utilities tagging procedures.

2. Tagging Out Lines or Apparatus

The Owners Representative or other designated representative shall coordinate all switching and tagging in accordance with the most current Lockout/Tagout or Clearance and Control.



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3. Grounding

When Liberty Utilities switches out lines or apparatus, any grounds that may be installed shall only be considered a visual reference, and shall not be considered a means to protect the Contractor's employees. The Contractor is responsible to install their personal grounds, in accordance with all OSHA, Federal, State and local safety procedures'. Liberty Utilities will provide guidance on the minimum size of the grounds to be used based on circuit available fault current. Ground rods will be fully driven into the earth. T-Bar ground rods are not to be used on Liberty Utilities property. **Refer to appropriate procedure for Grounding size**.

4. Grounding Mobile Equipment

When mobile equipment requires grounding, it shall be solidly grounded by means of appropriate sized copper cable. The cable shall be fastened to a securely attached clean metallic portion of the equipment, or shall be fastened to a grounding stud provided for the purpose at one end and an adequate ground at the other end.

5. Minimum Approach Distance (MAD)

Follow minimum approach distance (MAD) tables: clearance OSHA tables' unqualified distances are 10 feet and up depending on voltage. See section 6.3.8.

6.3.6 Appointment of a Safety Observer

- 1. If work is being performed where there is a potential for persons or equipment to come in contact with energized equipment, a Safety Observer will be appointed by the contractor to aid in protecting employees and others from hazards. The Safety Observer will be a "Qualified Electrical Worker" with the training and experience specified in OSHA regulations, specifically the "Electric Power Generation, Transmission and Distribution Standard" 29 CFR 1910.269.
- 2. The Safety Observer will be appointed while positioning trucks, cranes or other equipment and where precise placement is required to avoid contact with or damage to existing equipment or circuits; while moving loads overhead that may come within OSHA clearance requirements; or at other times where assistance is needed to help direct specific tasks for the protection of personnel or property.



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6.3.7 Work Zone Traffic Control

Applies to: All contractors, as needed.

- 1. If work activity is on or near a road, the contractor and their subcontractors will comply with all applicable parts of the most current US Department of Transportation's Manual on Uniform Traffic Control Devices (MUTCD).
- 2. If working in areas covered by state permits issued to Liberty Utilities, contractors are required to comply with the provisions (work practices and notifications) of the permit language.

6.3.8 **Qualified Electrical Workers**

Electrical Projects/Activities. Applies to:

- 1. Liberty Utilities expects that electrical contractor employees will already be electrically-qualified as required by OSHA in 29 CFR 1910.269.
- OSHA defines a qualified electrical worker or "qualified employee" as a 2. person knowledgeable in the construction and operation of the electrical power generation, transmission & distribution equipment involved and the associated hazards. According to 1910.269(a)(2)(ii), a qualified employee must be trained and competent in:
 - The skills and techniques necessary to distinguish exposed live parts • of electrical equipment;
 - The skills and techniques necessary to determine the nominal voltage of exposed live parts;
 - specified The minimum approach distances in 1910.269 corresponding to the voltages to which the qualified employee will be exposed, and;
 - The proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electrical equipment.
- 3. Until these qualified employees have demonstrated proficiency in the work practices involved, they are considered to be employees undergoing on-thejob training and must be under the direct supervision of a qualified person at all times. According to the definition of a "qualified employee", the employee also must have demonstrated an ability to perform work safely at his or her level of training.



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4. Liberty Utilities may require contractors with electrically qualified employees to provide documentation on how they qualify their workers.

6.3.9 Qualifying Non-Electrical Workers

Applies to: All contractors, as-needed.

