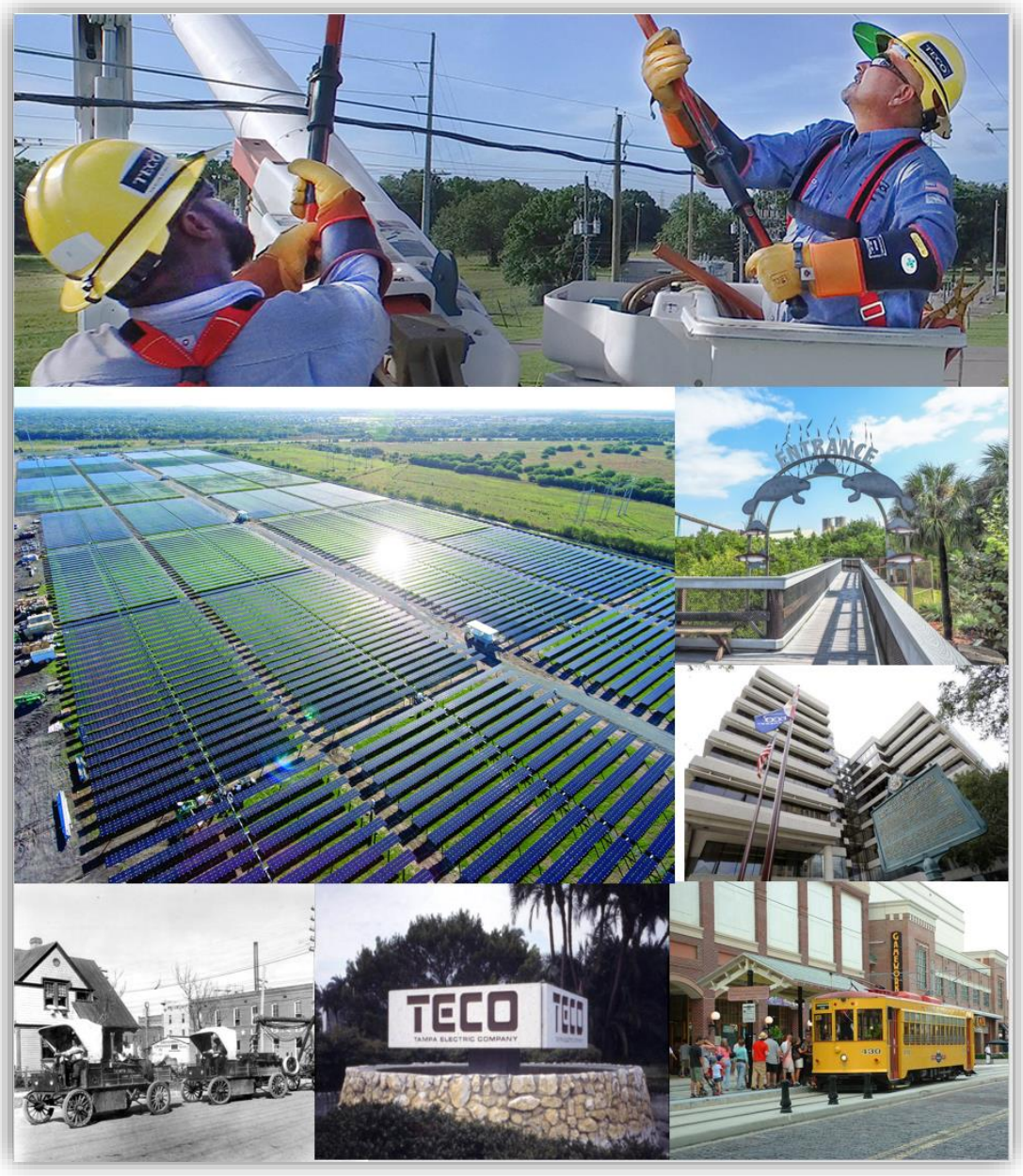
Safe Work Practices



REVISIONS

DATE	SWP	REVISION
05-06-21	201.16, 301.15, 401.15, 613.15, 801.15, 901.15	2-way communication
05-06-21	206.07, 305.06, 403.06, 804.06	One-man crews
05-06-21	220.21	Underground distribution
05-06-21	224.purpose, 224.06, 224.08, 224.11, 224.20	Working on or near energized lines or equipment
05-06-21	121.01, 220.01, 411.01	Cutting while using hand tools
05-06-21	205.01 thru .04 612.01 thru .04 803.01 thru .04	Manhole work
04-21-21	110. 01 thru .24	Cranes & Hoists
03-15-21	All	Any mention of “Green Hold Tag” or “Caution Tag” – replaced with language “Energized Work Permit”
03-11-21	150.11 thru 150.52	Vehicle Operation (Trailer and Cargo Securement)
03-11-21	212.07, 212.08 213.03, 213.04 217.02, 217.03	Use of Remote Equipment Controls
03-11-21	217.07, 217.08	Setting and Pulling Poles
03-11-21	407.01	Meter Testing and Installation
02-02-21	220.36	Single-Phase URD
10-28-20	213.06 & 705.06	Pole Loading, Unloading & Hauling (Cant Hook)
10-28-20	220.36	Underground Distribution (Phasing)
06-02-20	218.06 & 312.06	Clearance Request Sheet
06-02-20	218.09b & 312.09b	Placing Equipment Back in Service
05-29-20	150.32, 33, 34 & 35	Vehicle Recovery
05-29-20	224.02	Face Shield Update

FOREWORD

This manual of Safe Work Practices has been prepared to inform and guide employees of Tampa Electric Company. It is issued as a guide to preventing injuries and accidents and as an aid in safeguarding employees and property of the Company.

Each person is asked to become thoroughly familiar with the contents of the manual and to observe all rules that apply to his or her work.

In preparing the manual, an effort has been made to cover commonly faced conditions and situations. When emergency situations arise which aren't covered by normal procedures, we expect that employees will exercise their best judgment consistent with safety of life. If you are in doubt about what to do, consult your supervisor.

In addition to these safe work practices, it is understood that there are departmental procedures and other program requirements that must be followed.

Extensive teams worked to update this rule book in compliance with governmental safety and health standards and Company requirements. This manual is an excellent result; we commend their efforts.

100 GENERAL

101 INTRODUCTION

01

Safety of life shall outweigh all other considerations.

02

It is the responsibility of Tampa Electric Company to provide a safe and healthy work environment for all employees and assure that employees have the knowledge, skills, and equipment to perform their jobs safely.

03

These rules shall be strictly adhered to. Negligence, carelessness or unsafe work practices shall not be tolerated. It is not practical to describe in detail all safe work practices necessary for the safe operation of the Company.

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04

No work is ever to be considered so important or urgent that the necessary steps cannot be taken to do it safely.

05

Each employee shall assume responsibility for his or her own safety. This responsibility increases with experience. Each employee shall be required to know and use the protection required for his or her job and shall be familiar with the tools and equipment required.

06

All employees are responsible for seeing that all applicable safe work practices are followed in the performance of the job. Each employee has the additional responsibility of assisting in the safeguarding of others.

07

An employee shall not use intoxicants or drugs while on duty, report for duty while under the influence of intoxicants or drugs, or are relieved by another employee known to be under the influence of intoxicants or drugs. If an employee's physician has prescribed drugs or medication that will limit the employee's ability to perform certain jobs, the employee shall inform the supervisor of that fact. Refer to the Tampa Electric Co. Drug and Alcohol Policy.

08

Each employee shall challenge any carelessness or unsafe work practices and, if the employee believes it necessary in the interest of safety, shall advise the person in charge.

09

The use of the word "shall" indicates a mandatory practice. The word "should" indicates an advisory practice.

10

Where advisory or discretionary judgments are undertaken, adequate measures shall be taken to ensure an equivalent level of accident prevention.

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11

Interpretations and assistance with Safe Work Practices is available from supervisors and from departmental safety staff. Please refer to applicable work procedures or programs for specific details and additional information.

102 BARRICADES, BARRIERS AND WARNING SIGNS

01

Employees shall heed warning signs. Where hazardous conditions exist, barricades, barriers and/or warning signs, such as tape, cones, or flashing lights, shall be used to warn employees and the public of the dangers.

02

Where hazardous conditions exist in a poorly illuminated area or after dark, adequate lighting shall be provided and flashing warning lights shall be placed on all sides of the hazardous area.

03

Approved railings shall be used to guard stairways and open-sided floors. Toe boards or other suitable means shall be installed where falling tools or materials create hazards to others.

04

Each barricade shall have an information tag listing the date the barricade is erected, the person responsible for placement of the barricade, and the purpose of the barricade.

05

Red tape with a tag shall be placed to designate danger and to prevent access into an area. Persons required to enter the red-taped area to address the hazard shall understand and be protected from the hazard.

06

Yellow tape with a tag is used to caution and make aware the potential of a hazard in the area. Persons required to enter the area shall understand and be protected from the hazards.

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103 BATTERIES

01

For additional information, refer to manufacturers' product information and Safety Data Sheet (MSDS): https://msdsmanagement.msdsonline.com/4f03ee67-b397-40de-ac26-33ae2ec56506/ebinder/?nas=True

02

Adequate ventilation shall be provided in battery and battery-charging areas. Where natural ventilation does not constantly change the air, forced ventilation shall be used. The manufacturers' recommendations shall be followed in charging batteries.

03

Approved signs shall be posted and observed in all battery areas. Signs shall read Danger-No Smoking, Open Flames or Ignition Sources.

04

Approved eye wash facilities shall be available and located within 25 feet of the battery-charging area.

05

Employees shall wear acid-proof gloves, aprons, chemical mono-goggles and face shield when handling or repairing batteries.

06

Care shall be exercised to prevent short-circuiting, generating a spark or ignition source when working on or near the battery or when cleaning or making repairs.

07

When making up electrolyte for batteries, employees shall always pour the acid slowly into the water, not water into the acid. The wrong procedure can cause an explosion.

08

A carboy tilter or siphon shall be used to handle electrolyte.

09

If electrolyte is spilled on clothing, the contaminated clothing shall be removed and the skin washed with water as soon as possible.

Return to Index

10

Open flames, tools that can cause sparks, and other sources of ignition shall be kept clear of the immediate area during charging operations.

11

When it is necessary to work in battery rooms where sources of ignition exist, the room shall be adequately ventilated. The battery charger shall be turned OFF when practical.

12

Battery-powered vehicles shall be properly positioned and brakes set before charging operations commence.

13

When charging batteries, vent caps shall be kept in place. Care shall be exercised to ensure that vent caps are functioning properly. Battery compartment covers shall be opened to dissipate heat and vapors.

14

Care shall be exercised to prevent grounding the case of a NiCad cell, since the case is part of an electrical circuit.

15

When removing a battery, the ground connection shall be the first connection removed. When installing a battery, the ground connection shall be the last connection made.

16

When using a hydrometer to check batteries, care shall be taken to prevent splashing battery acid.

17

If jumpers are used to start vehicles with dead batteries, the jumper shall be connected first to the positive terminal of the dead battery, then to the positive terminal of the live battery. The other jumper shall be connected first to the negative terminal of the live battery and then to a suitable ground and not the negative terminal of the dead battery.

18

Rooms and cages housing exposed electrical bus above 60 volts shall be locked and access limited to authorized personnel.

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19

Batteries shall be properly disposed of in an environmentally safe manner outside of shop area. Spent dry cell batteries shall be placed in an area of good general ventilation away from ignition sources and outside shops and employee workstations.

104 BLOOD BORNE PATHOGENS

01

First aid providers and others who may reasonably anticipate having exposure to blood or other potentially infectious materials shall follow the procedures outlined in the Exposure Control Plan.

02

Avoid direct contact with blood and bodily fluids. Whenever possible utilize a waterproof barrier (latex or plastic) between you and the wound or bodily fluids.

03

All contaminated materials shall be properly disposed of.

04

Practice universal precautions.

05

In case of an exposure incident, notify your supervisor and/or safety coordinator within 24-hours.

105 CHAIN SAWS – GAS, HYDRAULIC, or POLE TYPE

01

Approved personal protective equipment shall be worn when operating chain saws: hard hat, gloves, approved safety eyewear with side shields (may include face shields and eye wear/goggles), when working on the ground, leg protection (chaps).

02

The starter cord shall not be wrapped around the hand when starting the engine. Watch clearances and make sure of footing before pulling the cord.

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03

Make sure everyone is in the clear and the operator has good footing before using the saw.

04

During refueling, smoking or open flames shall not be permitted in the area. The engine shall be stopped. A hot engine shall be allowed to cool before refueling.

05

While standing in an aerial basket, the saw shall be placed on the edge of the basket to start.

06

Saws shall be stored in carrying cases or the guard over the blade when not in use. A saw holder shall be used when carrying saws in aerial baskets.

07

While standing on the pole, and using a chain saw, a separate steel safety shall be used in addition to the Bucksqueeze.

106 CLOTHING, JEWELRY AND ACCESSORIES

01

Loose dangling jewelry or flapping clothing such as neck ties and unbuttoned cuffs, shall not be worn when working around moving machinery or rotating parts.

02

FR clothing shall be worn properly when working in an energized area: Sleeve cuffs shall be fully rolled down and secured. All buttons below the collar shall be secured. Shirt tails shall be tucked into pants.

03

When work is performed within reaching distance of exposed energized parts or equipment, the employee shall remove or render nonconductive all exposed conductive articles, such as key or watch chains, rings, or wrist watches or bands, unless such articles do not increase the hazards associated with contact with the energized parts.

Return to Index

04

Special care shall be used to make sure that rings and other jewelry items do not catch on fixed objects when employees move from one elevation to another.

05

Employees shall be required to wear a hair net if the supervisor deems hair length to be a hazard around moving machinery.

06

Employees engaged in climbing poles or structures, or in work areas where there is danger of injury to the arms such as cuts, abrasions, or thermal burns shall wear a long sleeve shirt buttoned or pulled down to the wrist.

07

Where there is exposure to electric shock or arc flash hazards, affected employees shall wear approved fire retardant (FR) apparel.

Clothing made from the following types of fabrics, either alone or in blends, is prohibited: acetate, nylon, polyester, rayon.

08

Personal headsets and earphones shall not be used while operating a company vehicle, nor shall they be worn while on the job. For cell phone use, please refer to your departmental policy.

107 COMPRESSED GAS CYLINDERS

01

Cylinders shall be stored in designated areas and shall be secured in an upright position. Empty and full cylinders shall be stored separately. Oxygen cylinders shall be stored at least 20 feet from fuel gas cylinders or other combustible material, such as oil and grease, or be separated by an approved fire wall.

02

Cylinders shall not be dropped, struck, rolled in the horizontal position or exposed to temperature extremes.

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03

When opening the cylinder valve the discharge shall be turned away from the operator and opened slowly. This does not apply when the cylinder is required to be in an inverted position.

04

Caps provided for valve protection shall be in place on the cylinder hand-tight, except when regulators are attached. Tools shall not be inserted in the cap for the purpose of loosening or tightening the cap.

Utmost caution shall be used when removing caps to assure that the valve assembly is not unscrewed along with the cap.

05

Valves shall be kept fully closed when not in use. If a special wrench is required, it shall be left in place on the valve stem for immediate use in case of emergency.

06

Oil and grease shall not be permitted to come in contact with torches, valves, regulators, gauges or fittings of oxygen cylinders.

07

Compressed gas shall not be released from any cylinder without using a suitable regulator except to initially clean the valve orifice. The control valve shall be opened only enough to blow out any foreign particles before connecting the regulator or line to the cylinder.

08

Acetylene and hydrogen cylinders shall not be vented.

09

Sparks or flames shall be kept away from cylinders or hoses. A sign “Danger - No Smoking, Open Flames or Ignition Sources” shall be posted in rooms or at entrances to areas where fuel gas is stored or used.

10

Oxygen shall be used for purposes intended and not for such purposes as to blow out pipelines, dust clothing, start engines, operate pneumatic tools, operate paint-spraying devices, or to pressurize tanks.

11

Cylinders in use shall be secured to a special cart or secured to a stationary object such as a hand rail or column.

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12

Cylinders shall be properly secured in the upright position while being transported. Cylinders being transported shall have valve caps in place unless secured in a special cart or truck.

13

Transportation of all compressed gas cylinders shall comply with DOT regulations for hazardous materials shipping papers. Tanks shall not be taken into confined spaces for cutting, welding, etc.

14

Cylinders shall be legibly marked as to contents. Vehicles shall be properly marked (placarded) when transporting cylinders.

15

Acetylene shall not be used at a pressure in excess of 15 psi.

16

Oxygen and fuel gas systems shall be equipped with UL or FM approved flash arrestors (check valves, flashback arresters, and backflow valves), regulators, and pressure relief devices. The flash arrestors must, at a minimum, be installed at the regulator. Additionally, the flash arrester must be installed in the proper direction of flow to ensure proper operation.

17

Regulators shall be removed and valve caps put in place while cylinders are being transported on elevators.

108 COMPUTER PRACTICES

01

Position display screen slightly below eye level and avoid glare on the screen.

02

Adjust work surfaces and space to comfortably perform work tasks.

03

Adjust keyboard position to ensure proper position, angle, and comfort.

Return to Index

04

Take rest pauses to alleviate or delay onset of fatigue as necessary.

05

Sit upright to avoid straining neck and back.

06

Use a footrest if feet don’t rest comfortably on the floor.

07

Shift sitting position frequently to relax tension away.

08

Blink frequently. Make a conscious effort of it so your eyes won’t get dry.

09

Vehicle mounted computers and Mobile Data Terminals – please refer to your departmental policy for proper usage.

109 CONFINED SPACES

01

Employees shall follow the procedures outlined in the Permit-Required Confined Spaces Program as well as the specific entry procedures for the location involved.

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110 CRANES AND HOISTS

01

A pre-lift meeting shall be conducted with all parties involved in a lift as part of the job risk assessment process.

A. A critical lift plan is required and shall be documented on a Mobile Crane Critical Lift Plan Form if:
    a. Lifts in excess of 40,000lbs with a mobile crane
    b. Lifts requiring the use of multiple cranes
    c. Lift weight exceeds 75 percent of the crane's rated capacity at it lift radius
    d. Lifts involving the use of a personnel basket to hoist personnel
    e. Lifts where the load is maneuvered outside of the crane operator's view
    f. Lifts made on items identified as high value or that have long lead times for replacement.

02

Cranes and hoists shall only be operated by qualified personnel.

03

When working around a crane, employees in the immediate area shall wear a hard hat and approved safety eyewear.

04

The controls of all cranes shall be distinctly marked so that their functions cannot be misunderstood.

05

An approved fire extinguisher shall be easily accessible to the crane operator.

06

The crane/derrick operator shall take all signals from a single, designated, and qualified signal person. Should it be apparent that obeying a signal would result in an injury and/or property damage; the operator shall not proceed but shall notify the signal person at once. A STOP signal shall be obeyed regardless of who gives the signal.

07

All lifting equipment, slings and attachments shall be visually inspected before each use to ensure they are properly marked with load capacity and free of damage. Any equipment that fails the visual inspection should be immediately tagged out of service and returned to the tool room for destruction and replacement.

Return to Index

08

The rated capacity of the equipment shall not be exceeded.