Qualifying non-electrical workers to work near energized lines and equipment

- 1. The contractor must provide orientation for non-electrical workers for the purpose of entering and working within restricted areas such as a substation. This is a critical component of contractor orientation for all non-electrical contractors who will be working near energized lines and equipment (for example, civil contractors).
- 2. The information provided to these workers must meet the Requirements of paragraph 1910.269(a)(2)(ii). However, the orientation and training would not be as comprehensive as the training normally provided to a qualified electrical worker.
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They must know:

- What is safe to touch and what is not safe to touch in the specific areas they will be entering;
- The maximum voltage of the area;
- The minimum approach distances for the maximum voltage within the area;
- Proper use of protective equipment that will be used to provide protection for them and in the work practices necessary for performing their specific work assignments within the area.
- 3. Until these workers have demonstrated proficiency in the work practices involved, they are considered to be employees undergoing on-the-job training and must be under the direct supervision of a qualified person at all times. According to the definition of a "qualified employee", the employee also must have demonstrated an ability to perform work safely at his or her level of training. It is expected that an orientation familiarizing the employee with the safety fundamentals above will be conducted before the worker is allowed to enter a restricted area.



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6.3.10 Asbestos and Lead Hazards

Applies to: All contractors, as-needed.

- 1. Asbestos and lead materials associated with electrical, gas and water equipment includes, but is not limited to: cement-type cable covering, cable wrap, wire coatings, coal tar pipe wrap, and transite panels and conduits. Removal of this material must be done by individuals specifically trained and qualified to handle asbestos and lead. Refer to Liberty Utilities Safety Procedures, for guidance on asbestos and lead handling and removals.
- 2. Where asbestos material is present and likely to be disturbed, the Liberty Utilities representative and contractor shall coordinate how the asbestos hazard will be managed.

Note: Electrical, gas and gas contractors who will encounter asbestos or lead as part of their electrical, gas and water work shall reference in their safety plan how they will address this hazard.

6.4 OVERHEAD ELECTRICAL LINE WORK

Applies to: All contractors, as-needed.

In addition to the other requirements referenced in this document, this section covers requirements that are specific to overhead line work.

6.4.1 PPE Requirements

Applies to: All contractors, as-needed.

- 1. All contractors shall comply with the applicable PPE & WZTC requirements referenced in Section 6.1 In addition, contractors will follow ground-to-ground/cradle-to-cradle use of rubber gloves while carrying out work on energized overhead lines as referenced in 6.3.3.
- 2. Any foreign wire constitutes a potential energized source and rubber gloves shall be required. Any foreign wire on a pole or structure constitutes an energized source: Cable TV, telephone, fire alarm wire, etc.

6.4.2 Fall Protection

Applies to: All contractors, as-needed.

All contractors who climb structures such as wood poles or transmission towers shall utilize enhanced fall protection equipment and techniques. Enhanced fall protection means the use of a fall arresting device: examples include a *Buck-Squeeze, Miller* fall or *Jelco* fall arrest systems when working on wooden structures



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and a full body harness and either a Step Safe or Sheppard's Hook with retractable line when working on steel structures. Climbers shall never be allowed to drop or slide down a pole or structure more than two feet. Fall protection or fall restriction devices shall be used when working at heights over 6 feet with the exception of ladder use.

Exceptions to fall protection shall be approved by the Owners Representative or by another qualified user representative.

6.4.3 Pole/Structure Inspection

Applies to: All contractors, as-needed.

- 1. Contractor shall ascertain the structural integrity of the pole or other structure prior to installation, removal, or repair of equipment on the structure.
- 2. When work is to be performed on a wood pole, it is important to determine the condition of the pole before it is climbed. The weight of the employee, the weight of equipment being installed, and other working stresses (such as the removal or re-tensioning of conductors) can lead to the failure of a defective pole or one that is not designed to handle the additional stresses. For these reasons, it is essential that an inspection and test of the condition of a wood pole be performed before it is climbed.
- If the pole is found to be unsafe to climb or to work from, it must be secured so that it does not fail while an employee is on it. The pole can be secured by a line truck boom, by ropes or guys, or by lashing a new pole alongside it. [29 CFR 1910.269(q)]

6.4.4 Electrical Work Methods

Jumpers of any type shall not be used to keep transformers, Risers or transformer banks, energized for the purpose of changing potted porcelain cutouts. Refer to most current version of Liberty Utilities Electric Operation Procedure "Porcelain Fuse Cutout - Open Type (Liberty East)."

6.4.5 Transmission Overhead Lines

- 1. For work on transmission circuits, red tape shall be placed around any energized pole, pole structure, or tower adjacent to the de-energized line on which work is to be done (Liberty East).
- 2. When one circuit of a double circuit pole or tower line is de-energized for work, a red or orange flag shall be placed on the energized side of the pole or tower nine feet below the lowest energized conductor. In addition, on the side toward



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the energized circuit a red or orange flag shall be placed at each arm level as employees work on them, or pass them, on the tower cage.

3. All contractors using ATV's for transmission or Forestry work, are required to follow all local OHRV requirements for PPE and Driving safety.

6.5 UNDERGROUND ELECTRICAL OPERATIONS WORK

Applies to: All contractors, as-needed.

In addition to the other requirements referenced in this document, this section covers requirements that are specific to underground operations work.

6.5.1 PPE Requirements

Applies to: All contractors, as-needed.

All contractors shall comply with the applicable PPE and WZTC requirements referenced in Section 6.3.7.

6.5.2 Enclosed Space Assessment and Ventilation

Applies to: All contractors, as-needed.

- 1. The contractor shall test each space prior to removing manhole lids and entry in accordance with current Liberty Utilities, *Enclosed Space Procedure*.
- 2. Atmospheric testing must be continuous for the duration of the entry using an industry approved atmospheric tester.
- 3. When performing hot work or when indicated by atmospheric monitoring, engineering controls such as forced mechanical ventilation must be used when working in Liberty Utilities manholes during the entire performance of the work.

6.5.3 Enclosed Space Entry and Non-Entry Rescue

Applies to: All contractors, as-needed.

- 1. All manhole and sidewalk vault entry shall be conducted in accordance with Liberty Utilities enclosed space procedures. Refer to most current version of *Liberty Utilities Enclosed Space Safety Procedure*.
- 2. All contractors who are qualified electrical workers will treat these spaces as "enclosed spaces" and follow non-entry rescue provisions.
- 3. Steel cable or wire rope for non-entry rescue is prohibited.

6.5.4 Equipment Safety Inspection



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- Inspect underground facilities (manholes, vaults, handholes, splice boxes, junction boxes, pad-mount transformers, switchgear and submersible equipment) each time a crew performs work at one of these facilities. Separable components in these facilities may be inspected by infrared instrumentation. (Liberty East).
- 2. The infrared (IR) equipment such as a Fluke 68 IR Thermometer can be used. Current operating procedures are referenced in Liberty Utilities, IR procedure and should be noted on the Job Briefs. (Liberty East).
- 3. "Touch Potential" testing of metal street lighting poles may be required as a part of any maintenance work and recorded on the job brief. References include voltage testing procedure and Bulletin "TOUCH POTENTIAL TESTING OF METAL STREET LIGHTING POLES (for reference only)." (Liberty East).
- 4. All contractors working for Liberty Utilities shall use materials and equipment in accordance with the manufacturing guidelines. It is the contractors' responsibility to understand the manufacturers' limits and prescribed use of their tools and equipment before each use.

6.6 ELECTRICAL SUBSTATIONS

Applies to: All contractors, as-needed.

In addition to the other requirements referenced in this document, this section covers requirements that are specific to substations work.

6.6.1 **PPE Requirements**

- 1. All contractors shall comply with the applicable PPE and WZTC requirements referenced in Section 6.1.
- 2. Contractors will wear an electrical flash PPE ensemble when switching disconnects or grounding in areas of indoor substations as Referenced in the *ARC Flash Analysis and Mitigation Policy.*
- 3. Fall protection or fall restriction devices shall be used when working at heights over 6 feet with the exception of ladder use.
- 4. Rubber gloves and Fire Resistant clothing are required when hand digging in a substation in or around energized conductors and shall meet the requirements referenced in section 6.3.2 for FR clothing.
- 5. Contractors who perform ground breaking activities in a substation within a pre-marked area will require Call before you dig marks/dig safe to be in place; otherwise, the job must be suspended and a Liberty Utilities contact



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notified.

6. When using non-insulated man-lifts, and if provided by the manufacturer, a secure point of attachment for lifelines, lanyards or deceleration devices, shall be utilized which is independent of the means of supporting or suspending the employee.

6.6.2 Notification of System Control When Entering a Substation

Applies to: All contractors, as-needed.