09

A load shall be attached to the hook by means of slings and/or other approved devices. All slings and other hardware shall be of sufficient strength, of proper type, and rated for the lift.

a. Use suitable materials for sling protectors that go around sharp edges.
b. Use suitable softeners to prevent chokers from slipping during a lift.
c. Use only forged alloy steel shackles that have their safe working load limit stamped on their bales.
d. When using wire rope sling, a shackle one size greater than the sling used is required at a minimum.
e. Wire rope and synthetic slings must be stored off the ground, preferably on a choker rack, when not in used.

10

Clearances shall be checked before raising or lowering a load.

11

After the slack is taken up, employees shall stand clear of the load before the actual lift is started, except as required by the job. When moving large, heavy equipment or materials by crane, a tag line shall be used.

12

Crane/Derrick operators shall not move loads over the heads of employees. Employees shall not stand, walk, or work under suspended loads or inside the angle of a winch line of the crane. Cones, barricade tape, or other warning devices shall be in place to ensure employees do not enter within the angle of a winch line.

13

During the lift, avoid shock loading slings, cables, or wire ropes by taking up the slack in a gradual, steady, and safe manner.

14

Ensure the load drop zone has been accurately calculated and the perimeter is secured prior to making a lift.

15

An escort shall precede any load when it is moved above an area where people could be struck by the load or the area shall be barricaded off if the escort cannot control the area. Return to Index

16

The operator shall not leave controls unattended when the load is suspended.

17

Upon leaving the crane or hoist, the operator shall be certain to open all necessary switches or controls to prevent movement of the crane or hoist while unattended.

18

Approach distances with overhead lines shall be constantly checked. An observer shall be used when cranes or hoists are within ten feet of exposed energized overhead lines.

19

When working within ten feet of exposed energized lines or equipment, cranes shall be properly grounded, and lines or equipment shall be insulated or isolated.

20

Employees shall exercise extreme caution when working in the vicinity of a mobile crane that is operating near exposed energized equipment. Employees who may contact or come in close proximity to the crane shall wear rubber gloves.

21

If the mobile crane accidentally makes contact with energized equipment, employees shall not approach the crane until the contact is broken or the equipment is known to be de-energized. If it becomes necessary for the operator to leave the crane, the operator shall jump clear rather than step down.

22

All outriggers shall be used to level a mobile crane. Once the initial strain is taken, and before proceeding with the job, the blocking and outriggers shall be re-checked to assure stability.

23

Should an overhead crane or hoist lose power, the controls shall be turned to the OFF position, until power is restored.

24

After the load is removed, the hook and/or slings shall be secured.

Return to Index

111 ERGONOMICS

01

Workstations and/or work areas shall be arranged to accommodate a full range of required movements.

02

Machine controls shall be reachable and easily accessible prior to operation.

03

Lighting shall be adequate to perform task activities.

04

Adequate space shall be available to allow safe lifting of loads using both hands, while facing the load.

05

Work spaces and areas shall be arranged to avoid the need for carrying objects overhead and for overreaching.

06

Tools shall be selected for ergonomic features.

07

Vibration dampening products shall be used on vibratory type tools and equipment where applicable.

08

Plan work activities to reduce or eliminate repeated manual lifting where possible.

Return to Index

112 EYE PROTECTION

01

Only company approved eye protection (meeting ANSI Z-87.1) that is in good condition shall be worn.

02

Eye protective equipment shall be worn on jobs or in areas where hard hats are required, in all designated eye protection areas, on all jobs where it has been specified that eye protection is required, and at any time a hazardous condition exists.

03

Basic eye protection shall consist of safety glasses with side shields. Additional or specialized eye protection shall be worn as required by the job. (i.e. face shields and safety glasses are needed when using any of the following: stationary or portable tools with cutting, sanding, grinding wheels, wire wheels, or rotating wire brushes).

04

Contact lenses shall not be worn with full-face respirators.

05

Contact lenses shall not be worn when handling acids and caustics.

113 FALL PROTECTION

01

Only approved personal fall-arrest equipment shall be used.

02

Employees shall be instructed in the use of fall-arrest equipment and/or positioning devices prior to using them on the job.

03

All personal fall arrest equipment shall be inspected before use each day to determine that the equipment is in safe working condition. Defective equipment shall be tagged and removed from service.

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04

Lifelines shall be protected against being cut or abraded.

05

Personal fall-arrest systems shall be rigged such that an employee can neither free-fall more than six feet nor contact any lower level.

06

If vertical lifelines or drop lines are used, not more than one employee may be attached to any one lifeline.

07

Snap hooks may not be connected to loops made in webbing-type lanyards.

08

Snap hooks may not be connected to each other.

09

Fall protection is required on all work above four feet unless on an approved work platform, a guardrail system or a safety net system is in place.

10

Anchorage points for positioning devices and fall-arrest equipment shall be located above the body belt or harness attachment point.

11

Fall-arrest equipment subjected to stress impacts caused by a free-fall or by testing shall be tagged and removed from service.

Note: Fall protection requirements for work on ladders, scaffolds or other approved work surfaces are included in other sections of the Safe Work Practices Manual. Refer to Section 129, Ladders and Section 146, Scaffolding.

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114 FIRE PREVENTION

01

All No Smoking signs shall be strictly observed. No open flames shall be allowed or spark-producing tools used in the area where flammable or combustible liquids and gases are stored.

02

Each employee is responsible for recognizing fire hazards, eliminating the fire hazards when possible, and reporting those over which the employee has no control to the person in charge.

03

Each employee is responsible for knowing what action to take in case of fire, including whom to notify, where and how to sound available alarms and what firefighting equipment to use. For specific details refer to your department's emergency evacuation plan.

04

Exit routes and doorways shall be clearly marked and kept clear of all obstructions.

05

Oily wastepaper, oily rags and other combustible materials shall be placed in metal containers with self-closing lids or self-extinguishing lids.

06

Open flames or spark-producing tools shall not be used in any area where combustible gas vapors or dust may exist unless proper precautions are taken in accordance with departmental procedures.

07

Fire extinguishers that have been discharged, even partially, shall not be placed back in service, but shall be promptly tagged and removed from service. The discharged extinguisher shall be replaced with a fully charged unit.

08

Designated fire hoses and other fire protective equipment shall not be removed from fire stations or used for purposes other than firefighting or drills.

Return to Index

09

Access to fire extinguisher, designated fire hoses and other fire protective equipment shall not be obstructed.

10

All extinguishers shall be kept at their designated location on a hanger or in a cabinet when not in use.

115 FLAMMABLE, COMBUSTIBLE LIQUIDS & GASES

01

All No Smoking signs shall be strictly observed. No open flames shall be allowed or spark-producing tools used in the area (within 35 feet) where flammable or combustible liquids and gases are stored.

02

Flammable and combustible liquids and gases shall be kept and transported only in approved containers. Containers being transported shall be properly secured.

03

Safety cans containing flammable liquids shall be marked with a yellow stripe around the can, and the contents clearly identified.

04

Flammable hazard or combustible waste liquid shall be disposed of only into approved waste containers. Waste shall never be emptied into any drain.

05

Combustible waste material, such as oil or paint-soaked rags, shall be stored in covered metal containers and disposed of daily.

06

When pouring flammable liquid from one metal container to another, or in filling gasoline tanks, metal-to-metal contact shall be maintained between the two containers or between the hose nozzle and the tank to prevent static buildup.

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07

Dispensing drums shall be equipped with self-closing spigots. Pipe connections on all drums and piped flammable liquids shall be vapor and liquid-tight.

08

Leaking hoses and nozzles shall be repaired promptly.

09

Bulk containers used to dispense flammable liquids into another container shall be bonded to the receiving vessel and to ground to prevent static spark.

10

All spills of gasoline, oil or other flammable liquids shall be cleaned up immediately in accordance with environmental procedures.

11

The cutoff switch for electric pumps used to dispense flammable liquids shall be clearly identified and easily accessible.

12

Place containers on the ground when filling with flammable liquid instead of in the back of a truck with a bed liner to prevent static buildup.

116 FOOT PROTECTION

01

Only approved foot protection meeting ANSI Z-41.1 that are in good condition shall be worn.

02

At a minimum boots or shoes with impact resistant toe caps and non-slip soles shall be worn.

03

Only boots or shoes with defined heels shall be worn to help prevent slipping when climbing.

Return to Index

04

Where special hazards exist, high-top shoes or boots or puncture resistant soles may be required.

05

When welding or cutting, high-top shoes or boots that are close-fitting shall be worn.

06

Leggins are required when welding or cutting with low-quarter footwear. High-top shoes may be worn in lieu of leggins as long as the tops of the shoes are close-fitting and covered by the pants leg when welding or cutting.

117 FORKLIFT OPERATIONS

Note: Additional Safe Work Practices are included under Section 706, Powered Industrial Trucks and shall be consulted for order pickers, reach trucks, narrow aisle forklifts, motorized pallet jacks, and material chasers.

01

Only qualified and authorized personnel shall operate a forklift. All operators shall comply with the manufacturers' safe operating instructions.

02

Hard hats and safety glasses shall be worn at all times when operating a forklift.

03

The operator shall complete an equipment checklist examination at the beginning of each shift prior to using the unit. A written copy of the completed checklist shall be retained on file according to department procedures.

04

When descending an incline, the load shall be to the rear. When ascending an incline, the load shall be to the front.

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05

Wheels shall be blocked if the forklift is parked on an incline.

06

Sudden stops that might spill the load shall be avoided.

07

The horn shall be sounded when blind corners are approached.

08

Forklifts with gasoline or diesel engines shall not be operated in an enclosed area for prolonged periods of time, so as not to exceed the allowed levels of carbon monoxide.

09

When a forklift is moved, loaded or empty, forks shall be carried as low as possible but high enough to clear uneven surfaces.

10

Loads shall not be raised or lowered while the truck is traveling.

11

The warning light on the forklift shall be turned ON whenever the unit is in operation.

12

Passengers are not allowed to ride a forklift. No one shall be permitted to ride the load at any time.

13

Only an approved platform shall be used as a man lift. The platform will be properly secured to the mast or forks, and guards will be in place to prevent hands or materials from passing into the mast area.

14

Appropriate personal fall arrest equipment (full body harness and shock absorbing lanyard) shall be used and properly secured by all personnel while working in an elevated platform. The full body harness and shock absorbing lanyard shall be inspected prior to operating the unit to ensure they are in good repair and securely fastened.

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15

Personal fall arrest equipment shall be properly secured to the fork-tine carriage and not to the platform or work basket.

16

The forklift operator shall never leave the lift while an occupied work platform/basket is elevated.

17

When forklifts are used in loading and unloading operations inside trucks or trailers, special precautions shall be exercised. The vehicle shall be properly docked, and parked with the wheels safely chocked. In addition, there shall be no personnel (other than the operator) permitted inside trucks or trailers while the forklift is in operation (traveling).

18

Upon control difficulty, malfunction, or equipment failure, the unit shall be tagged out-of-service until repairs are made and the unit re-certified.

19

When the forklift is not in use, the forks shall be lowered, brakes set, and the key turned to the OFF position.

20

Personnel shall not stand or pass beneath the elevated forks, whether loaded or empty.

21

Forklift trucks shall not be used in place of jacks or other lifting devices.

22

Only loads which are securely and safely loaded and within the rated capacity of the truck shall be handled.

23

When refueling forklifts, the engine shall be turned OFF.

24

Only approved attachments to the mast or forks shall be used. Improvised methods shall not be used.

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25

All fork tine attachments, slings and lifting accessories shall be properly marked indicating load capacity.

26

The rated capacity of all equipment shall not be exceeded. Equipment not rated with load capacity shall be taken out-of-service until properly inspected and rated.

118 GAS SERVICE

Note: This section applies to propane or natural gas systems.

01

When entering or working on customer property, employees shall check for hazardous conditions, such as, tripping hazards, dogs or other potentially dangerous animals.

02

Smoking and open flames are prohibited when working on gas service installations.

03

Prior to beginning work, visually inspect the gas service installation for hazards.

04

Appropriate personal protective equipment (hardhat, safety eyewear, protective footwear, gloves, etc.) shall be worn as required by the work conditions and task to be performed.

05

Gas service reconnects and disconnects shall be performed according to established procedures.

06

Electrical bonding jumper straps shall be applied during all gas service disconnects.

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119 GOLF CARTS

01

Comply with all traffic signs and directions. Where speed limits are not posted obey to the 10 MPH speed limit.

02

Drive the vehicle only as fast as terrain and safety considerations allow. Consider the terrain and existing traffic conditions.

03

Avoid sudden stops or change of direction as they may result in a loss of control.

04

All travel should be directly up or down hills. Use extra care when driving the vehicle across an incline.

05

Feet, legs, hands, and arms should be kept inside the vehicle at all times.

06

Check the area behind the vehicle before backing up.

07

Do not exceed vehicle capacity. Standard vehicle is limited to two occupants maximum per seat.

08

Balance and secure loads before driving. Keep items within the perimeter of the cart. Stay within the weight limits of the cart.

09

Drive golf carts on Company property only. Do not drive carts on public roads.

Return to Index

GOLF CART BATTERY CHARGING

10

Wear eye protection whenever working with the battery. Use extra care when working around the battery and charging equipment.

11

Charging must be performed in a well-ventilated area.

12

Inspect the charger AC and DC plugs for loose, bent, arced or dirty contacts. Inspect the vehicle receptacle for loose wires or damage. Tag out-of-service any damaged cords or parts.

13

Insert plug fully into receptacle and check that the connection is tight.

14

Be careful not to pull on the cord or place it in a position where it can be driven over or present a hazard to personnel working in the area.

15

When connecting or disconnecting the charger to a vehicle, always make sure that the charger has completed its charge and is OFF (ammeter indicates 0 amps). If the charger is not OFF, an electrical arc may occur when the charger is unplugged and may cause an explosion or fire.

120 HAND PROTECTION

01

Employees shall wear the proper approved work gloves when handling sharp, rough, cold or heated materials or when the use of gloves will prevent hand injuries.

02

Only work gloves in good condition, free from holes and fraying, shall be worn. Gloves shall not be altered in any way.

Return to Index

03

Special gloves approved for use in handling acids, caustics or other potentially injurious substances shall be worn when working with these materials.

04

Gloves shall not be worn where there is danger of their being caught in moving machinery or rotating parts, except when using wire brush wheels.

05

Cut level gloves or rubber gloves with leather protectors shall be worn when installing and removing socket-type meters. Cut level gloves are the only approved gloves for handling broken glass, porcelain, or sharp instruments.

06

Glove protectors shall not be worn in place of work gloves.

07

Rubber insulated gloves shall be worn when working on or near exposed energized lines or equipment.

121 HAND TOOLS

01

When performing a cut while operating hand tools with moving parts such as oscillating, circular, or reciprocating motion, the user shall ensure complete 360 degrees of visibility around the object being cut to ensure there are no hazards within the range of the moving parts. If 360 degrees of visibility is not possible, a power tool will be strictly prohibited, and the cut must be made by hand.

02

All tools, regardless of ownership, shall be of an approved type and maintained in good condition.

Tools shall be inspected by the user prior to each use. Any employee has the authority to condemn unsafe tools.

03

Defective tools shall be tagged to prevent their use and shall be either repaired or disposed of.

04

Tools shall be used only for the purpose for which they were designed. Return to Index

05

Hammers with metal handles, screwdrivers with metal continuing through the handle and metallic measuring tapes shall not be used on or near energized conductors or equipment.

06

Tools shall not be thrown from place to place or from person to person. Tools that must be raised or lowered from one elevation to another shall be placed in tool buckets or firmly attached to hand lines.

07

Tools shall not be left unsecured on scaffolds, platforms, or other elevated places where their falling could endanger employees below.

08

Impact tools such as chisels, punches, drift pins and hammers, that become worn, mushroomed, or cracked, shall be dressed before further use or replaced.

09

Sharp-edged tools shall be kept sharpened.

10

Hand tools shall be used in such a way as to prevent injury in case of a slip.

11

Chisels, drills, punches, ground rods and pipe shall be held with suitable holders or tongs, not with the hands, while being struck by another employee.

12

Wrenches with sprung or damaged jaws shall not be used. Adjustable wrenches shall be pulled so force is applied to the side of the fixed jaw.

13

Only approved extensions shall be used for added leverage.

14

Only wrenches designed for the purpose shall be struck.

Return to Index

15

Tools with sharp edges shall be stored and handled so they will not cause injury. They shall not be carried in pockets. All cutting tools shall be kept properly guarded.

16

Tool handles that are loose, cracked or splintered shall be replaced. Handles shall be kept clean of oil and grease.

17

When working on or above open grating, the grating shall be covered to prevent tools or parts from dropping to a lower level, or the danger area below shall be barricaded or guarded.

18

The insulation on non-rated hand tools shall not be depended upon to protect users from electric shock.

19

Files and rasps shall be used with handles. They shall not be used as a pry, nor shall they be struck.

122 HAZARDOUS MATERIALS

01

Read and understand the Hazard Communication Program to include Safety Data Sheets (MSDS) and product warning labels for the products and substances with which you are working.

02

Hazardous materials, chemicals and products shall receive approval for use by evaluation through the Standards and Safety departments.

03

Only qualified and authorized employees shall handle hazardous materials.

04

Appropriate personal protective equipment as defined in the SDS shall be worn to reduce exposure to injury and other risks.

Return to Index

05

Practice good personal hygiene to reduce exposure to hazardous substances.

06

Consult with a supervisor or safety staff member if you have any questions about working safely with hazardous substances.

HAZARDOUS MATERIAL SPILLS

07

Any identified or unfamiliar hazardous material spill or leak shall immediately be reported to the supervisor or local environmental coordinator and handled according to approved procedures.

08

Employees may respond to a hazardous spill or leak based on the level of training that they have received.

123 HEAD PROTECTION

01

Only approved hard hats or caps (meeting ANSI Z - 89.1) with standard reflective decals shall be worn.

02

Head protection shall be worn by employees and non-employees under the following conditions: (a) in designated hard hat areas; (b) on a power plant site; (c) at all construction sites; (d) by all operating personnel in the field; (e) by those indoors and in shops and storerooms, who are subject to falling objects or other hazards; (f) at any other work area where there is a danger of head injury.

03

Exceptions may be authorized by the supervisor if it is judged that circumstances require it, except in OSHA-designated hard-hat areas.

Return to Index

04

Hard hats shall be kept clean and regularly inspected. Those found to be defective shall be replaced.

05

Nothing may be worn under a hard hat except a welder's skull cap or dew rag. Skull caps or dew rags must be made of flame retardant (FR) materials when used near energized lines or equipment.

124 HEARING PROTECTION

01

Approved hearing protection shall be worn when employees are working in an area designated as requiring protection.

02

Hearing protection shall be worn on certain jobs as directed by the supervisor.

03

Employees who work in areas where Hearing Protection Required signs are posted shall participate in regular audiometric evaluations.

04

Approved hearing protection is available and recommended for use in noisy work areas.

05

Employees required to wear hearing protection shall comply with the proper use, limitation and care of the protectors worn.

Return to Index

06

Employees shall wear proper protection devices when exposed at or above these levels.

PERMISSIBLE NOISE EXPOSURES:

Duration Per Day (Hours)	Sound Level (dBA)
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

125 HIGH HEAT ENVIRONMENTS

01

Employees shall drink plenty of water and take regular breaks when working in high heat environments.