- 1. When a contractor enters and exits a Liberty Utilities substation, the contractor will ensure that the System Control Center is notified. While work is being conducted, gates must be monitored at all times or the gates shall be locked. Refer to Liberty Utilities substation security procedure.
- 2. Unescorted entry in substations can only be provided to contractors who provide assurance that their employees & subcontractors are electrically qualified as specified in 29 CFR 1910.269. Refer to Section 6.1 of this document

6.6.3 Electrical Substation Work Area Identification (SWAI)

Applies to: All contractors, as-needed.

- 1. Contractors who will be working in substations shall follow the SWAI procedure. Liberty Utilities will provide a copy of this procedure if required by the project. Refer to most current version of Liberty Utilities SWAI procedure.
- 2. Qualified contractors as referenced in section 6.3.8 of this document shall install their own work area identification. Liberty Utilities shall arrange work area identification for non-qualified workers as required.

6.6.4 Herbicide Application

- 1. Substation vegetation spraying shall be conducted unescorted only by contractor employees who have been designated as a Qualified Electrical Worker where applicable.
 - The spray applicator will have ID cards issued by EHSS with background checks available from the contractor.
- 2. Substations and Production plant management shall require a schedule of the spraying in their areas and progress updates as needed.
- 3. The contractor may be asked to post all stations with dated signs indicating



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when the station was sprayed. These signs should not inhibit access to the station.

- 4. The contractor shall take care to prevent that any stored materials and equipment do not get covered with "overspray". Overspray represents a substantial safety hazard and cannot be allowed.
- 5. When applying herbicides, contract employees shall wear goggles and other appropriate PPE to protect them from contact with herbicides in accordance with product labels.

6.7 GAS OPERATIONS WORK

Applies to: All contractors, as-needed.

In addition to the other requirements referenced in this document, this section covers requirements that are specific to Gas operations work.

6.7.1 PPE Requirements

Applies to: All contractors, as-needed.

- 1. All contractors shall comply with the applicable PPE and WZTC requirements referenced in Section 6.1.
- 2. The contractor shall wear all appropriate PPE when digging or probing near (2 feet) of known electrical conductors and when the location of energized conductors is unknown.

6.7.2 Gas Operations

- 1. All contractors must meet the requirements of drug and alcohol testing in accordance with DOT Title 49 CFR Part 199.
- 2. Any contractor who performs covered tasks shall be operator qualified (OQ) as defined in the DOT Title 49 CFR, Subpart N and all applicable state requirements pursuant to the state the contractor is working in. Additionally any qualifications' of contractor personnel shall be in full accordance with the Company's Operator Qualification written plan, (OQ Plan) Refer to the most current list of covered tasks in accordance with Liberty Utilities'' Operator Qualification Program as applicable to your region.
- 3. The Operator Qualified status of contractor employees must be regularly updated and accessible via an on-line database by Company management. This listing must detail employees' current qualifications and current tasks to which they are qualified and the next recertification date and provide documentation and assurance on their qualified workers.
- 4. Contractor personnel involved with covered tasks may require certification by



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Liberty Utilities and an orientation of the involved tasks and Liberty Utilities Company standards. Liberty Utilities reserves the right to validate contractor qualifications prior to performing Live Gas work.

- 5. Atmospheres are to be tested with a properly calibrated Combustion Gas Indicator (CGI) or Gas Measurement Instrument (GMI) in accordance with Liberty Utilities excavation procedure as required.
- 6. Each employee in an excavation shall be protected from cave-ins by an adequate protective system, such as sloping, benching or an appropriate shoring system. *Refer to Liberty Utilities Safety Procedure, on Excavations, Trenching and Shoring,* for additional guidance.
- 7. An approved ABC type fire extinguisher must be at the worksite and readily available during all routine and live gas operations as conditions warrant.

6.8 VEGETATION MANAGEMENT

Applies to: All contractors, as-needed.

Vegetation contractors are expected to follow applicable OSHA and ANSI Z133.1 requirements, as well as the other requirements referenced in this document. This section covers requirements that are specific to vegetation management work for Liberty Utilities.