02

Employees working in the direct sun shall take extra precautions to prevent sunburn and heat stress.

Return to Index

126 HOUSEKEEPING

01

Employees shall be responsible for maintaining a clean and orderly work place, whether on Company property, in vehicles, or at a job site.

02

Tools and material shall be placed so as not to create a tripping hazard. Aisles, passageways and stairs shall be kept clear.

03

Scrap materials and debris shall be picked up and disposed of promptly.

04

Protruding nails shall be removed from boards, or the nails shall be flattened.

05

Vacuuming is the preferred method for dusty clean-up conditions. Note: Coal dust vacuuming can cause static electricity buildup.

06

Disposal of trash and debris shall be done in an approved environmentally safe manner.

07

Use of compressed air for cleaning tools, parts and workstations shall be evaluated to ensure proper PPE is utilized. Compressed air may not exceed 30 PSI when utilized for cleaning. At no time may compressed air be directed at a person.

127 INDOOR AIR QUALITY

01

All employees shall comply with smoke-free workplace guidelines.

Return to Index

02

Review SDS on all products and materials to identify those that shall be used cautiously when applied indoor.

03

Maintain adequate ventilation when work tasks such as cleaning, etc., may create potential airborne irritants.

04

Maintain good housekeeping and minimize dusts and particulates. Avoid exposures through restricted uses of aerosols, solvents or other vapor producing products.

05

Employees shall report unusual conditions or concerns to their supervisor.

128 JOB PLANNING

01

The employee in charge shall conduct a job briefing with the employees involved before they start each job. The briefing shall cover at least the following subjects: hazards associated with the job, work procedures involved, special precautions, energy source controls, and personal protective equipment requirements. Substation, Line, Trouble, and Meter crews shall document this briefing.

02

The person in charge shall assemble the crew and explain the work to be done, outline the steps to be followed, personal protective equipment required, and point out the hazards of the job. The person in charge shall ensure that each member of the crew understands the instructions.

03

If the work or operations to be performed during the work day or shift are repetitive and similar, at least one job briefing shall be conducted before the start of the first job of each day or shift. Additional job briefings shall be held if significant changes, which might affect the safety of the employees, occur during the course of the work.

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04

A brief discussion is satisfactory if the work involved is routine and if the employee, by virtue of training and experience, can reasonably be expected to recognize and avoid the hazards involved in the job. A more extensive discussion shall be conducted: if the work is complicated or particularly hazardous, or if the employee cannot be expected to recognize and avoid the hazards involved in the job.

05

An employee working alone need not conduct a job briefing. However, the employee shall ensure that the tasks to be performed are planned as if a briefing were required.

06

The person in charge is responsible for accounting for all employees upon the completion of each job.

129 LADDERS

01

Only approved ladders shall be used in a safe manner. Manufacturers' weight limit shall not be exceeded.

02

Ladders shall be visually inspected before they are used.

03

Defective ladders shall be tagged and removed from service. If they are not repairable, they shall be destroyed.

04

Employees shall face the ladder and use both hands when climbing up or down. Tools shall not be carried in the hand. They shall be raised or lowered in a safe manner.

05

Employees shall not slide down a ladder. They shall take one step or rung at a time.

Return to Index

06

Only one employee at a time shall work on a ladder, unless otherwise indicated by the manufacturer's recommendations.

07

The ladder shall be moved as work progresses to avoid overreaching. Two ladders shall never be lashed together to make a longer one.

08

When using straight or extension ladders, employees shall not climb past the third rung from top.

09

Employees shall ensure that both latches of an extension ladder are seated properly. The minimum overlap for extension ladders is three feet.

10

Ladders shall be tied off, top and bottom, to a substantial support whenever practical. Under certain conditions it may be necessary for another employee to hold the ladder to prevent falling or slipping.

11

The ladder shall be placed at a proper angle, with the base set out one foot for every four feet of ladder length.

12

When working from a ladder, and the job requires the use of both hands, an approved safety belt shall be worn as a positioning device.

13

If an employee is required to transfer from a ladder to a landing, the side rails shall extend at least three feet above the landing.

14

When using a step ladder, the employee shall not stand on the top step or on the top of the ladder.

15

A step ladder shall not be used as a substitute for a straight ladder. Return to Index

16

Before climbing a step ladder, employees shall make sure spreaders are fully extended and locked.

17

Employees shall climb the steps of a step ladder, not the support rungs.

18

Before using a platform ladder, it shall be checked to determine that the locking mechanism is functioning properly.

19

Ladders shall not be painted, except that a non-skid paint may be applied to steps or rungs.

20

Portable metal ladders and other portable conductive ladders shall not be used near exposed energized lines or equipment.

130 LIFTING AND CARRYING

01

When lifting, carrying or lowering objects, approved methods shall be followed. Mechanical aids shall be used whenever possible.

02

Approved methods include straight posture, lifting using leg muscles, good footing, and avoiding over-extending and twisting.

03

Loads shall be carried in such a way as to permit a clear view of the path to be followed.

Return to Index

04

When two or more employees are required to lift or pull together as a team, their efforts shall be coordinated. One shall give the signal for the group.

05

When carrying pipes, conduit or other long objects, special care shall be used when rounding corners and entering doorways.

131 LIGHTING

01

Where natural illumination is not adequate, artificial lighting shall be provided. Open flames shall not be used for purposes of illumination.

02

Temporary lighting (except battery powered) shall be protected with approved guards.

03

In areas where flammable or combustible vapors, gases, liquids, dust or fibers may be present, only equipment approved for the hazardous location shall be used.

132 LIVE-LINE TOOLS

01

Each live-line tool shall be wiped clean using a silicone wiping cloth and visually inspected for defects before use each day.

02

If any defect or contamination that could adversely affect the insulating qualities or mechanical integrity of the live-line tool is present after wiping, the tool shall be removed from service and examined and tested. Return to Index

03

Live-line tools used for primary employee protection shall be removed from service every two years for examination, cleaning, repair, and testing as follows:

a.

Each tool shall be thoroughly examined for defects.

b.

If a defect or contamination that could adversely affect the insulating qualities or mechanical integrity of the live-line tool is found, the tool shall be repaired and refinished or shall be permanently removed from service. If no such defect or contamination is found, the tool shall be cleaned and waxed.

04

Live-line tools shall not be painted.

133 LOCKOUT/TAGOUT

Within Energy Delivery locations, employees shall be familiar with and comply with the clearance and tagging procedures for their locations. Refer to Section 218, Switching & Tagging.

Within Fleet Services locations, employees shall be familiar with and comply with the Lockout/Tagout Procedures for their location. Refer to Section 907, Lockout/Tagout.

01

Only approved and authorized personnel may apply locks or tags or other energy isolating devices to Company equipment, machinery or vehicles. All other affected personnel shall be trained in the purpose and application of the procedures.

02

Approved lockout/tagout, and application devices shall be the only devices used for controlling energy and tagging purposes, and shall not be used for other purposes.

Return to Index

03

Tagout devices shall be constructed and printed so that exposure to weather conditions or wet locations will not cause the tag to deteriorate or cause the tag message to become illegible.

04

All information required on the tag shall be properly and legibly entered so that exposure to the elements will not cause the message to deteriorate.

05

If more than one person is required to lockout or tagout equipment or machinery, each person will place their own personal lockout or tagout device on the energy isolating device.

06

When an energy isolating device cannot accept multiple locks or tags, a multiple lockout/tagout device such as a multi-holed hasp shall be used.

07

As an alternative, to utilizing a multi-holed hasp to lockout a device, a single lock may be used to lockout the equipment or machinery with the single key to that lock being placed in a lockout box or cabinet which allows the use of multiple locks or tags to secure that cabinet. Each employee will then use their own lock or tag to secure the box or cabinet. As each person no longer needs to maintain their lockout protection, that person will remove their lock or tag from the multiple lockout device or the lockout box or cabinet, whichever is being used.

08

Shift changes shall be coordinated by the authorized employee in charge, utilizing the departmental lockout/tagout procedure to ensure the safe exchange of information and control of hazardous energies.

09

In the event work cannot be completed by the end of a shift, and there are no overlapping shifts or direct exchange of information between authorized employees assuming the work, employees shall follow approved department procedures to ensure the equipment or machinery is safe and properly secured, and that all required information is documented.

Return to Index

10

In the event an employee leaves the facility without removing his/her lock from equipment or machinery on which work must continue, all efforts must be made to contact that employee to return to work and remove the lock or tag.

11

If an authorized employee who applied the lock or tag device is not available to remove it, and cannot be contacted, the lock or tag may only be removed according to the following procedures:

a.

A supervisor and authorized employee, from the same department as the employee whose lock or tag has been applied, shall be assembled at the equipment or machinery.

b.

The supervisor will verify that the authorized employee who applied the device is not available.

c.

The supervisor and authorized employee will evaluate the equipment or machinery in question to include the inspection of any energy control device, all affected energy sources, (e.g.: hydraulic, electrical, chemical, pneumatic, thermal, stored energy, etc.) and any other potential hazards that may result from continuing the maintenance and/or repair, or from restarting that piece of equipment or machinery.

d.

Make all reasonable effort to notify the original authorized employee that their lock or tag has been removed.

e.

Apply as necessary any new locks and/or tags to the equipment or machinery.

f.

Document the results of this exception procedure and maintain with appropriate lockout/tagout files.

g.

Additional procedures may be required by individual department.

Return to Index

12

The authorized employee shall know the type and magnitude of energy sources that the machine or equipment utilizes and shall understand the hazards and the appropriate means to eliminate the hazard.

13

If the machine or equipment to be serviced is operating, it shall be shut down using normal shut down procedures.

14

Operate the disconnect switch, line valve, or other isolation devices so that the equipment is isolated from its energy source(s). Always trace all lines of supply back to their source to assure that there are no added splices, connections or T's that have not been secured. Stored energy in springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam or water pressure, etc., must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, etc.

15

The authorized employee shall lockout and/or tagout the energy isolating devices with assigned individual locks and/or tags.

16

Any time a lock is used to secure an energy source, it must be accompanied by a tag identifying the person that installed it, the date and time it was installed, and a means by which the employee may be contacted.

17

At no time will the locking device be removed by anyone other than the person who is identified on the tag unless following specific departmental procedures.

18

After ensuring that no personnel are exposed, and as a check on having disconnected the proper energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate.

Return to Index

19

All operating controls shall be reset to NEUTRAL or the OFF position after the initial test, if the equipment, machinery, or vehicle being serviced or repaired has stored energy which cannot be realistically removed by dissipation, bleeding down, or restrained to prevent movement.

20

The equipment or machine is now locked or tagged out-of-service and maintenance or repairs may begin.

TERMINATION OF LOCKOUT/TAGOUT

21

After the service and/or maintenance is complete and the equipment is ready to be tested and/or returned to normal operation, it must be inspected for completeness of assembly, the area around the machine or equipment must be checked to ensure that exposures to hazards or risks are minimal, and that all non-essential items have been removed from the operating area.

22

All equipment guards must be in place and properly adjusted.

23

All affected employees must be notified of the intention to energize and test the machine or equipment. All non-essential personnel will move to a safe location.

24

The authorized employee(s) who applied any lock or tag shall remove all lockout or tagout devices and operate the energy isolating devices to restore energy to the machine or equipment in the exact reverse order that they were installed.

25

Do not remove the last lock or tag until all hazards have been considered and corrected as needed.

Return to Index

134 LP GAS OPERATIONS

Note: Refer to Section 115, Flammable and Combustible Liquids and Gases.

01

Only qualified employees shall fuel liquefied petroleum (LP) gas-powered vehicles.

02

Employees shall follow, in prescribed order, all procedures in fueling LP gas-powered vehicles and LP operations.

03

Employees fueling LP-powered vehicles shall wear approved personal protective equipment.

04

The main fuel line valve shall be shut OFF in LP gas -powered vehicles left in buildings overnight.

05

Employees shall not vent LP gas fuel tanks inside buildings.

135 METERS

01

When entering or working on customer property, employees shall check for hazardous conditions, such as tripping hazards, dogs, or other potentially dangerous animals.

02

Prior to starting work on a meter installation, all meter parts shall be treated as energized until tested for voltage. If a neutral or ground is disconnected, all meter parts will be treated as energized until a permanent ground is installed.

03

Employees doing work on energized equipment shall devote their undivided attention to the work at hand.

Return to Index

04

When working on or near energized meter installations the following personal protective equipment shall be used: safety glasses, approved gloves, Approved FR Clothing, an arc rated 8 cal face shield and head protection. FR clothing shall be worn properly: Sleeve cuffs shall be fully rolled down and secured. All buttons below the collar shall be secured. Shirt tails shall be tucked into pants.

TECO'S APPROVED FR CLOTHING CONSISTS OF:

a. FR shirt meeting a minimum Arc rating of HRC: 2 with long sleeves.

b. FR pants meeting a minimum Arc rating of HRC: 2.

c. Jackets or coats that are FR meeting a minimum Arc rating of HRC: 2.

d. FR or 100% cotton or other natural fiber undergarments

05

Only approved equipment shall be used in testing for voltage or in testing for polarity. Only approved hand tools shall be used.

06

All tools, leads, jumpers, and test equipment shall be frequently inspected. No defective tools or equipment shall be used.

07

When testing, one hand shall be used when possible to make connections to energized points.

08

Before installing a meter in a new or previously vacated meter socket, a visual check shall be made of the meter (including nameplate and meter base) and enclosure to ensure that the proper meter is being used and the equipment is in good working condition.

Return to Index

09

On all reconnects and new services, tests shall be made for backfeed, proper phasing and voltage, and grounded conductors before installing a meter.

10

All socket-type meters shall be installed or removed with approved gloves. “Cut level work” gloves are intended for physical protection only. Rubber insulating gloves are required for voltage protection.

11

When inserting socket-type meters into socket bases or adapters, load-side prongs shall be inserted first, then line-side. Meter removal shall be accomplished in the reverse order.

12

When inserting socket-type meter, the cover shall not be struck with the hand or other objects. Should breakage occur or exist, all broken glass shall be removed from the meter and the customer’s premises and disposed of in a safe manner. Broken or cracked glass shall be removed before shipping.

13

Before bypassing any meter device with jumpers, a check shall be made to ensure that all electrical connections are tight and, by use of a voltage tester, that the polarity of all jumpers is correct.

14

The secondary side of a current transformer shall not be opened while the primary side is energized.

15

Extreme caution shall be used when working on or near meter installations above 240 volts.

When working on energized self-contained 480 volt meter sockets, all FR clothing and additional PPE are required to be equivalent to 20 cal.

FR-HRC2 (Equals 8 cal.) shirt with long sleeves and pants (In addition to minimum category FR12 coveralls with the 20 cal. Hood, face shield and rubber gloves) shall be worn.

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16

When installing, removing or working on energized meter installations, the following equipment shall be worn: hard hat, FR clothing, appropriate gloves, approved safety eyewear footwear, and an arc rated 8 cal Face Shield. Face shields shall also be worn when working on energized metering equipment; large wire trough installations, or large group metering installation or any time a hazardous condition exists which may cause a flash or injury to the face or eyes.

TECO'S APPROVED FR CLOTHING CONSISTS OF:

a. FR shirt meeting a minimum Arc rating of HRC: 2 with long sleeves.

b. FR pants meeting a minimum Arc rating of HRC: 2.

c. Jackets or coats that are FR meeting a minimum Arc rating of HRC: 2.

d. FR or 100% cotton or other natural fiber undergarments.

17

Meters shall not be installed or removed where explosive gases are suspected.

18

If a visual inspection of the metering installation reveals that the removal of the meter may cause a fault, no attempt shall be made to remove the meter until the service has been de-energized.

19

Customer loads shall be turned off before installing or removing meters, when practical.

20

Meter socket bypass handles shall not be used as service load break devices.

Return to Index

21

When re-moving or installing bolted-in, self-contained meters, the meter socket shall be de-energized, unless approved insulated (rated) tools are being used.

22

If a meter socket is to be left energized, a proper meter or approved socket cover shall be installed, or other protective measures taken.

136 OFFICE SAFETY PRACTICES

01

Use handles to open and close file drawers or cabinets.

02

Open one drawer at a time to prevent the file cabinet from tipping over.

03

Do not lean back in chairs with feet propped or raised above seat level to prevent tipping over backward.

04

Damaged chairs or office furniture shall not be used. They shall be removed from service and tagged for repair using a Repair tag.

05

Only approved step stools and ladders shall be used to reach elevated objects or locations.

06

Turn OFF and unplug office machines prior to making adjustments, repairs, or performing maintenance.

07

Keep overhead bins fully opened or closed.

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137 PAINT AND PAINT STORAGE

01

Review Safety Data Sheets and follow recommendations for personal protective equipment, storage and handling practices.

02

When painting with a brush, on or near energized parts at 600 volts or above, the brush shall be attached to an approved insulated handle.

03

Adequate ventilation shall be maintained in enclosed areas when painting.

04

Only approved solvents shall be used to clean brushes. The solvent shall be disposed of properly in approved containers in accordance with environmental procedures.

05

Open flames shall not be permitted in the area where painting is being done.

06

Approved PPE shall be worn when spray painting is being done.

07

Air pressure to paint spray guns shall be properly regulated.

08

Oil-based paint, varnishes and paint thinners shall be kept and transported in approved containers.

09

When oil-based paint is kept in the original container, the lid shall be properly sealed so vapors do not escape. When not in use, containers of paint, lacquer, varnish, and thinners shall not be left open.

Return to Index

10

Paint and paint by-products shall be stored in an approved storage area, where there is adequate ventilation and no excessive heat.

11

Pressurized cans of paint, lacquer, etc. shall not be left in direct sunlight or where there is excessive heat. When not in use, pressurized cans with recoverable product shall be stored in an approved storage area. Empty cans and cans with non-recoverable product shall be disposed of properly. They shall not be punctured or placed in a fire.

12

When required, an eyewash fountain and safety shower shall be readily available and in good operating condition.

13

Practice good personal hygiene at all times, including washing hands thoroughly after handling products and before eating or smoking.

14

Paint waste and empty containers shall be properly disposed of in accordance with departmental procedures and SDS information.

138 PCBs - (POLYCHLORINATED BIPHENYLS)

01

Breathing of PCB vapors shall be avoided. When working with PCBs in enclosed areas, adequate ventilation shall be used to prevent build-up of vapors.

02

Where PCB vapors cannot be completely dispersed, an organic vapor cartridge-type respirator shall be worn.

Return to Index

03

When employees are required to enter confined spaces, (such as a tank) where PCBs are present, self-contained or air-supplied breathing apparatus shall be used.

04

Employees shall avoid skin contact with PCBs. Approved gloves shall be worn for protection when the job requires placing hands in PCB liquid or handling parts or equipment contaminated by PCBs.

05

If skin contact occurs, the skin shall be washed with waterless hand soap and dried with paper towels, especially before eating, smoking, drinking or touching other parts of the body.

06

If there is a possibility of PCBs making contact with employees' clothing, approved protective clothes (apron or disposable coveralls and shoe covers) shall be worn.

07

Approved eye protection shall be worn at any time employees work with or handle PCBs. Minimum eye protection shall consist of safety glasses. If a splashing hazard exists, chemical mono-goggles or face shield shall be worn.