6.8.1 PPE Requirements

- 1. For work along roads and other areas of vehicular traffic, contractors shall wear high visibility clothing or vests as referenced in section 6.1 and in addition to other PPE appropriate to the work.
- 2. Flame Resistant Clothing is not required per the OSHA applicable Forestry standard. Forestry and vegetation contractors must instead wear natural fiber clothing when working within 10 feet of energized equipment.
- 3. Vegetation contractors must wear a properly adjusted full-body fall protection harness connected to an appropriate lanyard when working from an aerial lift. The lanyard must connect to an attachment anchored to either the boom or bucket mounting hardware. Attachment points anchored through only the fiberglass portion of the bucket are not acceptable.
- 4. Vegetation contractors will be required to wear chaps while operating a chainsaw on the ground or when assisting and/or working in close proximity to a chainsaw that is being operated.
- 5. Saws shall not be left unattended with the engine running.



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6. When a contractor employee carries a saw, the engine shall be off and/or covered or the saw shall be carried with the blade to the rear and locked.

6.8.2 Equipment and Work Methods

Applies to: All contractors, as-needed.

- 1. Vegetation contractors will be required to utilize fiberglass sticks and stick saws for work around energized equipment and to test/document their integrity annually. Test results and expirations shall be available on each vehicle as needed.
- 2. Vegetation contractors will be required to perform and document dielectric testing of all aerial units annually. **Test results and expirations shall be available on each vehicle as needed.**

6.8.3 Training

Applies to: All contractors, as-needed.

- 1. Vegetation contractor management may be required to attend safety meetings hosted by Liberty Utilities as required. The contractor will ensure that all appropriate safety personnel for the Liberty Utilities territory are in attendance.
- 2. Vegetation contractors shall implement and provide the required training and certification programs necessary to provide OSHA defined Qualified Line Clearance Tree Trimmers or Qualified Line Clearance Tree Trimmer Trainees.
- 3. All contractors using ATV's for transmission or vegetation work are required to follow all local OHRV requirements for PPE and Driving safety.

6.9 EXPECTATIONS FOR SAFE VEHICLE OPERATION

Applies to: All contractors, as-needed.

Contractors are required to comply with the requirements of all federal, state and local regulations as well as their own company policies for safe vehicle operations and licensing. In addition Liberty Utilities expects all contractors to comply with regional as well as Liberty Utilities Policies that may apply.



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6.10 LNG/PROPANE PRODUCTION, TRANSPORT AND HANDLING

Applies to: All contractors, as-needed

In addition to the other requirements referenced in this document, this section covers requirements that are specific to LNG/Propane Production.

- **6.10.1** Contractors who transport LNG/Propane at Liberty Utilities facilities are required to be certified in first aid/CPR & frost-bite awareness training.
- **6.10.2** Basic PPE attire at production sites and other similar work zones include, at a minimum: hard hat, safety shoes and safety glasses and is referenced in Section 6.1 of this document. Liberty Utilities retains the right to enhance PPE requirements as conditions warrant.
 - The use of additional PPE shall be based on the task performed and the PPE matrix for work in production plants.
- **6.10.3** All personnel working at LNG plants will sign in and out of plants daily in the contractors log book. All other gas supply facilities require authorization under the Authorized Liberty Utilities Contractor Employee.
 - Prior to work beginning, trained plant personnel shall review and reissue as needed a work permit process which shall contain procedures which describe the work to be performed, valves and Lock-out/Tag-out numbers and valve locations. Liberty Utilities will provide a copy of this procedure if required by the project.
- **6.10.4** Liberty Utilities expects contractors working at LNG and LP plants to meet the requirements of 49CFR 193 Subpart H for health, training or experience and/or any applicable Liberty Utilities procedures that supersede the above requirements'. Contractors shall provide documentation on their qualified workers, as referenced in section 6.2.4 of this document.
- **6.10.5** All contractors must meet the requirements of drug & alcohol testing in accordance with 49CFR Part 199.
- **6.10.6** All Contractor personnel performing work in LP plants must meet the requirements' of the National Fire Protection Association (NFPA), part 59.

6.11 WATER & WASTEWATER OPERATIONS

Applies to: All contractors, as-needed

6.11.1 Excavation

- 1. Contractors who perform ground breaking activities will require Call before you dig marks/dig safe to be in place; otherwise, the job must be suspended and a Liberty Utilities contact notified.
- 2. Inspect trenches daily and at the start of each shift by a competent



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person and following a rainstorm or after any other hazardous event and test for low oxygen, hazardous fumes and toxic gases before entering a trench.