08

If there is eye contact with PCBs, the eyes shall be flushed with water for 15 minutes and a company nurse shall be consulted. If the nurse is not available, a physician shall be consulted immediately.

09

Tools and other re-usable equipment used to work with PCBs shall be washed with approved solvent and wiped dry upon completion of the job.

10

Upon completion of any job involving PCBs, all contaminated disposable items (ordinary work gloves, rags, paper towels, coveralls, used solvents, etc.) shall be disposed of according to established environmental procedures.

Note: For additional information regarding handling, cleaning and proper disposal refer to Oil-Filled Equipment Spill Response Guide or contact your local environmental coordinator.

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139 PERSONAL INJURIES

01

If an employee is injured on the job, the person in charge shall be notified immediately.

02

The injured employee's supervisor and the employee shall determine if medical attention is required and shall make arrangements for transporting the employee to an authorized physician, clinic or a hospital, as soon as possible.

03

On-the-job injuries and illnesses requiring medical attention shall be referred to the company nurse, an authorized physician, clinic or hospital emergency room.

04

The supervisor shall be responsible for completing the First Notice of Injury Report form. Reports shall be completed within 24 hours or the next regular scheduled workday.

05

First aid kits shall be regularly inspected and stocked with approved supplies as necessary.

140 PNEUMATIC AND HYDRAULIC TOOLS

01

Pneumatic and hydraulic tools shall be operated by properly trained persons.

02

Pneumatic and hydraulic tools shall be used with care. They shall not be pointed at another person.

Return to Index

03

Pneumatic and hydraulic power tools shall be secured to the hose by a positive means to prevent the tool from becoming accidentally disconnected. Tools shall not be operated at pressures exceeding manufacturers' specifications.

04

Safety clips or retainers shall be securely installed and maintained on a pneumatic impact tool to prevent attachments from being accidentally expelled. Care shall be exercised to insure the trigger or control will not operate when the tool is laid down. The hose shall not be kinked in order to stop the tool.

05

Before making adjustments or changing pneumatic tools, unless equipped with quick-change connectors, the air shall be shut OFF at the air supply valve ahead of the hose. The hose shall be bled at the tool before breaking the connection.

06

Conductive hoses shall not be used near energized equipment.

07

The air tank drain valve shall be opened at regular intervals to prevent excessive moisture accumulation.

08

Safety relief valves are required on air tanks and shall be tested periodically to insure proper operating condition. Relief valves shall not be tied down.

09

The supply line shall be shut OFF at the source before disconnecting the air hose.

10

Reducers or pressure relief devices shall be used to ensure that compressed air used for cleaning purposes is below 30 psi.

Return to Index

11

Compressed air shall not be used to blow dust and dirt from clothing or the body.

12

Manufacturers' stated safe operating pressures for hoses, pipes, valves, filters and other fittings shall not be exceeded.

13

The use of hoses for hoisting or lowering tools is not permitted.

14

Proper tools shall be used to locate or stop leaks.

15

Approved personal protective equipment shall be worn as required.

141 PORTABLE ELECTRIC TOOLS

01

The non-current-carrying metal parts of a portable electric tool, such as drills, saws and grinders shall be effectively grounded when connected to a power source unless: (1) the tool is an approved double-insulated type, (2) the tool is connected to a ground fault interrupter, (3) connected by means of an isolating transformer, or (4) protected by an "assured grounding system."

02

All power tools shall be inspected prior to use to ensure safe operation.

03

Power tools shall be used only within their design capability and shall be operated in accordance with the instructions of the manufacturer.

04

All tools shall be kept in good repair and shall be disconnected from the power source while repairs or adjustments are made.

Return to Index

05

Electric tools shall not be used where there is a hazard of flammable vapors, gases or dust.

06

All tools or cords shall be disconnected by grasping the plug, not the cord. Extension cords shall be maintained in good repair. Cords for power tool use shall be of the three-wire ground type. Extension lamp cords shall have guards and shall not be used for tool operations. Tools shall not be lifted or lowered by the cord.

07

Ground fault interrupters shall be used at all times, when an electric tool is used.

142 POWDER ACTIVATED TOOLS

01

Only those employees who are qualified to use powder activated tools shall do so.

02

Explosive charges shall be carried and transported in approved containers.

03

Operators and assistants using these tools shall wear eye protection (safety goggles and/or face shield) and a hard hat.

04

Tools shall be maintained in good condition and serviced regularly.

05

This equipment shall be used only upon approved materials. Operators shall know the construction and composition of materials the tool is being used upon.

Return to Index

06

Prior to use, the operator shall ensure that the protective shield is properly attached to the tool.

07

The operator shall inspect the tool to be sure that it is clean, moving parts operate freely and the bore is free from obstructions. The bore shall be cleared before using. A charge shall not be fired to clear the bore.

08

A defective tool shall be tagged with a Repair tag and immediately removed from service.

09

Powder activated tools shall not be used in an explosive or flammable atmosphere.

10

Tools shall not be loaded until just prior to the intended firing. Tools shall be unloaded immediately when work is suspended.

11

Only cartridges with an explosive charge adequate for the job and with proper penetration shall be used.

12

Tools and cartridges shall not be left unattended.

13

Tools shall be held perpendicular to the work surface.

14

Tools, loaded or unloaded, shall not be pointed at any person.

15

In case of a misfire, the operator shall hold the tool in place for 30 seconds. The operator shall then try to operate the tool a second time, and, if unsuccessful, shall wait another 30 seconds. Misfired cartridges shall then be removed, placed in metal container and returned to the supervisor. The Supervisor shall consult with their environmental coordinator for disposal.

Return to Index

16

Prior to firing a powder activated tool, advance warning shall be given.

143 PROPERTY DAMAGE

01

Any incident that results in serious personal injury or extensive property damage to non-employees (either on Company property or in connection with Company operations) shall be immediately reported to the person in charge and to Risk Management Department.

02

In accidents involving Company vehicles, the employee's supervisor, as well as appropriate law enforcement agencies, shall be notified immediately, regardless of the amount of damage or who was at fault or whether the accident happened on private property.

03

All incidents of property damage to the public shall be reported promptly. Appropriate forms shall be completed, reviewed by the department head and forwarded to the Risk Management Department.

144 PUBLIC SAFETY

01

Whether indoors or outdoors, precautions shall be taken to warn and restrict the public's exposure to hazards created by Company operations.

02

When working on or near streets and highways, signs, signals and other warning devices shall be used in accordance with Section 26 in the General Rules and Specifications manual.

03

When a Company operation affects the general public in any way, every effort shall be made to warn and limit the public from the hazards which exist.

Return to Index

04

Unattended holes or floor openings shall be covered or adequately barricaded. Warning lights with proper barricades shall be placed at each opening or obstruction left overnight.

05

Employees finding low or fallen wires, broken poles or other damaged electrical equipment shall guard them until relieved by personnel qualified to deal with the situation, or until informed by an authorized person that the condition has been made safe.

06

Employees who recognize other hazardous conditions such as crane operations, well-drilling operations and erection of antennas adjacent to energized lines shall warn the individual and report the incident as soon as possible to System Service or their supervisor.

07

Employees shall ensure that visitors are not unduly exposed to hazards and shall ensure that they wear appropriate personal protective equipment.

145 RESPIRATORY PROTECTION

Note: Use of respirators requires training specific to the type used for protection. When various types of respiratory protection devices are available, care must be taken to make the proper selection. The device must provide adequate protection against the anticipated hazard. If there is doubt, the higher protective device must be used. Please refer to the Energy Delivery Respiratory Protection Program.

01

Only approved respiratory protective equipment that is in good condition shall be worn.

02

Proper respiratory protective equipment shall be worn at any time a hazardous atmospheric condition exists. The manufacturer's instructions for respirator use shall be followed.

Return to Index

03

Employees shall be clean shaven prior to fit testing and use of a respirator.

04

Employees covered by the Respiratory Protection Program shall be regularly fit-tested and shall participate in regular pulmonary evaluations to determine that they are physically able to wear a respirator while performing work.

05

Only employees who are trained in use, care and limitations of respirators are qualified to wear them.

06

Negative pressure respirators are not to be used in atmospheres containing less than 19.5% oxygen.

07

Class D grade air shall be used in all supplied air applications.

08

Breathing air hose connections must be incompatible with other fittings for industrial gases.

09

Air pressure at the point of attachment at the hood must be regulated within the ranges specified by regulations.

146 SCAFFOLDING

01

Scaffolds shall be designed by a competent person. Scaffold erection shall be done under supervision of a competent person.

02

The scaffold must be inspected by a competent person prior to each work shift and after any incident which could alter the scaffold's safety.

Return to Index

03

Scaffold components shall be maintained in good repair and inspected before erection. Any broken, bent, altered or otherwise structurally unsound frame or support members shall not be used. All scaffolds and their supports, shall be capable of supporting the load they are designed to carry with a safety factor of four.

04

When scaffolds must be erected on soft or filled ground, sufficient sills or underpinnings shall be used to insure stability.

05

The legs or uprights of scaffolding shall be plumb and securely and rigidly braced to form a stable work platform. Braces shall not be forced to make them fit.

06

Adjusting screws, rather than blocking, shall be used to compensate for uneven ground.

07

Whenever possible, scaffolding shall be secured to a building structure. When this is impractical, outriggers or guying shall be used.

08

All open sides of platforms more than ten feet above the ground or floor shall be protected by guardrails, midrails, and toeboards.

09

When work is being performed over employees working on a scaffold, overhead protection shall be provided on the scaffold.

10

Barricades and warning signs shall be used to keep employees from passing beneath scaffolds. When employees must work or pass under scaffolds, steps shall be taken to protect those below from the hazard of falling tools or material.

Return to Index

11

A ladder or equivalent means of safe access shall be provided to the platform. Crossbraces shall not be used as a means of access.

12

Only “scaffold grade” lumber shall be used for platform planking. Planks shall be laid solid. Planking shall extend beyond end supports by at least six inches and not more than eighteen inches. Planks shall be secured.

13

No scaffold occupied by employees shall be moved horizontally.

14

Materials, tools or debris shall not be allowed to accumulate on scaffolds and create a hazard.

15

Employees on scaffolds shall work on the platform and shall not use ladders or makeshift devices to gain added height from the platform.

16

Castor brakes on rolling scaffolds shall be locked before employees climb them. Check that castors are pinned into the frames.

17

Ladders shall not be placed in the horizontal position for use as scaffolding.

18

Scaffolds shall not be used as material hoist towers, or for mounting derricks.

Return to Index

147 SOLVENTS

01

Only approved solvents shall be used. Solvents shall receive approval by evaluation through the Standards and Safety departments.

02

The container label and SDS recommendations, precautions, appropriate protective equipment and safe work practices shall be strictly followed for each approved solvent.

148 STATIONARY POWERED TOOLS

01

Appropriate personal protective equipment shall be worn.

02

Machine guards shall be properly installed and shall not be removed except for inspection or repairs. Powered tools shall only be operated with the guards in place.

03

Stationary powered tools shall be secured to prevent movement.

04

A mechanical shifter shall be used to shift a belt in operation.

05

Correct belt dressing shall be used and applied only after the machine is turned OFF and the belt idle.

06

A brush or other safe method shall be used to clean chips away from the machine.

Return to Index

07

Clamps shall be used to hold work in a drill press.

08

Chuck wrenches shall be removed from the machine immediately after use. Prior to machine operation a check shall be made to insure the chuck wrench has been removed and machine is clear and ready for use.

09

Remote disconnect switches or circuit breakers shall be clearly identified and marked as to their purpose.

10

No gauging or calipering shall be attempted while the machine is in operation.

11

The tool rest shall have a maximum clearance of one-eighth of an inch from the wheel. The distance between the tongue guard and the wheel shall not exceed one-fourth of an inch.

12

The manufacturer's recommended wheel speed shall not be exceeded.

13

Side-grinding shall be performed only with wheels designed for this purpose.

14

Grinding wheels shall be run at operating speeds for at least one minute before work is applied. Wheels shall be dressed as necessary to prevent vibration.

15

Wheels shall be "ring tested" and inspected for chips and cracks before mounting. Wheels shall not be forced onto the spindle.

Return to Index

16

The work shall not be forced against a cold wheel, but shall be applied gradually until the wheel is warm. The work shall be held firmly against the tool rest.

149 SUBSTATIONS

01

Only qualified employees or visitors with a qualified escort may enter a substation.

02

Upon entering a substation where other workers are present, report your presence to the person in charge in order to exchange information on special system conditions affecting employee safety.

03

Employees who enter Substations shall wear an approved hardhat and approved eye protection.

04

When working in an energized substation, gates shall be kept closed and latched.

05

Substation keys shall be issued only to authorized persons. Employees are not permitted to loan substation keys to non-employees or other unauthorized individuals.

06

Danger High Voltage signs shall be permanently displayed on the fence on all sides of the substation. Damage to fences shall be reported immediately to the supervisor.

07

No parking shall be allowed within the substation unless required for work purposes.

08

Those entering or working in an energized substation shall not carry anything on their shoulders.

Return to Index

09

Before driving a vehicle into a substation, employees shall check clearances between protruding parts of the vehicle and the substation equipment.

10

No materials or equipment shall be stored under energized buses, lines or near energized equipment.

11

When leaving a substation, employees shall lock all doors, control houses and outside gates and check to be sure everything is secure and in proper order. Consideration shall be given to eliminating conditions which might attract unauthorized entry.

12

Vehicles shall not be driven over wire troughs, unless they are designed to support the vehicle's weight.

13

Barriers shall be used to warn of hazards adjacent to the work area.

14

Fences around substations shall be bonded and grounded.

150 VEHICLE OPERATION/VEHICLE RECOVERY

01

Employees operating motor vehicles shall be properly licensed. Employees shall operate vehicles in accordance with Company rules and principles of defensive driving.

02

Only authorized persons shall be permitted to operate Company vehicles or equipment.

03

Operators shall familiarize themselves with and shall obey all state and local traffic laws and ordinances.

Return to Index

04

Unauthorized persons shall not be permitted to ride in Company vehicles unless permission is granted by the supervisor.

05

Where seat belts and shoulder harnesses are provided, they shall be used.

06

Employees shall ride only in the passenger compartment provided in trucks for their transportation, or seated within the body of the truck.

07

Internal combustion engines shall not be operated within closed garages or other buildings where adequate ventilation is not provided.

08

Employees shall not operate an unsafe vehicle or equipment. Unsafe vehicles or equipment shall be removed from operation and reported promptly.

09

Trucks shall not be operated with tailboards hanging loose, or with tool compartment doors open.

10

Where visibility is obscured and sufficient personnel are available, a flag person shall be placed at the rear of the vehicle being backed. The flag person shall be positioned in such a manner as to see the area to the rear of the vehicle and be seen by the operator. The operator shall obey signals given by the flag person.

11

Vehicle operator is responsible for the safe loading, securing, and delivering of cargo and equipment.

12

Any unusual loads or any necessary overload shall be handled in compliance with state and local laws or ordinances.

Return to Index

13

When loading vehicles, care shall be taken to balance or distribute the load as equally as practical.

14

When loading or unloading, vehicles shall be placed in PARK position and brakes shall be set, or the wheels shall be chocked.

15

Vehicles shall not be parked closer than eight feet to any railroad track.

16

Unless otherwise posted, the speed limit on Company property is ten miles per hour.

17

Where visibility is obscured operators shall walk around the vehicle before moving it to make sure everything is in the clear.

18

Operators shall consider overhead clearances.

19

Employees shall not board or get off of a moving vehicle.

20

Doors shall be opened carefully to avoid striking people, objects, or other vehicles. Caution shall be exercised when opening doors on the street side of a vehicle.

21

Loads extending four feet or more beyond the body of the vehicle shall have an orange warning flag attached.

22

Employees shall comply with all applicable DOT regulations when transporting hazardous materials.

Return to Index

23

Unattended vehicles should not be left running, unless the engine is needed to power auxiliary equipment.

24

Operators should park or plan routes so as to avoid backing whenever practical.

25

Registered GVW (Gross Vehicle Weight) shall not be exceeded.

26

Only hands-free cellular phones shall be used while operating vehicles. Cell phone use is not permitted while driving on company property. Only authorized persons with heavy vehicle recovery certification training shall be permitted to recover Tampa Electric Company vehicles and/or equipment. The primary method of recovering/freeing stuck vehicles and/or equipment shall be with a vehicle mounted recovery winch.

27

The Samson Panther Recovery Sling is the only recovery rope authorized for use on Tampa Electric vehicles and/or equipment and will be stored in Fleet Services garage service trucks and vehicles approved by supervisor. The Samson Panther Recovery Sling shall only be used under strict guidance from a heavy vehicle recovery certification trained person, such as a Supervisor.

28

Operator(s) shall assess the situation and attempt to recover/free the stuck vehicle and/or equipment one time. A professional towing/recovery company shall be used for all subsequent attempts to recover/free the stuck vehicle and/or equipment.

TRAILER/TOWING EQUIPMENT

29

No one shall be permitted to ride on a trailer unless directed to do so.

30

Vehicle operator must ensure that any trailer/equipment being used is in safe working condition, which would include the electrical system and tires. Any trailer/equipment found to be in unsafe working condition shall be tagged out and reported for repairs.

Return to Index

31

Vehicle operator is responsible to check the condition of the pintle hook before any piece of equipment is towed.

32

Vehicle operator is responsible when attaching trailers/equipment to ensure the safety latch on the pintle hook shall be closed, locked and a safety pin installed before towing.

33

Vehicle operator is responsible for inspection of safety chains to ensure safe working condition before each use.

34

Vehicle operator is responsible for ensuring safety chains are properly secured to the tow vehicle.

35

The emergency braking cable shall be attached to the tow vehicle. All trucks hauling poles or pole trailers shall be driven with extreme caution because of the overhang.

36

Adequate advanced warning shall be given to all traffic before attempting to turn with a load that projects over five feet beyond the end of the truck or trailer.

CARGO SECUREMENT

37

All external load or loads shall be properly secured. Objects inside the vehicle shall be secured to prevent them from becoming a distraction while the vehicle is in motion.

38

Equipment and materials carried on or in trailers shall be properly secured and the weight evenly distributed.

39

Cargo likely to roll must be restrained by chocks, wedges, dunnage, or other equivalent means to prevent rolling. If chocks are used, they shall be secured to decking.

Return to Index

40

Vehicle operator is responsible for the inspection of securement devices. Tie downs found to be defective shall be discarded and not used.

41

The vehicle structure and anchor points must be inspected before each use and cannot be damaged, weakened, cut, or cracked.

42

Tie downs shall be attached and secured in a manner that prevents it from loosening, unfastening, opening, or releasing while the vehicle is in transit.

43

Regardless of cargo type, tie downs must be located inboard of rub rails whenever practical.

44

Information on the manufacturing tag of all tie downs shall be followed.

45

The lowest working load limit (WLL) of any of the components of securement shall be used when determining proper securement.

46

The sum of the working load limit (WLL) from all tie downs must equal 50% of the weight of the cargo.

47

Tie downs must be secured in a manner that restrains the load against movement forward, rearward, vertically, and laterally.

48

The headboard of the trailer may be used to assist against forward movement of the load provided that proper weight distribution is maintained.

EQUIPMENT SECUREMENT (e-z Hauler)

49

A minimum of four tie downs are required.

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50

In addition to the four minimum tie downs a separate tie down is required for each attachment.

51

Tie downs must use securement mounting points on the equipment that were designed for securement purposes when applicable.

52

Road plates and other loads must be secured using individual tie downs. Parking equipment on top of material/equipment does not constitute proper load securement

151 VIOLENCE PREVENTION

01

Firearms, explosives or other dangerous weapons shall not be carried by anyone in the workplace or in Company vehicles.

02

Harassment or threats shall not be tolerated.

03

Threats or acts of violence on Company property shall be immediately reported to supervisor and/or the Security Department. Such acts off Company property shall be immediately reported to law enforcement, supervisors and Security Department.

04

Intimidation, horseplay, scuffling, practical jokes or similar activities are not permitted.

05

Whenever practical, employees shall announce their presence and state their business before entering customer premises. Employees shall also notify the customer when leaving the property if practical.

Return to Index

06

Visible means of employee identification should be used when entering customer property.

152 WELDING, CUTTING AND BRAZING

01

Only those qualified to do so shall be permitted to weld. Prior to welding or cutting, the area shall be inspected for potential fire hazards.

02

Oxygen and fuel gas hoses shall be inspected before use. Hoses which leak or show burned or worn areas shall be removed from service.

03

Adequate ventilation shall be provided during welding operations or approved respiratory protective equipment shall be used.

04

Whenever practical, screens or fire-resistant curtains shall be placed around welding operations to protect workers nearby.

05

Any arc welding machine that gets wet internally shall be thoroughly dried and tested by a qualified person before being used.

06

Welding cables shall be inspected periodically for damage and loss of insulation. Cables in need of repair shall not be used.

07

Welding cable shall be uncoiled before use. The ground lead shall be firmly attached to the work. All ground connections shall be checked to be sure that they are mechanically strong and electrically adequate for the required current.

08

Only connectors specifically designed for the purpose shall be used to join ground and electrode cables.

Return to Index

09

A welder shall not weld with cables coiled around or placed on his or her body. Repair splices shall not be permitted within ten feet of the welder.

10

Electrode holders, when not in use, shall be so placed that they cannot make electrical contact with persons, conductive objects, fuel or compressed gas tanks. Electrodes shall be removed from holders when not in use.

11

Welding rod studs shall be properly disposed of.

12

If the object to be welded or cut cannot readily be moved, all moveable fire hazards in the vicinity shall be taken to a safe place or otherwise protected.

13

Suitable fire extinguishing equipment shall be available at the site in a state of readiness for instant use.

14

No welding or cutting shall be performed on used equipment, pipes, drums, barrels, tanks, or other containers until they have been cleaned so thoroughly as to make certain that there are no flammable materials present or substances that might produce flammable or toxic vapors.

15

Employees exposed to the hazards created by welding, cutting or brazing operations shall be protected by proper personal protective equipment.

16

Mechanical ventilation is required when welding or cutting is done. These materials: fluorine compounds, zinc, lead, chlorinated hydrocarbons, beryllium, cadmium, mercury, cleaning compounds, galvanized materials and stainless steel are particularly hazardous and have specific control requirements. Refer to SDS for specific health requirements for these hazardous materials.

17

Under no conditions shall acetylene be generated, piped or utilized at a pressure in excess of 15 psig (or 30 psia).

18

Compressed gas cylinders shall be legibly marked, for the purpose of identifying the gas content, with either the chemical or trade name of the gas.

19

Cylinders shall be kept away from all sources of heat and at least 20 feet from highly combustible materials, or protected by fire-resistant shields.

20

Valve protection caps shall always be in place, hand-tight, except when cylinders are in use or connected for use.

21

Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet or by a non-combustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour.

22

Cylinders, valves, couplings, regulators, hoses and other equipment shall be kept free from oily or greasy substances.

23

Before attaching a regulator to a cylinder, stand to one side and open the valve slightly for an instant, then close it. This “cracking” of the cylinder valve will clean the valve of dust or dirt.

24

Before a regulator is removed from a cylinder valve, the valve shall be closed and the gas released from the regulator.

25

An acetylene cylinder valve shall not be opened more than one and one-half turns of the spindle. This allows ready closing of the valve in an emergency situation.

Return to Index

26

Always use the proper hoses. Fuel gas hose is usually red (sometimes black) and has a left-hand treaded nut for connecting to the torch. Oxygen hose is green and has a right-hand threaded nut for connecting to the torch.

27

Pressure-reducing regulators shall be used only for the gas and pressures for which they are intended.

28

Gauges on oxygen regulators shall be marked Use No Oil.

29

Welding cable, hoses, and other equipment shall be placed so that they are clear of passageways, stairways and ladders unless properly guarded.

30

Matches, lighters, or hot work shall not be used to light a torch. A friction striker or other approved device shall be used.

31

After welding or cutting is completed, the hot metal shall be marked or other means shall be used to warn others.

153 WORK AREA PROTECTION (Maintenance of Traffic - MOT)

Note: Refer to FDOT Maintenance of Traffic Plans Manual and the General Rules and Specifications Manual, section 26. Only employees trained or those supervised by a trained person in Maintenance of Traffic procedures shall install MOT equipment.

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200 Energy Delivery Operations
201 AERIAL DEVICE OPERATIONS

01

Employees shall visually check all aerial devices at the first job of the day before use. The lower controls shall be operated and checked before anyone goes aloft.

02

No one on the ground shall operate the controls to the aerial device while occupied, except in an emergency or when following the direct orders from the employee in the aerial device.

03

The aerial device shall be parked out of traffic whenever possible.

04

Employees shall make sure that the brakes are set before setting up the aerial device. When parking on an incline, chocks shall be used.

05

If the vehicle is provided with outriggers, they shall be used. Before operating outriggers, employees shall first check to see that everyone is in the clear. The outriggers shall be firmly placed on pads or firm footing before operating the boom.

06

Employees working in aerial devices that are not approved work platforms shall wear a company approved body harness with a shock absorbing lanyard properly attached to the boom or basket.

07

Employees shall not climb into or out of the aerial device while the aerial device is elevated, except in an emergency. Employees shall not belt off to a structure while working in the aerial device. When working transmission poles or towers where the aerial device will not reach, it is permissible to strap off to the structure then remove the lanyard and climb the remaining distance.

08

The operating control box shall be kept clear of materials and tools. No objects, except approved storage containers, shall be allowed to hang on the outside of the basket when working in an energized area.

Return to Index

09

The boom shall be cradled when the bucket truck is being moved. Employees shall not ride in an aerial basket when the bucket truck is moving.

10

The manufacturer's designated load limit shall not be exceeded in the loading of an aerial device.

11

Employees working on energized equipment shall position themselves below the work if possible. Work shall be performed on only one conductor at a time.

12

When operating a multi-person aerial device, no change in device position shall be made without the knowledge of all employees except in case of an emergency.

13

No tools or equipment shall be rigged to the basket in such a manner as to cause the basket to become unstable.

14

Good housekeeping shall be exercised in the basket.

15

Employees on the ground should make every effort to minimize work within the drop zone beneath employees working in the air. Employees on the ground should notify workers in the air upon entering the drop zone.

16

2-way communication shall be utilized between person in aerial device and any person entering the bed of the truck.

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202 CAPACITORS

01

Before working on capacitors they shall be de-energized, shorted out, and grounded.

02

Employees shall wait five minutes before shorting out capacitors to allow the capacitor to drain itself by built-in discharging devices.

03

Live-line tools shall be used to short out and ground capacitors.

04

When capacitors are removed from service, they shall be shorted out and remain shorted until they are placed back into service. They shall remain shorted when discarded.

05

When opening any disconnect which is associated with a capacitor, a load-break device shall be used.

06

When closing a capacitor bank that is controlled by a time clock or other remote device, check to be sure oil switches are OPEN, and use the delay setting to close in the capacitors.

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203 CLIMBING POLES/STRUCTURES

Note: Refer to Section 206, Fall Protection.

01

Prior to climbing poles and structures, an inspection using the approved method shall be made to determine if the poles or structures are capable of sustaining the additional or unbalanced stresses which they will be subjected to from climbing or from adding or removing conductors or equipment.

02

If the pole or structure cannot withstand the loads which will be imposed, it shall be braced or otherwise supported so as to prevent failure.

03

Prior to climbing a pole or structure, the employee shall become acquainted with the physical layout and condition of the conductors, poles, guys and equipment on the structure on which work is to be performed.

04

When climbing, employees shall avoid standing on any foreign equipment which may be attached to the pole or structure or located near it. Employees shall not trust their weight to pins, braces, guy wires, lines or other such equipment which may be unstable.

05

When climbing poles care shall be exercised to set the gaff securely in the pole and to avoid weather cracks, knots, holes, nails, signs, grounds or other pole attachments.

06

When strapping off, in addition to employees watching themselves hook their Buckadjuster snap into the D ring, employee must also watch themselves connect the carabineer connector into the outer strap connector Dee-ring.

07

Employees climbing poles or structures shall be attached at all times by means of a Bucksqueeze or a Buckadjuster.

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08

The safety belt shall not be placed around the top of the pole, the end of an arm, cross arm braces or in any place where it may possibly slip off. The safety belt shall not be placed around pins or similar parts of the structure which might break.

09

Climbers shall not be worn on the ground unless the employee plans to immediately climb another pole. If there are obstructions such as fences, large rocks or uneven terrain, climbers shall be removed before walking from one pole to another.

10

Employees shall check to be sure the gaffs are properly sharpened and within safe length limits.

11

When climbers are stored, the gaffs shall be covered with approved protectors.

12

When two or more employees are to work on the same pole, one shall reach the working position before the other leaves the ground. Descending the pole shall be done one at a time.

13

While standing on the pole, and using a chain saw, a separate steel safety shall be used in addition to the Bucksqueeze.

204 CURRENT & POTENTIAL TRANSFORMERS

01

Repair work shall not be performed on an energized instrument transformer.

02

Unless in normal operation, the secondary winding of a current transformer shall be short-circuited when the primary circuit of the current transformer has current flowing in it. Failure to do this results in dangerous voltage in the secondary circuit.

Return to Index

03

The cases of all instrument transformers shall be grounded except for the non-metallic cased 600-volt type.

04

The lack of voltage on the low voltage side of the potential transformer shall not be considered as positive indication that the high voltage side is de-energized.

205 ENCLOSED SPACES: MANHOLES, VAULTS

01

Reasonable efforts will be made to de-energize all energized cables/circuits prior to TEC personnel performing any work in a manhole.

02

If energized cables/circuits in a manhole cannot be de-energized, TEC personnel shall request an "Energized Work Permit" (EWP) on all energized cables/circuits.

03

Upon entry into an energized manhole, the first qualified TEC personnel shall perform a visual inspection. See revised TEC Risk Assessment/Tailboard Conference Plan form.

04

Upon completion of the visual inspection the use of thermal imaging device (FLIR Model 60) shall be utilized to identify any energized cable and/or splice hot spots.

05

When covers are removed from enclosed spaces, the opening shall be promptly guarded by railing, temporary cover, or other barrier intended to prevent an accidental fall through the opening and to protect employees working in the spaces from objects entering the space.

06

Where possible, the manhole cover shall be removed parallel with the flow of traffic and placed on the side away from approaching traffic.

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07

Manhole ladders, tools and materials shall be placed where they will not constitute a hazard.

08

Furnaces and solder pots shall be placed at a safe distance from the hole and shall be placed on the side away from approaching traffic.

09

When work is to be done in a manhole or a vault, proper work area protection shall be installed.

10

Before an employee enters an enclosed space, the internal atmosphere shall be tested for oxygen deficiency and for flammable gases and vapors with a direct-reading meter or similar instrument, capable of collection and immediate analysis of data samples without the need for off-site evaluation.

11

Forced ventilation into the manhole or unvented vault shall be used to maintain a safe environment.

12

If in an emergency it is necessary to enter a manhole or a vault where gas may be present, employees shall use an approved self-contained breathing apparatus.

13

Open flames or smoking shall not be permitted in manholes or vaults until after the air has been tested and found free of explosive or flammable substances.

14

Whenever an employee enters, or is working in, an enclosed space, manhole or vault, another qualified employee with the proper equipment readily available shall be stationed at the surface to assist in case of an emergency. This requirement shall not preclude this employee from performing other duties.

15

A ladder shall always be used when entering or leaving the manhole or a vault. A cable shall not be used to assist in climbing into or out of a manhole except in an emergency.

16

Tools or material shall not be thrown in or out of the manholes or vaults.

Return to Index

17

Material, hot solder, or hot compound shall not be lowered into the hole until definite instructions to do so have been given by an employee in the hole.

18

Clearances shall be obtained in accordance with approved switching and tagging procedures.

19

Identifying tags or markers shall not be removed from more than one cable at the same time.

20

After receiving clearance and before spiking a cable, all phases of the cable shall be short-circuited and grounded at both ends wherever practical. The ground switch of the high side terminal of each network transformer adjacent to the work location shall be placed in the grounded position. This grounded condition shall be maintained during the entire work procedure except as necessary for phasing.

21

After the cable has been identified and the above precautions have been taken, the cable shall be spiked with a remotely-controlled approved power-driven spear at the point to be cut. No employee shall remain in the manhole or vault at the time the spiking test is made.

22

When working in a vault which contains energized equipment, both doors shall be unlocked except when switching.

23

All network transformers shall be energized by using the substation breaker or fuse disconnects. No employee shall remain in the vault when new transformers are being energized.

24

When removing asbestos, ventilation shall be provided. If wetting is not practical, approved respirators shall be worn.

25

Manhole covers shall be properly seated when replaced.

26

Manhole covers shall be removed with an approved tool.

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NETWORK PROTECTORS

27

When work is performed on transformers, they shall be in the OPEN position and transformer links and fuses removed.

28

Protectors shall be racked-out on approved extensions whenever maintenance is performed.

29

No maintenance shall be done while the protector is racked-in and energized (in-service).

30

When working on the termination chamber or the high-side switch, the transformer shall be grounded and fuse links removed. Also ground the high-side switch at nearest possible vault to where work is performed.

31

A fuse link-it shall be used to check the protector before the transformer links and fuses are replaced.

32

Baffle boards and secondary blankets shall be used when any work is performed on the transformer secondary molds.

206 FALL PROTECTION

Note: Refer to Section 113, Fall Protection.

01

Fall-arrest equipment, work positioning equipment, or travel restricting equipment shall be used by employees working at elevated locations more than four feet above the ground unless an approved ladder, work platform, a guardrail system, or a safety net system is in place.

02

Fall arrest equipment is required to be used by employees climbing or changing locations on poles and structures at locations at more than 4-foot above the ground.

Note: Employees undergoing training are not considered “qualified” until they have completed the appropriate training for this type of work. Return to Index

03

Personal fall-arrest systems shall be rigged such that an employee can neither free-fall more than six feet nor contact any lower level.

04

If vertical lifelines or drop lines are used, not more than one employee may be attached to any one lifeline.

05

Snap hooks may not be connected to loops made in webbing-type lanyards.

06

Snap hooks may not be connected to each other.

07

One-man crews shall be equipped with suspension harness straps.

207 GROUNDING PROCEDURES

01

For employees to work lines or equipment as de-energized, the lines or equipment shall be de-energized, tested for voltage with an approved device and grounded. When the line or equipment has never been energized and there is no possibility of contact with another energized source, and the hazard of induced voltage is not present, grounds are not required.

02

Only approved protective grounding devices shall be used in accordance with approved grounding procedures.

03

Before installing a grounding device, an employee shall determine that the device is in satisfactory condition.

Return to Index

04

Distribution protective grounding cables shall be flexible stranded conductors of sufficient current carrying capacity to activate protective devices without damage to the cable, but no less than 2/0 stranded copper. Reference Standard Procedure Bulletin 8.4.

Transmission protective grounding cables shall be flexible stranded conductors of sufficient current carrying capacity to activate protective devices without damage to the cable, but no less than 4/0 stranded copper.

For 69 kV and 138 kV, no less than one set of 4/0 grounds is sufficient.

For 230 kV, no less than 2 sets of parallel 4/0 grounds is sufficient.

Reference Standard Procedure Bulletin 37-6 Standard Procedure Bulletins Transmission.

05

When protective grounds are attached to a line or to equipment, the ground end connection shall be attached first, and then the other end shall be attached by means of a live line tool. When live line tools less than four feet in length are used, rubber gloves shall be worn during installation or removal.

06

Before protective grounds are attached, the circuit shall be de-energized, clearance issued and then tested for voltage with an approved device. Protective grounds shall not be removed until the work has been completed and all persons involved are notified and in the clear.

07

Whenever possible, a protective ground shall be placed on all phase conductors at the point of work. When grounding at the point of work creates congestion and is a hazard to the employee, grounds shall be placed on each side as near as possible to where the work is being performed.

08

When working on equipment where it is impractical to ground on each side of the work, equipment shall be grounded in at least one location.

09

When electrical testing requires that circuits or equipment be ungrounded, any protective grounds otherwise required shall be removed only during the test, using insulating equipment.

Return to Index

10

When grounding conductors, the grounding cables shall be connected to a suitable ground first; then the nearest phase conductor shall be grounded and the remaining conductors shall be grounded in order. Employees shall keep as far from the conductor as possible. When removing the grounding cable, the employee shall reverse the order being used and ensure that his body does not come in contact with conductors which are grounded.

11

Rubber gloves shall be worn when opening and closing grounds on both overhead and underground circuits.

12

Equipotential Zone – Temporary protective grounds shall be placed at such locations and arranged in such a manner as to prevent each employee from being exposed to hazardous differences in electrical potential. Reference General Rules and Specifications OP 25-2.

13

All vehicles in the work area where Transmission work is being performed shall be grounded. If there is no potential of induced voltage or contact with energized lines, these grounds may be omitted.

208 INDUCED VOLTAGE

Note: To guard against Induced Voltage refer to the following:

Section 207, Grounding Procedures; Section 222, Wire Stringing Operations; and Section 224, Working on or Near Exposed Energized Lines or Equipment.

01

On de-energized lines and equipment in the vicinity of energized high voltage stations, and/or where energized lines run parallel to de-energized lines, caution shall be exercised to guard against induced voltage.

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209 INSULATING EQUIPMENT

01

Insulating equipment shall be installed from a safe position, and whenever possible, from a position below the conductor or apparatus to be covered. The line or equipment nearest the employee shall be covered first. In removing insulating equipment, the equipment furthest away shall be removed first.

02

Climbing above exposed and energized conductors or equipment shall not be permitted.

03

When it is necessary to work on or near energized conductors or equipment, sufficient protective equipment shall be used to prevent accidental contact with the energized conductor or equipment.

04

All open leads and wires shall be de-energized and grounded or covered with insulating protective equipment whenever it is necessary to work around or climb through them.

05

When covering conductors carrying 7,620 volts and higher, employees shall be positioned on an insulated platform or in an aerial basket, unless insulated handles or live line tools are used to install protective equipment.

06

When not in use, equipment shall be shielded from sunlight, heat, ozone, oil and other harmful agents and protected from physical damage.

07

Blankets shall not be used on the ground without protecting them from physical damage and moisture by means of a tarp, canvas, or other protective mats.

08

Flexible equipment shall always be stored in a relaxed position. Blankets, line hose and hoods shall not be stored in folded or strained positions.