- 3. Keep heavy equipment and excavation spoils at least two feet away from the trench edge.
- 4. Provide stairways, ladders, ramps or other safe means of access/egress in all trenches 4 feet or deeper and within 25 feet from any employee.
- 5. Each employee in an excavation shall be protected from cave-ins by an adequate protective system, such as sloping, benching or an appropriate shoring system. *Refer to Liberty Utilities Safety Procedure, on Excavations, Trenching and Shoring,* for additional guidance.
- 6. Trenches **20** feet deep or greater require that the protective system be *designed by a registered professional engineer*.

6.11.2 Work Zone Traffic Control

Applies to: All contractors, as needed.

For work along roads and other areas of vehicular traffic, contractors shall wear high visibility clothing or vests as referenced in section 6.1 and in addition to other PPE appropriate to the work.

PPE Requirements

Applies to: All contractors, as-needed.

- In addition to the other requirements referenced in this document, this section covers requirements that are specific to Water & Waste Water operations work.
- Contractors are required to wear natural fiber clothing when working within 10 feet of energized equipment.
- Contractors must wear a properly adjusted full-body fall protection harness connected to an appropriate lanyard when working from an aerial lift. The lanyard must connect to an attachment anchored to either the boom or bucket mounting hardware. Attachment points anchored through only the fiberglass portion of the bucket are not acceptable.

6.11.3 Confined/Enclosed Space Assessment and Ventilation

Applies to: All contractors, as-needed

1. Atmospheric testing must be conducted prior to entry and continuous for the duration of the entry using an industry approved atmospheric tester.



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2. When performing hot work or when indicated by atmospheric monitoring, engineering controls such as forced mechanical ventilation must be used when working in Liberty Utilities confined/enclosed spaces during the entire performance of the work.

6.11.4 Confined/Enclosed Space Entry and Non-Entry Rescue

Applies to: All contractors, as needed.

All **Confined/Enclosed space** entry shall be conducted in accordance with applicable regulatory requirements in OSHA 1910.146.

6.11.5 ELECTRICAL WORK AROUND WATER & WASTE WATER OPERATIONS

Applies to: All contractors, as-needed.

In addition to the other requirements referenced in this document, this section covers requirements that are specific to substations and work near electrical apparatus.

PPE Requirements

Applies to: All contractors, as-needed.

- All contractors shall comply with the applicable PPE and NFPA 70E requirements.
- Contractors will wear an electrical flash PPE ensemble when switching disconnects, grounding, or working or testing 240 volt to 600 volts.
- Fall protection or fall restriction devices shall be used when working at heights over 6 feet with the exception of ladder use.
- Rubber gloves and Fire Resistant clothing are required when hand digging near or around energized conductors.
- Contractors who perform ground breaking activities within a premarked area will require Call before you dig/dig safe marks to be in place; otherwise, the job must be suspended and a Liberty Utilities contact notified.
- When using non-insulated man-lifts, and if provided by the manufacturer, a secure point of attachment for lifelines, lanyards or deceleration devices, shall be utilized which is independent of the means of supporting or suspending the employee.

7.0 TRAINING

As referenced in this document.



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8.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

As referenced in this document.

9.0 DOCUMENTATION / RECORDKEEPING

This document is updated periodically to communicate all aspects of Liberty Utilities contractor safety to bidders and current contractors.

10.0 APPENDICES

None

11.0 RELATED DOCUMENTS & FORMS

- Safety Hazards Checklist
- Emergency Contact List
- Safety Plan Guidance Template
- Pre-Construction Meeting Guidelines
- IA Form for Contractor's
- Environmental Screening Checklist

12.0 REVISION HISTORY

Date	Rev #	Description	Lead Person
Dec 13/12	0	New Procedure	Michael Pazzanese
Apr 29/13	1	Corrected referenced sections	G.Mercier

12.0 APPROVAL AUTHORITY

Date	Title or Position	Signature
Jan 28/13	Liberty Utilities – President	Signature on file
Jan 25/13	Liberty Utilities – Senior Manager, EHSS	Signature on file