09

Barriers shall be used when working adjacent to energized conductors or equipment that cannot be adequately insulated with cover-up material. When barriers are erected near energized equipment or conductors, they shall be constructed of non-conductive materials. Return to Index

10

All protective equipment shall be maintained in satisfactory condition. When it becomes defective, it shall be tagged and replaced or repaired.

11

At least once a month, each person in charge shall see that the insulating equipment is properly inspected. The supervisor or person in charge shall fill out and sign the form provided to verify that this inspection has been completed.

12

Hot sticks shall be used to operate disconnect switches. When switching, employees shall keep as far as practical from the energized equipment.

13

Each live-line tool shall be wiped clean using a silicone wiping cloth and visually inspected for defects before use each day.

14

All live line tools shall be tested electrically every 24 months.

210 INSULATING RUBBER GLOVES & RUBBER SLEEVES

01

Rubber gloves shall be worn when working on exposed energized lines or equipment energized at 50 volts or more. Rubber gloves shall also be worn when working on ungrounded lines and equipment that are subject to backfeed and induced voltage.

02

In addition to rubber gloves, rubber sleeves shall also be worn, if exposed energized parts on which work is not being performed are not insulated from the employee exposing the employee's upper arm to contact with other energized parts.

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03

The maximum voltage upon which rubber gloves alone shall be used is 5,000 volts to ground. Any voltage in excess of this shall be worked by an approved method only.

04

Rubber gloves shall not be worn without leather protectors.

05

Before work is begun each day, where rubber gloves are required, each glove shall be visually inspected and air tested by the employee using the gloves. Defective gloves shall not be used.

06

Where rubber sleeves are required, each sleeve shall be visually inspected daily. Defective sleeves shall not be used.

07

Rubber gloves shall be electrically tested every 60 days or more often if field conditions warrant. Rubber sleeves shall be electrically tested annually or more often if field conditions warrant.

08

Rubber gloves and sleeves shall be stored in approved bags in a fully extended position. Rubber gloves and sleeves shall not be folded. Bags shall be either hung up or placed in a special compartment. They shall not be placed where other tools or equipment can damage the rubber gloves or sleeves.

09

Two pairs of rubber gloves, one inside the other, shall not be worn.

10

Care shall be taken not to allow gloves and/or sleeves to come in contact with oil-base products.

11

No items are permitted to be placed in the rubber glove bag (or sleeves bag) along with the rubber gloves and protector gloves (or sleeves).

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12

Protectors shall not be worn in place of work gloves.

13

After use, rubber gloves should be washed daily at the end of the shift prior to storage.

211 LIVE-LINE TOOL WORK

Note: Refer to Section 224, Working on or Near Exposed Energized Lines or Equipment.

01

Chain hoists, chains, metal slings or cables shall not be used in rigging between the pole and an energized circuit.

02

The live-line tool method is to be used on energized circuits 69 kV and above requiring uninterrupted service. Careful planning by trained personnel following safe work procedures is required.

03

A Energized Work Permit shall be installed on the circuit's equipment before performing live-line work.

04

The Absolute Limit of Approach shall be maintained from an energized conductor, a workman and his tools or the energized metal portion of a live-line tool at all times.

ABSOLUTE LIMIT OF APPROACH

Voltage Phase to Phase	Distance Phase to Ground	Distance Phase to Phase
69 kV	3 ft.-0 in.	3 ft.-6 in.
138 kV	3 ft.-7 in.	4 ft.-11 in.
230 kV	5 ft.-3 in.	7 ft.-6 in.
500 kV	11 ft.-3 in.	18 ft.-1 in.

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05

Before the limits of approach are encroached upon, the hazard shall be moved or approved protective equipment used.

06

If it becomes necessary to deviate from the original plan, all work shall stop and all changes shall be discussed with all crew members.

07

Live-line tools shall be stored and transported in special boxes or trailers.

08

Live-line tools shall be wiped down with silicone impregnated cloth before and after they are used. They shall not be placed on the ground, but shall be placed on a tool rack.

09

Live-line work should only be accomplished when the weather is clear and dry.

10

A careful inspection of all live-line equipment shall be done at the beginning of the work day or when necessary.

11

A careful inspection shall be made of a structure before performing live-line work.

12

Avoid unnecessary conversation during live-line work.

13

Live-line work shall be performed on one conductor at a time.

14

Live-line work shall not be performed on an adjacent structure.

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15

Safe working loads of live-line tools shall be adhered to per hot stick manual and manufacturers' recommendations. Extreme caution shall be exercised when raising or moving conductors above the level of the conductors on the adjacent structures.

16

Nylon strap hoists are not to be used as live-line tools.

17

Every two years live-line tools shall be tested, closely inspected, cleaned and refinished or repaired as required by qualified personnel and per manufacturers' recommendations.

18

On 138 kV armless construction, the conductors shall be laid out with live-line tools before climbing through them.

19

Protective equipment shall not be used on voltages above 69 kV.

212 MECHANICAL LIFTING & PULLING EQUIPMENT

01

When qualified employees operate mechanical lifting and pulling equipment such as cranes, derricks and winch lines near exposed energized lines, the following safe distances shall be maintained:

Phase to Ground Voltage	Minimum Clearance
13 kV	2 ft.-2 in.
69 kV	3 ft.
138 kV	3 ft.-7 in.
230 kV	5 ft.-3 in.

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02

If the equipment could become energized, the energized lines shall be insulated and the mechanical lifting equipment shall be grounded.

03

When mechanical lifting equipment is equipped with outriggers, they shall be used. Additional mats shall be used under outriggers for increased stability when working on unstable ground.

04

Overloading of winches, cables and derricks shall not be permitted. The manufacturer's designated load limit shall not be exceeded. The load limit warning devices shall not be bypassed.

05

Cable or wire rope shall not be handled with bare hands.

06

When a winch line is operated, employees shall not stand inside the angle made by the line when tension is applied.

07

When operating a piece of equipment via remote operating panel the operator must maintain a safe operating distance from any pinch points, overhead suspended loads and line of Fire situations.

08

While any pulling, lifting, loading or unloading operations are being performed the operator must maintain a clear and safe work area for any persons that could be in the work area

09

Hoisting cables (and slings) shall be visually inspected each day before they are used.

10

Lifting or pulling straps, slings, chains, or wire rope shall not be shock loaded. Tensioning and loading shall be done in a gradual, steady, and safe manner.

11

In assembling derricks, all pins shall be properly locked in place.

Return to Index

12

Employees shall not stand or pass under a suspended load or adjacent to or over or under a loaded winch line.

13

Hoisting equipment shall have a load-capacity chart and boom-angle indicator in view of the operator.

213 POLE LOADING, UNLOADING & HAULING

01

During pole loading or unloading operations, employees shall not stand between the pole pile and the loading or transporting equipment.

02

Employees shall not stand or pass beneath suspended loads.

03

When operating a piece of equipment via remote operating panel the operator must maintain a safe operating distance from any pinch points, overhead suspended loads and line of Fire situations.

04

While any pulling, lifting, loading or unloading operations are being performed the operator must maintain a clear and safe work area for any persons that could be in the work area.

05

Care shall be taken to position employees and equipment in such a way as to avoid injury or damage, should a load of poles get out of control.

06

When loading or unloading poles and it becomes necessary to control the pole, employees shall work at the ends of the poles.

07

Employees handling poles shall always wear a hard hat, safety glasses and work gloves.

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08

When poles are to be rolled from a pile or from a trailer to the ground, it shall be done with a line, fiberglass handled cant hook or other approved tools. Wood handled cant hooks shall not be used. Fiberglass cant hooks shall not be used to support the weight of the pole while moving the sling.

09

Poles shall be securely fastened to the trailer when being hauled. Fabric pole straps shall be inspected daily and taken out of service when they are found to be frayed, discolored or in poor condition. During daylight hours, a red flag shall be fastened to the far end of the pole that protrudes furthest to rear. After dark, a steady burning red light shall be used instead of a flag.

10

When hauling transmission poles, it may be necessary to have a follow vehicle depending on pole length.

11

When maneuvering corners, motorists shall be given as much advance warning as practical.

12

A pole trailer with a pintle hook attachment shall be properly connected to its towing vehicle with safety latches and chains.

13

Whenever possible, poles temporarily stored along the streets or highways shall be placed back of the curb or beyond the ditch line and blocked so that they cannot roll.

214 REGULATORS

01

Before the regulators are bypassed, the regulator shall be in the NEUTRAL position and the control power switch shall be OFF.

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215 RESCUE OPERATIONS

GENERAL

01

Rescue and resuscitation techniques shall be reviewed and practiced at least once a year.

02

Radio calls for emergency medical assistance in life threatening situations shall be identified with the words “Mayday, Mayday.” Calls for other emergency situations shall be identified with the words “This is an emergency.” All other radio communication shall cease while the emergency is underway.

03

The dispatcher shall be notified of emergency situations, who, in turn, shall call for emergency assistance in accordance with approved policy.

POLE/STRUCTURE RESCUE

04

A lifeline of one half inch minimum diameter shall be used whenever an employee climbs poles, towers or structures.

05

A full body harness with shock absorbing lanyard shall be worn and used by employees working at elevated locations more than four feet above the ground on towers or on other structures where fall protection has not been provided.

06

The rescuer shall exercise extreme caution to prevent from also becoming a victim. The circuit shall be de-energized to remove the victim. If the circuit cannot be de-energized immediately, the rescuer shall use adequate protection for his or her own safety.

07

The rescuer shall proceed to lower the victim to the ground as soon as possible in accordance with approved methods.

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AERIAL DEVICE RESCUE

08

A full body harness with a shock absorbing lanyard shall be worn and used by employees working from aerial devices.

09

The rescuer shall proceed to lower the victim to the ground or to the cab screen as soon as possible using the lower controls on the equipment.

10

The victim shall be removed from the basket as soon as possible so that CPR can be administered. No attempt shall be made to ventilate the lungs or massage the heart while the victim is in the basket.

VAULT/MANHOLE RESCUE

11

When work is being performed in a vault or manhole containing energized equipment, an approved tripod or other type lifting device shall be in place.

12

Employees working in a vault or manhole shall wear a full body rescue harness.

13

When an employee is in a vault or manhole another qualified employee with the proper equipment readily available shall be stationed at the surface to assist in case of emergency.

14

Employees may not enter an enclosed space while it contains a hazardous atmosphere, unless entry conforms with the Permit-Required Confined Spaces Program.

15

If required, rescue Breathing and/or CPR shall be administered after the victim has been brought topside.

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OTHER RESCUE

16

Whenever employees are engaged in work where the danger of drowning exists, they shall be required to wear an approved personal flotation device.

216 SERVICE & METER INSTALLATION

Note: Refer to Section 135, Meters

01

All exposed conductors within reaching distance shall be covered when pulling services.

02

When working on energized lines, employees shall not overreach the protective equipment.

03

Secondaries shall be worked from below, whenever possible.

04

Services shall not be energized without the consent of the employee at the other end.

05

A visual check shall be made of the meter base and the main switch before energizing the service. A test shall be made for grounded conductors.

06

On all reconnects and new services, a backfeed test shall be made before installing the meter.

07

All socket type meters shall be installed or removed with approved gloves.

08

A check shall be made on temporary service supports to determine stability before putting a ladder against it.

Return to Index

09

The secondary side of a current transformer shall not be opened while the primary side is energized.

10

Meters shall not be installed or removed where explosive gases are suspected.

11

Services shall be de-energized where damage or deterioration may cause a flash if a meter is removed.

12

Rubber gloves shall be worn while working energized secondaries.

13

When installing, removing or working on energized meter installations, the following equipment shall be worn: hard hat, FR clothing, appropriate gloves, approved safety eyewear footwear, and Face Shield. Face shields shall also be worn when working on energized metering equipment; large wire trough installations, or large group metering installation or any time a hazardous condition exists which may cause a flash or injury to the face or eyes. FR clothing shall be worn properly: Sleeve cuffs shall be fully rolled down and secured. All buttons below the collar shall be secured. Shirt tails shall be tucked into pants.

14

When working on energized self-contained 480 volt meter sockets, all FR clothing and additional PPE are required to be equivalent to 20 cal.

FR-HRC2 (Equals 8 cal.) shirt with long sleeves and pants (In addition to minimum category FR12 coveralls with the 20 cal. Hood, face shield and rubber gloves) shall be worn.

217 SETTING AND PULLING POLES

01

Prior to digging with any mechanized equipment, (Dial 811) Sunshine State One Call of Florida, to get any underground utilities marked. Hand digging is permissible in an emergency situation. If the call has already been made, make sure that you have the locate ticket number on site for reference in case of a problem. All after hour Emergency Locate Ticket requests must be made Online.

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02

When operating a piece of equipment via remote operating panel the operator must maintain a safe operating distance from any pinch points, overhead suspended loads and line of Fire situations.

03

While any pulling, lifting, loading or unloading operations are being performed the operator must maintain a clear and safe work area for any persons that could be in the work area.

04

Poles being raised or lowered shall be handled with the butt end heavy, if possible. When a standing pole is cut off, it shall be kept under control at all times.

05

Truck outriggers shall be properly extended when setting or pulling poles. Outrigger pads shall be placed on firm footing. See Pole Pulling Guidelines.

06

While a pole is suspended from the derrick or truck's winch line, the truck shall not be moved except for a short distance.

07

When setting or pulling poles between or near energized lines, the employee who may contact or come in close proximity to the pole or truck shall wear rubber gloves. The boom and cable shall be kept clear of conductors. Any conductor and/or pole that may be contacted shall be covered with approved insulating equipment. When setting or pulling poles, no pole shall pass through or by any uncovered primary conductor.

08

When setting or pulling poles in close proximity to an energized transmission circuit, the automatic reclosing apparatus protecting such circuit shall be rendered inoperative and a Energized Work Permit shall be installed.

09

When piking poles, extreme caution shall be used to keep the pole under control at all times.

10

Employees shall not be on poles that are being plumbed or tamped unless they are properly secured.

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11

When pulling poles or pole butts the cable or boom shall not be overloaded due to the weight of the pole and its adhesion to the ground. Other suitable means such as pole jacks, digging around the pole, etc., shall be considered. See Pole Pulling Guidelines.

12

When setting or pulling concrete or steel poles between or near energized lines, special attention shall be exercised to keep the pole under control. The conductors shall be covered with insulating equipment or the pole itself shall be covered with pole guards. A Energized Work Permit shall be placed on the circuit. When setting or pulling poles, no pole shall pass through or by any uncovered primary conductor.

SUPPORTING OF POLES DURING EXCAVATION

13

One lineman and one qualified operator shall be present at the job site when the excavation process is in the near vicinity of the pole. The vehicle shall be running during this time and one of the two qualified operators shall remain at the controls until the excavation process has cleared the pole and the proper support has been installed.

14

A vehicle may be left unattended only if the excavation process has not reached the pole location. Coordination shall be established with the customer to ensure that advanced notice will be given to the Company to ensure that qualified operators will be available when needed.

218 SWITCHING & TAGGING (SYSTEM OPERATIONS & SYSTEM SERVICE)

Notes: When working on a section of line not requiring clearance from the DSO the “Danger Men Working on Line Flag” shall be installed on the pole of the isolating point.

THREE-WAY COMMUNICATION: Switching and Tagging requires three-way communications in which the system operator shall issue directives in a clear, concise and definitive manner; the recipient of the directive shall repeat the information back correctly; and the system operator shall acknowledge the response as correct or shall repeat the original statement to resolve any misunderstandings. This communications protocol is used to ensure there is no misunderstanding with respect to the directive.

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SWITCHING AND TAGGING PRACTICES

01

A switch, fuse, tap or any other device under the jurisdiction of a Switching Supervisor shall not be tagged or operated without the specific instructions of the Switching Supervisor.

02

Switching orders are not transferable. The person receiving the orders shall be responsible for and personally direct the switching procedures.

03

Where equipment or switches are isolated for testing, maintenance or construction, and arrangements have been made with the Switching Supervisor, this isolated equipment or switch can be operated without specific instructions from the Switching Supervisor.

04

The supervisor or person in charge of the work shall arrange with the proper Switching Supervisor the necessary switching and tagging.

05

A supervisor or person in charge shall not work under the clearance of another. If protection is required for more than one crew working on the same job, the person in charge of each crew shall have the circuit or equipment tagged to him or her and shall obtain clearance.

06

Use of the Clearance Request Sheet for transmission tagging shall be done in accordance with Transmission Department procedures in TOA (Transmission Outage Application).

07

All information required on tags shall be properly and legibly entered on each tag, and the tag shall be properly signed by the Switching Operator.

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08

To release a tag, or give up clearance, the person for whom the tag or clearance was issued shall contact the Switching Supervisor and release that tag in the following manner:

a.

The supervisor or person for whom the tag or clearance was made shall identify himself or herself. The Switching Supervisor shall determine that the person releasing the tag is the person for whom the tag was made.

b.

He or she shall identify the circuit or equipment upon which he or she has been working.

c.

The person shall state that he or she is clear of the circuit or equipment and state its condition so far as his or her work is concerned.

09

In the event it is absolutely necessary to place a piece of equipment in service, and it is found that the equipment has been tagged to a person who is incapacitated or is unable to be reached, the tag may be released in the following steps:

a.

The person's department head shall determine that the person is definitely incapacitated, or that every available effort has been made to contact the person, but to no avail.

b.

The person's department head, together with the department head from System Operations or System Service, whichever has jurisdiction, shall be responsible for seeing that a thorough examination of the equipment is conducted so that placing the equipment in service shall not involve any danger to personnel or equipment. They shall then certify that all field personnel are in the clear to System Service or System Operations that the tag can be released.

c.

After this procedure has been completed, System Operations or System Service shall release the tag.

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10

When construction is required adjacent to or under TECO lines it may become necessary to de-energize and ground the line for an extended period of time. This procedure may also be required when providing protection to the public.

During such times, a representative supervisor from the service area doing the work shall also take clearance and maintain that clearance until it is determined that the line is safe. Only then shall the grounds be removed and the circuit re-energized.

11

The Switching Operator's department shall maintain a file of all switching tags for at least 30 days.

DANGER TAG

12

The Danger tag shall be used only on electrical circuits and equipment. A Danger tag placed on an open disconnect forbids closing that device.

13

No one, regardless of rank or authority, shall in any case operate any switch or piece of equipment which has a Danger tag attached to it; nor shall the Danger tag be removed without orders from the Switching Supervisor.

14

When clearance is required on any circuit or equipment that is to be de-energized for purpose of working thereon, it shall be switched, tagged, and clearance given in that order.

15

The supervisor or person in charge receiving the clearance shall test for voltage, and then shall apply approved grounds. Clearances shall not be given through any device where a gap is not visible.

16

If clearance is required for more than one crew working on the same job, each person in charge shall obtain clearance and shall not work under the clearance of another.

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17

A Danger tag shall be made for each person in direct charge of a job where clearance is required.

18

Each tag shall be filled out in accordance with the instructions on the back of the tag. The tag shall be securely attached in a conspicuous location on the control switch, the open disconnecting device, or on the pole or structure where such switch or device is located.

ENERGIZED WORK PERMIT

19

The Energized Work Permit is the only protective tag used on energized circuits or equipment. Before this tag can be placed on any switch having an automatic re-closing feature, the re-closing feature shall be disabled.

20

When working under the protection of the Energized Work Permit, the circuit, equipment, or switch shall be considered energized at all times.

21

Should a switch bearing a Energized Work Permit open automatically, the Energized Work Permit prohibits the re-closing of the switch until permission is obtained from the person for whom the tag was placed.

22

The tag shall be securely attached in a conspicuous location on the control switch or device, or on the pole or structure where such switch or device is located.

23

Once a Energized Work Permit has been installed, the person receiving Energized Work Permit shall remain on the job site until the tags have been properly released and removed.

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TAGGING FOR OR BY OTHER COMPANIES

24

When another company requests a TECO circuit or piece of equipment removed from service, the switching shall be done under the orders of the TECO Switching Supervisor; and, if clearance is necessary, the tags shall be in the name of person specified by the other company.

25

When work is to be done by TECO requiring the opening and tagging of switches controlled by another company, the switching and tagging shall be arranged through the TECO Switching Supervisor.

26

When another company is working adjacent to TECO transmission lines and it becomes necessary to de-energize the line, the line shall be tagged to the Switching Supervisor's designated representative.

LOW VOLTAGE (600 VOLTS or BELOW) UTILIZATION CIRCUITS

27

When work is to be done on a low voltage utilization circuit, the circuit shall be tagged and locked out or made inoperative in accordance with Section 133, Lockout/Tagout.

219 TESTING PROCEDURES

01

Test areas shall be guarded:

a.

Permanent test areas shall be guarded by walls, fences, or barriers designed to keep employees out of the test areas.

b.

In field testing, or at a temporary test site where permanent fences and gates are not provided, one of the following means shall be used to prevent unauthorized employees from entering:

(1)

The test area shall be guarded by the use of distinctively colored safety tape that is supported approximately waist high and to which safety signs are attached. Return to Index

(2)

The test area shall be guarded by a barrier or barricade that limits access to the test area to a degree equivalent, physically and visually, to the barricade specified in paragraph (1) above, or

(3)

The test area shall be guarded by one or more test observers stationed so that the entire area can be monitored.

02

Only approved equipment shall be used when phasing the circuit or testing for polarity.

03

When testing energized circuits or equipment, all temporary leads used in testing shall be adequately supported to prevent injury.

04

The lack of voltage on the low voltage side of a transformer shall not be considered as positive indication that the high voltage side is de-energized.

05

In testing for voltage, the employee shall use only an approved detector.

06

All temporary leads used in testing voltage from 600 volts to 15,000 volts shall be single conductor with 15,000-volt insulation. Everyone shall stand clear when making the test.

07

Safe grounding practices shall be followed in the test areas. Refer to Section 207, Grounding Procedures.

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220 UNDERGROUND DISTRIBUTION

01

When performing a cut while operating hand tools with moving parts such as oscillating, circular, or reciprocating motion, the user shall ensure complete 360 degrees of visibility around the object being cut to ensure there are no hazards within the range of the moving parts. If 360 degrees of visibility is not possible, a power tool will be strictly prohibited, and the cut must be made by hand.

02

Only employees or authorized representatives of the Company shall be allowed to open a pad-mounted enclosure. When unattended, these enclosures shall be closed and locked.

03

Before opening any enclosure such as a live or dead- front transformer, or switching cubicle which contains exposed energized equipment, employees shall adhere to the following precautions:

(1)

Rubber gloves, FR clothing (Minimum HRC2 pants, shirt) and approved safety eyewear with side shields and hard hat shall be worn.

(2)

Weeds, grass and other vegetation that obstructs the work shall be cleared from the area.

(3)

All loose objects which could cause an employee to stumble and fall into the energized equipment shall be removed from the area.

04

Door hinges of each enclosure shall be checked before it is opened. Both hands shall be used to keep positive control of the lid of the enclosure. Doors shall be blocked so that they cannot close accidentally.

05

Employees shall check for hazardous conditions before proceeding with work.

06

Before opening any enclosure, all unauthorized persons shall be required to leave the immediate work area and remain in the clear. Where the public is endangered, the work area shall be roped off, barricaded or otherwise marked to prevent entry. Return to Index

07

Energized enclosures shall not be left unattended when unlocked or open.

08

After a transformer has been disconnected from the power source, a check shall be made for backfeed.

09

Cables or equipment shall be considered energized unless de-energized, tested for voltage, and grounded in accordance with approved procedures.

10

Before de-energizing and grounding primary cable and equipment, permission shall be obtained from the dispatcher in accordance with switching and tagging procedures.

11

Approved insulated tools shall be used to open or close energized primary switches and other primary load-breaking devices.

12

An approved interrupting device shall be used to open a primary load.

13

A bayonet fuse shall be operated by the employee at a safe position from the side of the transformer using an approved hot stick.

14

Energized elbows shall be installed and removed with an approved puller and hot stick.

15

Cables which have been de-energized shall be grounded before working on them.

16

A primary or secondary system neutral shall not be opened on any energized circuit.

17

The case ground shall not be removed from an energized transformer.

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18

When work is to be performed on de-energized equipment where it is impractical to ground on each side of the work, the cable or equipment shall be grounded in at least one location.

19

When installing or removing equipment, the first conductor to be connected and the last conductor to be removed shall be the case ground.

20

When it is necessary to rearrange or alter neutral conductors or shielding tape on energized circuits, a continuous metallic circuit shall be maintained with jumpers or tape. Rubber gloves shall be worn unless hot sticks are used.

21

Due to loop characteristics of underground distribution circuits, both the top and bottom portion of primary switches shall be considered energized, until tested and grounded.

22

When working on any energized cable or equipment, suitable barriers and protective covering to prevent accidental contact with other conductors or grounds shall be provided and used. When working in a pad mounted transformer, the secondary bushing shall be covered using U.D. spade covers.

23

When work is being performed on energized conductors within service pedestals or hand holes, one conductor shall be uncovered at a time except when testing for voltage.

24

Before energizing a service, tests shall be made for grounds and backfeed with an approved voltage tester.

25

The secondary side of the current transformer shall not be opened while the primary side is energized.

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26

Prior to digging with any mechanized equipment, (Dial 811) Sunshine State One Call of Florida, to get any underground utilities marked. Hand digging is permissible in an emergency situation. If the call has already been made, make sure that you have the locate ticket number on site for reference in case of a problem. All after hour Emergency Locate Ticket requests must be made Online.

27

Rubber gloves shall be worn and extreme care shall be exercised when digging or probing in the proximity of energized cable.

28

When trenches are required to be left open, sufficient work area protection shall be placed to adequately protect the public and employees. Warning lights shall be used where trenches are left open overnight.

29

Before cutting a primary cable which has been previously energized, the cable shall be isolated, tested, grounded and tagged. It shall be spiked with an approved tool at the point to be cut.

30

A check shall be made to assure that all grounds have been removed before equipment which has been grounded is put into service.

31

When pull wire is left in energized equipment, the pull wire shall be grounded.

32

If duct rods are used, they shall be installed in the direction presenting the least hazard to employees. An employee shall be stationed at the far end of the duct line being rodded to ensure that the required minimum approach distances are maintained.

33

When multiple cables are present in a work area, the cable to be worked shall be identified by electrical means, unless its identity is obvious by reason of distinctive appearance or location or by other readily apparent means of identification. Cables, other than the one being worked on, shall be protected from damage.

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34

Energized cables that are to be moved shall be inspected for defects.

35

Where a cable in a manhole has one or more abnormalities that could lead to or be an indication of an impending fault, the defective cable shall be de-energized before any employee may work in the manhole.

Note: Abnormalities such as oil or compound leaking from cable or joints, broken cable sheaths or joint sleeves, hot localized surface temperatures of cables or joints, or joints that are swollen beyond normal tolerance are presumed to lead to or be an indication of an impending fault.

36

When work is performed on buried cable or on cable in manholes, metallic sheath continuity shall be maintained or the cable sheath shall be treated as energized.

37

Before completing the connection of an energized single-phase URD loop, phasing with an approved tool shall be performed to determine that there is correct phasing (not opposite phases) present when completing the loop. Reference: General Rules and Specifications Operating Procedure "OP3-7-032488" in the UG spec. book

221 USE AND CARE OF TOOLS

01

Metal tapes, tapes having metal strands woven in the fabric, brass-bound rulers, metal scales and metal gauges shall not be used when working on or near energized conductors or equipment.

02

Hand lines shall be a minimum of one-half inch in diameter and equipped with an approved safety hook and block.

03

Each employee shall inspect their climbing tools, body belts and safety belts and harnesses each month. The person in charge shall complete the form provided to verify that this inspection has been completed. Return to Index

04

The gaff shall not be less than one and one-quarter inches long, measured on the inside. Gaff protectors shall be used when climbers are not in use.

05

Tools carried in the tool belt shall be secured so that they cannot fall. Large tools shall not be carried in the tool belt.

06

The tool bucket shall be kept free of broken glass, broken pieces of porcelain, nails and other materials which might damage rubber gloves or other protective equipment.

07

Tools should not be thrown from the ground to the working position or from the working position to the ground.

08

Insulation on tools shall not serve as a substitute for rubber gloves when the rubber glove rules require their use.

09

When not in use, pruning tools, hand saws, axes, hatchets and machetes shall be covered with an approved sheath.

10

Employees working from a pole using power saws shall use a steel safety in addition to the approved safety belt.

11

All tools shall be periodically inspected and any defective tools removed from service, regardless of ownership.

12

All live-line tools, insulated platforms, barriers and cover-up materials shall be inspected visually before use. Where hazardous defects are indicated, such equipment shall be removed from service.

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222 WIRE STRINGING OPERATIONS

01

When in use, all pulling and tensioning equipment shall be grounded. Employees shall not touch equipment unless rubber gloves are being worn.

02

A traveling ground shall be installed between the tensioning reels and the first structure in order to ground each bare conductor during the stringing operations.

03

During stringing operations, each bare conductor shall be grounded at the first structure adjacent to the tensioning machine and at increments no more than two miles apart. Each conductor shall be grounded after it has been pulled in.

04

The grounds shall be left in place until the conductor installation is complete. Such grounds shall be removed as the last phase of the stringing operations.

05

When adjusting brakes while standing on the ground, rubber gloves shall be worn.

06

Wire being strung, removed or sagged close to energized lines or equipment shall be handled with rubber protective equipment unless adequately grounded.

07

Wires or rope being pulled in or out shall not be allowed to sag to less than 18 feet over a street or highway.

08

Rope, lines, cables or wires hanging from poles, structures or equipment shall be tended or properly secured.

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09

Employees shall not stand in loops of rope or wire. Employees shall not tie wire or rope around the body.

10

Reliable communications, through two-way radios or other equivalent means, shall be maintained between the reel tender and the pulling rig operator.

223 WORKING ON OVERHEAD LINES AND EQUIPMENT

01

All circuits and equipment shall be considered energized at full voltage until de-energized, tested for voltage and grounded.

02

Open pole grounds shall be considered energized until a check proves otherwise. Where possibility of backfeed exists, a potential test shall be made before the conductor or equipment is considered to be de-energized.

03

Overhead series street lighting circuits and equipment shall be considered energized and worked as such unless they are de-energized and grounded.

04

Crossarm braces shall not be relied upon to support an employee's weight.

05

When work is being performed overhead, employees shall remain away from the base of the pole, except to assist the person doing the overhead work.

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06

All equipment and tools to be used aloft shall be raised and lowered by aerial basket, hand line, canvas bucket, or other suitable container. Heavy items shall be raised by crane or hoist. Items should not be thrown or dropped.

07

When working along streets or highways, employees shall exercise care to keep hand lines from blowing into the lane of traffic.

08

When working at night, floodlights or other portable lights for emergency lighting shall be provided to perform the work safely.

09

The stress on a pole shall not be changed by adding or removing any conductor or guy until it is determined that the pole will withstand the altered stress.

224 WORKING ON OR NEAR EXPOSED ENERGIZED LINES OR EQUIPMENT

Purpose

The purpose of protective cover and its application are to protect the worker in the event he should slip or make an unintended move. The arrangement of cover should be such that it prevents possible or accidental contact with energized lines as well as paths to ground and objects of different potential.

01

Only qualified employees may work on or with exposed energized lines or parts of equipment. Only qualified employees may work in areas containing unguarded, un-insulated energized lines or parts of equipment operating at 50 volts or more. Electric lines and equipment shall be considered and treated as energized unless they have been tested for voltage and grounded.

a.

Except as provided below in paragraph b, at least two employees shall be present while the following types of work is being performed:

(1)

Installation, removal, or repair of lines that are energized at more than 600 volts.

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(2)

Installation, removal, or repair of de-energized lines if an employee is exposed to contact with other parts energized at more than 600 volts.

(3)

Installation, removal, or repair of equipment, such as transformers, capacitors, and regulators, if an employee is exposed to contact with parts energized at more than 600 volts.

b.

Paragraph a. does not apply to the following operations:

(1)

Routine switching of circuits, if conditions at the site allow the work to be done safely.

(2)

Work performed with live-line tools (hot sticks), if the employee is positioned so that he or she is neither within reach of nor otherwise exposed to contact with energized parts, and

(3)

Emergency repairs to the extent necessary to eliminate hazards and safeguard the general public.

02

Minimum Approach Distances: Employees shall don insulating gloves and\or sleeves as required before they are in a position from which they can reach into the minimum approach distance. No employee shall approach or take any conductive object closer to exposed energized parts than set forth in Table R-6, Minimum Approach Distance unless:

a.

The employee is insulated from the energized part. Insulating gloves or insulating gloves and sleeves worn in accordance with Section 210 are considered insulation of the employee.

b.

The energized part is insulated from the employee and from any other conductive object at a different potential.

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c.

Whenever work requires employees to enter or work on any overhead primary energized conductor or equipment, within the minimum approach distance, (Table R-6). A Energized Work Permit shall be required.

Once a Energized Work Permit has been installed, the person receiving the Energized Work Permit shall remain on the job site until the tag has been properly released and removed.

d.

In addition to the appropriate arc rated FR clothing & safety glasses, the 8 cal. arc flash protective face shield shall be worn when performing the following tasks:

(1)

Switching of all live-front padmount equipment. The use of a face shield is not required on dead-front padmount equipment, but is recommended.

(2)

When deemed necessary by supervision.

This applies to employees doing the physical work and those standing within a minimum of 10 feet from operating equipment.

e.

Switching of all 600 amp disconnect switches shall be performed with a minimum of a 10 foot-stick.

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AC Live-Line Work Minimum Approach Distance (Table R-6)

VOLTAGE	DISTANCE	
Phase to Phase	Phase to Ground Exposure	Phase to Phase Exposure
0.05 to 1.0 kV	**Avoid Contact**	**Avoid Contact**
1.1 to 15.0 kV	2 ft.-2 in.	2 ft.-3 in.
15.1 to 36.0 kV	2 ft.-4 in.	2 ft.-7 in.
36.1 to 46.0 kV	2 ft.-7 in.	2 ft.-10 in.
46.1 to 72.5 kV	3 ft.-0 in.	3 ft.-6 in.
72.6 to 121 kV	3 ft.-2 in.	4 ft.-3 in.
138 to 145 kV	3 ft.-7 in.	4 ft.-11 in.
161 to 169 kV	4 ft.-0 in.	5 ft.-8 in.
230 to 242 kV	5 ft.-3 in.	7 ft.-6 in.
345 to 362 kV	8 ft.-6 in.	12 ft.-6 in.
500 to 550 kV	11 ft.-3 in.	18 ft.-1 in.
765 to 800 kV	14 ft.-11 in.	26 ft.-0 in.

Note 1:

These distances take into consideration the highest switching surge an employee will be exposed to on any system, with air as the insulating medium and the maximum voltages shown.

Note 2:

The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges.

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03

Employees shall wear approved FR clothing and 100% cotton as listed below, while working on energized lines and equipment. FR clothing shall be worn properly: Sleeve cuffs shall be fully rolled down and secured. All buttons below the collar shall be secured. Shirt tails shall be tucked into pants.

TECO'S APPROVED FR CLOTHING CONSISTS OF:

a.

FR shirt meeting a minimum Arc rating of HRC: 2 with long sleeves.

b.

FR pants meeting a minimum Arc rating of HRC: 2.

c.

Jackets or coats that are FR meeting a minimum Arc rating of HRC: 2.

d.

FR or 100% cotton or other natural fiber undergarments.

04

Extreme caution shall be exercised when working on energized lines in inclement weather.

05

Employees doing work on energized lines shall devote their undivided attention to the work at hand.

06

When practical, all protective equipment shall be installed from a level below the conductor or equipment. The removal of protective equipment shall be done with equal care in reverse order. When covering secondaries, the conductor nearest the employee shall be covered first.

07

Employees working on energized lines and equipment shall position themselves below the work whenever possible.

08

When working on or near energized circuits on wood poles, employees shall avoid standing on or touching grounds. Pole grounds are also potential hazards and require cover if they cannot be avoided.

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09

When two or more employees are working within reach of each other, they shall not work simultaneously on different phases or items at different potentials.

10

Strap jacks or blocks are preferred for use on energized conductors. Caution shall be exercised when chain jacks are used.

11

When it is necessary to lay an energized conductor on a crossarm or pole, either the conductor shall be covered with approved insulating equipment, on the crossarm or pole shall be covered with an approved guard. (New) Mechanical jumpers that may encounter any other object, pole, x-arm etc. shall be covered or the object itself covered or both.

12

A system neutral shall not be opened until the proposed opening has first been jumpered or by-passed.

13

When it is necessary to perform live-line tool work on lines which are energized, such work shall be performed by qualified personnel.

14

The employee in charge of the live-line tool work shall specify which lines may be worked and what work is to be done.

15

The employee in charge of the live-line tool work shall closely supervise the work and keep employees advised as to their personal safety and handling of the live-line tools.

16

Live-line tools shall be carefully inspected for defects before they are used, they shall be wiped down with a silicone impregnated cloth before use.

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17

Each live-line tool shall be removed form service every two years and thoroughly examined for defect. If a defect or contamination that could adversely affect the insulating qualities or mechanical integrity of the live-line tool is found, the stick shall be repaired and refinished or shall be permanently removed from service. If no such defect or contamination is found the live-line tool shall be cleaned and waxed.

18

Proper minimum approach distance between the employee and the energized conductor shall be maintained.

19

Rope shall not be allowed to come in contact with energized conductors of 69 kV and above.

20

All energized conductors and equipment within reaching distance shall be covered. Always check that ground personnel are in the clear before installing or removing cover as well as moving conductors.

21

Employees shall not reach beyond the protective equipment.

225 WORKING ON DOWNED LINES & EQUIPMENT

01

“Attached to the circuit” is defined as lines or equipment that are connected to Tampa Electric Company’s electrical circuit and/or customer load.

02

Downed lines and equipment still attached to the circuit shall be considered energized at full voltage until de-energized, tested for voltage, and grounded.

03

Before beginning work, the person in charge shall take measures to protect employees and the public, identify special hazards related to induced voltage and backfeed, and develop a plan of action. A tailboard conference shall include the above when a crew is involved.

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04

Employees doing work on downed lines and equipment shall exercise extreme caution and devote their undivided attention to the work at hand.

ATTACHED TO THE CIRCUIT

05

Work downed lines and/or equipment as energized at full voltage. Or, where both ends of the line are visible from the point of work and the downed line and/or equipment is isolated from Tampa Electric Company's electrical circuit but not Customer load, the line and/or equipment shall be grounded after testing for voltage. Under these circumstances, grounding can be accomplished without tagging and obtaining clearance.

NOT ATTACHED TO THE CIRCUIT

06

When a downed line and/or equipment is isolated from Tampa Electric Company's electrical circuit and customer load, the line and/or equipment can be handled from the ground with 20 kV rubber protective gloves.

07

If the above conditions cannot be met and the line and/or equipment must be hand-held by personnel on the ground, established switching and tagging procedures shall be followed (which would include isolating, tagging, testing for voltage, and grounding).

226 WORK AREA PROTECTION (Maintenance of Traffic -MOT)

Note: Refer to FDOT Maintenance of Traffic Plans Manual and the General Rules and Specifications Manual, sections 26. Only employees trained or those supervised by a trained person in Maintenance of Traffic procedures shall install MOT equipment.

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300 Substation Operations, Maintenance Construction

301 AERIAL DEVICE OPERATIONS

01

Employees shall visually check all aerial devices at the first job of the day before use. The lower controls shall be operated and checked before anyone goes aloft.

02

No one on the ground shall operate the controls to the aerial device while occupied, except in an emergency or when following the direct orders from the employee in the aerial device.

03

The aerial device shall be parked out of traffic whenever possible.

04

Employees shall make sure that the brakes are set before setting up the bucket truck. When parking on an incline, chocks shall be used.

05

If the vehicle is provided with outriggers, they shall be used. Before operating outriggers, employees shall first check to see that everyone is in the clear. The outriggers shall be firmly placed on pads or firm footing before operating the boom.

06

Employees working in an aerial device shall wear an approved body harness with a shock-absorbing lanyard properly attached to the boom.

07

Employees shall not climb into or out of the aerial device while it is elevated except in an emergency. Employees shall not belt off to a structure while working in the aerial device.

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08

The operating control box shall be kept clear of materials or tools. No objects, except approved storage containers, shall be allowed to hang on the outside of the aerial device when working in an energized area.

09

The boom shall be cradled when the bucket truck is being moved. Employees shall not ride in an aerial basket when the bucket truck is moving.

10

The manufacturer's designated load limit shall not be exceeded in the loading of an aerial device.

11

Employees working on energized equipment shall position themselves below the work if possible. Work shall be performed on only one conductor at a time.

12

When operating a multi-person aerial device, no change in device position shall be made without knowledge of all employees except in case of an emergency.

13

No tools or equipment shall be rigged to the basket in such a manner as to cause the basket to become unstable.

14

Good housekeeping shall be exercised in the basket.

15

2-way communication shall be utilized between person in aerial device and any person entering the bed of the truck.

302 BARRICADES AND BARRIERS

01

When work is to be done in a de-energized bay adjacent to an energized bay, barricades shall be installed to warn against entry into the energized area. Return to Index

02

When an addition is being constructed, barricades will be installed around the existing energized substation until the new construction is completed.

03

When barricades are installed within minimum approach distances they shall be rated for the voltage present.

04

When employees are positioned on top of structures, transformers, breakers, regulators or ladders and within minimum approach distance of an energized conductor or apparatus, barriers rated for the voltage shall be used to prevent accidental contact, or approved protective equipment shall be used.

05

When working within minimum approach distance to energized conductors or equipment, temporary barriers rated for the voltage present shall be installed to protect employees.

06

Reference table R-6 for minimum approach distance information.

303 CAPACITORS

01

Employees shall wait five minutes before shorting out capacitors to allow the capacitor to drain itself by built-in discharging devices.

02

Before work is begun on a capacitor bank, the bank shall be grounded.

03

Live-line tools shall be used to short out and ground the capacitors.

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04

When capacitors are removed from service, they shall be shorted out.

05

When opening or closing the CAP-BANK GROUND SWITCH rubber gloves shall be worn.

304 CIRCUIT BREAKER MAINTENANCE & REPAIR

01

Proper clearance shall be obtained to test or make repairs to circuit breakers in accordance with Section 312, Switching and Tagging.

02

All parties concerned shall be instructed as to the work plan that will be followed.

03

When switching the breaker out for maintenance, if the circuit breaker control switch is remote from the circuit breaker, the person in charge shall place an electrical Danger tag on the control switch.

04

A check shall be made to determine that all disconnects or air-break switches are in an OPEN position. The blades shall rest in the full open position.

05

On breakers where the energized side of the disconnects are close to the Circuit Breaker bushings, employees shall not climb up on top to connect the leads used for test purposes. This work shall be done from a ladder below the energized zone.

06

When testing a circuit breaker for the purposes of making a test, the test equipment and the vehicle shall be grounded to the substation ground.

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07

The case of all test transformers shall be grounded when in use, providing such cases are made of metal.

08

When a circuit breaker is being operated electrically or by spring, employees shall keep hands clear of the mechanical closing mechanism.

09

The secondary side of an energized current transformer shall not be opened.

10

Before entering the tank of a circuit breaker to make repairs or adjustments, the following precautions shall be carried out by LOTO procedures and Tampa Electric's confined & enclosed space program:

(1) All AC control power shall be disconnected.

(2) All DC control power shall be disconnected.

(3) The main control valve shall be OFF.

(4) Operating mechanism shall be in the relaxed position or blocked to prevent movement.

Note: Entry shall be in accordance with approved procedures for enclosed or confined spaces.

11

When employees are working inside the tank, the breaker shall not be closed electrically or by spring.

12

A ladder of the proper length shall be used when climbing up on an OCB or other equipment, so that the ladder does not reach energized conductors.

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13

After all work has been completed on top of the equipment, a careful check shall be made to see that all tools and materials have been removed.

14

If it becomes necessary to climb on top of a circuit breaker during oil filtering operations, the terminals shall be grounded.

15

When performing work on or near high-pressure air or gas systems extreme caution shall be exercised.

305 FALL PROTECTION

Note: Refer to Section 113, Fall Protection

01

Fall arrest equipment, work positioning equipment, or travel restricting equipment shall be used by employees working at elevated locations more than four feet above the ground unless an approved ladder, work platform, a guardrail system, or a safety net system is in place.

Note: Employees undergoing training are not considered “qualified” until they have completed the appropriate training for this type of work.

02

Personal fall arrest systems shall be rigged such that an employee can neither free-fall more than six feet nor contact any lower level.

03

If vertical lifelines or drop lines are used, not more than one employee may be attached to any one lifeline.

04

Snap hooks may not be connected to loops made in webbing-type lanyards.

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05

Snap hooks may not be connected to each other.

06

One-man crews shall be equipped with suspension harness straps.

306 GROUNDING PROCEDURES

01

For employees to work lines or equipment as de-energized and clearance is given, the lines or equipment shall be de-energized, tagged, tested for voltage with an approved device and grounded. When the line or equipment has never been energized and there is no possibility of contact with another energized source, and the hazard of induced voltage is not present grounds are not required.

02

Only approved protective grounding devices shall be used in accordance with approved grounding procedures.

03

Before installing a grounding device, an employee shall determine that the device is in satisfactory condition.

04

Distribution protective grounding cables shall be flexible stranded conductors of sufficient current carrying capacity to activate protective devices without damage to the cable, but no less than 4/0 stranded copper.

Transmission protective grounding cables shall be flexible stranded conductors of sufficient current carrying capacity to activate protective devices without damage to the cable, but no less than 4/0 stranded copper.

For 69 kV and 138 kV, no less than one set of 4/0 grounds is sufficient.

For 230 kV, no less than 2 sets of parallel 4/0 grounds is sufficient.

Reference Standard Procedure Bulletin 37-6 Standard Procedure Bulletins Transmission.

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05

When protective grounds are attached to a line or to equipment, the ground end connection shall be attached first, and then the other end shall be attached by means of a live line tool. When live line tools less than four feet in length are used, rubber gloves shall be worn during installation or removal.

06

Before protective grounds are attached, the circuit shall be de-energized, tagged, clearance given, and tested for voltage with an approved device. Protective grounds shall not be removed until the work has been completed and all persons involved are notified and in the clear.

07

Whenever possible, a protective ground shall be placed on all phase conductors at the point of work. When grounding at the point of work creates congestion and is a hazard to the employee, grounds shall be placed on each side as near as possible to where the work is being performed.

08

When working on equipment where it is impractical to ground on each side of the work, equipment shall be grounded in at least one location.

09

When electrical testing requires that circuits or equipment be ungrounded, any protective grounds otherwise required shall be removed only during the test, using insulating equipment.

10

When grounding conductors, the grounding cables shall be connected to a suitable ground first; then the nearest phase conductor shall be grounded and the remaining conductors shall be grounded in order. Employees shall keep as far from the conductor as possible. When removing the grounding cable, the employee shall reverse the order being used and ensure that his body does not come in contact with conductors which are grounded.

11

Equipotential-Zone – Temporary protective grounds shall be placed at such locations and arranged in such a manner as to prevent each employee from being exposed to hazardous differences in electrical potential. Reference General Rules and Specifications OP 25-2.

12

A system neutral or a ground wire shall not be opened until the proposed opening has first been jumpered.

13

When connecting new substation grounds to existing grounds, or repairing a break in an existing ground, a jumper of at least 4/0 stranded copper wire shall be used. The jumper shall be installed with rubber gloves.

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307 INDUCED VOLTAGE

Note: To guard against Induced Voltage refer to the following:

Section 306, Grounding Procedures; Section 315, Working in Energized Substation; and Section 318, Working On or Near Exposed Energized Lines or Equipment.

01

On de-energized lines and equipment, in the vicinity of energized high voltage stations, and/or where energized lines run parallel to de-energized lines, caution shall be exercised to guard against induced voltage.

02

On all 230 kV circuit breakers and other circuit breakers which require entering the tank to work on current-carrying parts, the bushing terminals shall be grounded.

308 INSULATING EQUIPMENT

01

Insulating equipment shall be installed from a safe position, and whenever possible, from a position below the conductor or apparatus to be covered. The line or equipment nearest the employee shall be covered first. In removing insulating equipment, the equipment furthest away shall be removed first.

02

Climbing above exposed and energized conductors or equipment shall not be permitted.

03

When it is necessary to work on or near energized conductors or equipment, sufficient protective equipment shall be used to prevent accidental contact with the energized conductor or equipment.

04

All open leads and wires shall be de-energized and grounded or covered with insulating protective equipment whenever it is necessary to work around or climb through them.

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05

When covering 7,620-volt conductors and above, the employee shall be positioned on an insulated platform, or in an insulated aerial device unless insulated handles or live-line tools are used to install protective equipment.

06

When not in use, equipment shall be shielded from sunlight, heat, ozone, oil and other harmful agents and protected from physical damage.

07

Blankets shall not be used on the ground without protecting them from physical damage and moisture by means of a tarp, canvas, or other protective mats.

08

Flexible equipment shall always be stored in a relaxed position. Blankets, line hose and hoods shall not be stored in folded or strained positions.

09

Barriers shall be used when working adjacent to energized conductors or equipment that cannot be adequately insulated with cover-up material. When barriers are erected near energized equipment or conductors, they shall be rated for the voltage present.

10

All protective equipment shall be maintained in satisfactory condition. When it becomes defective, it shall be tagged for repair or replaced.

11

At least once a month, each person in charge shall see that the insulating equipment is properly inspected. The supervisor or person in charge shall fill out and sign the form provided to verify that this inspection has been completed.

12

Hot sticks shall be used to operate disconnect switches. When switching, employees shall keep as far as practical from the energized equipment.

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13

Each live-line tool shall be wiped clean using a silicone wiping cloth and visually inspected for defects before use each day.

14

All live line tools shall be tested electrically every 24 months.

309 INSULATING RUBBER GLOVES & RUBBER SLEEVES

01

Rubber gloves shall be worn when working on exposed energized lines or equipment energized at 50 volts or more. Rubber gloves shall also be worn when working on ungrounded lines and equipment that are subject to backfeed and induced voltage.

02

In addition to rubber gloves, rubber sleeves shall also be worn, if exposed energized parts on which work is not being performed are not insulated from the employee exposing the employee's upper arm to contact with other energized parts.

03

The maximum voltage upon which rubber gloves alone shall be used is 5,000 volts to ground. Any voltage in excess of this shall be worked by approved method only.

04

Rubber gloves shall not be worn without leather protectors.

05

Before work is begun each day, where rubber gloves are required, each glove shall be visually inspected and air tested by the employee using the gloves. Defective gloves shall not be used.

06

Where rubber sleeves are required, each sleeve shall be visually inspected daily. Defective sleeves shall not be used.

Return to Index

07

Rubber gloves shall be electrically tested every 60 days or more often if field conditions warrant. Rubber sleeves shall be electrically tested annually or more often if field conditions warrant.

08

Rubber gloves and sleeves shall be stored in approved bags in a fully extended position. Rubber gloves and sleeves shall not be folded. Bags shall be either hung up or placed in a special compartment. They shall not be placed where other tools or equipment can damage the rubber gloves or sleeves.

09

Two pairs of rubber gloves, one inside the other, shall not be worn.

10

Care shall be taken not to allow gloves and/or sleeves to come in contact with oil-base products.

11

No items are permitted to be placed in the rubber glove bag (or sleeves bag) along with the rubber gloves and protector gloves (or sleeves).

12

Protectors shall not be worn in place of work gloves.

13

After use, rubber gloves should be washed daily at the end of the shift prior to storage.

310 REGULATORS

01

When working on regulators or tap-changing transformers, care shall be exercised to see that the power is not backfeed into the regulator, thus creating a primary voltage on the windings.

02

Before by-passing a regulator, on either single-phase or three-phase regulators, the regulator shall be in the NEUTRAL position and the control power shall be OFF.

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03

When working on regulators or load tap changer (LTC) internal parts, they shall be de-energized.

04

Capacitors within the high voltage compartment shall be shorted out before work is started.

311 RESCUE OPERATIONS

GENERAL

01

Rescue and resuscitation techniques shall be reviewed and practiced at least once a year.

02

Radio calls for emergency medical assistance in life threatening situations shall be made on the Emergency Channel identified with the words “Mayday, Mayday.” Calls for other emergency situations shall be identified with the words “This is an emergency.” All other radio communication shall cease while the emergency is underway.

03

The dispatcher shall be notified of emergency situations, who, in turn, shall call for emergency assistance in accordance with approved policy.

STRUCTURE RESCUE

04

A lifeline of one-half inch minimum diameter shall be used whenever an employee climbs towers or structures.

05

An approved full body harness with shock absorbing lanyard shall be worn and used by employees working at elevated locations more than four feet above the ground on structures where fall protection has not been provided.

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06

The rescuer shall exercise extreme caution to prevent from also becoming a victim. The circuit shall be de-energized to remove the victim. If the circuit cannot be de-energized immediately, the rescuer shall use adequate protection for his or her own safety.

07

The rescuer shall proceed to lower the victim to the ground as soon as possible in accordance with approved methods.

AERIAL DEVICE RESCUE

08

Full body harnesses with shock-absorbing lanyards shall be worn and used by employees working from aerial devices.

09

The rescuer shall proceed to lower the victim to the ground or to the cab screen as soon as possible using the lower controls on the equipment.

10

The victim shall be removed from the basket as soon as possible so that CPR can be administered. No attempt shall be made to ventilate the lungs or massage the heart while the victim is in the basket.

CLOSED VESSEL RESCUE

11

Entry into and rescue from closed vessels shall be in accordance with Tampa Electric's confined & enclosed space Permit Program.

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SWITCHING AND TAGGING PRACTICES

Note: THREE-WAY COMMUNICATION: Switching and Tagging requires three-way communications in which the system operator shall issue directives in a clear, concise and definitive manner; the recipient of the directive shall repeat the information back correctly; and the system operator shall acknowledge the response as correct or shall repeat the original statement to resolve any misunderstandings. This communications protocol is used to ensure there is no misunderstanding with respect to the directive.

01

A switch, fuse, tap or any other device under the jurisdiction of a Switching Supervisor shall not be tagged or operated without the specific instructions of the Switching Supervisor.

02

Switching orders are not transferable. The person receiving the orders shall be responsible for and personally direct the switching procedures.

03

Where equipment or switches are isolated for testing, maintenance or construction, and arrangements have been made with the Switching Supervisor, this isolated equipment or switch can be operated without specific instructions from the Switching Supervisor.

04

The supervisor or person in charge of the work shall arrange with the proper Switching Supervisor the necessary switching and tagging.

05

A supervisor or person in charge shall not work under the clearance of another. If protection is required for more than one crew working on the same job, the person in charge of each crew shall have the circuit or equipment tagged to him or her and shall obtain clearance.

06

Use of the Clearance Request Sheet for transmission tagging shall be done in accordance with Transmission Department procedures in TOA (Transmission Outage Application).

07

All information required on tags shall be properly and legibly entered and signed by the Switch Operator.

Return to Index

08

To release a tag, or give up clearance, the person for whom the tag or clearance was issued shall contact the Switching Supervisor and release that tag in the following manner:

a.

The supervisor or person for whom the tag or clearance was made shall identify himself or herself. The Switching Supervisor shall determine that the person releasing the tag is the person for whom the tag was made.

b.

He or she shall identify the circuit or equipment upon which he or she has been working.

c.

The person shall state that he or she is clear of the circuit or equipment and state its condition so far as his or her work is concerned.

09

In the event it is absolutely necessary to place a piece of equipment in service, and it is found that the equipment has been tagged to a person who is incapacitated or is unable to be reached, the tag may be released in the following steps:

a.

The person's department head shall determine that the person is definitely incapacitated, or that every available effort has been made to contact the person, but to no-avail.

b.

The person's department head, together with the department head from System Operations or System Service, whichever has jurisdiction, shall be responsible for seeing that a thorough examination of the equipment is conducted so that placing the equipment in service shall not involve any danger to personnel or equipment. They shall then certify that all field personnel are in the clear to System Service or System Operations that the tag can be released.

c.

After this procedure has been completed, System Operations or System Service shall release the tag.

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10

The Switching Operator's department shall maintain a file of all switching tags for at least 30 days.

DANGER TAG

11

The Danger tag shall be used only on electrical circuits and equipment. A Danger tag placed on an open disconnect forbids closing that device.

12

No one, regardless of rank or authority, shall in any case operate any switch or piece of equipment, which has a Danger tag attached to it; nor shall the Danger tag be removed without orders from the Switching Supervisor.

13

When clearance is required on any circuit or equipment that is to be de-energized for purpose of working thereon, it shall be switched, tagged, and clearance given in that order.

14

The supervisor or person in charge receiving the clearance shall test for voltage, and then shall apply approved grounds. Clearances shall not be given through any device where a gap is not visible.

15

If clearance is required for more than one crew working on the same job, each person in charge shall obtain clearance and shall not work under the clearance of another.

16

A Danger tag shall be made up and placed on the open disconnect where clearance is required.

17

Each tag shall be filled out in accordance with the instructions on the back of the tag. The tag shall be securely attached in a conspicuous location on the control switch, the open disconnecting device, or on the pole or structure where such switch or device is located.

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ENERGIZED WORK PERMIT

18

The Energized Work Permit is the only protective tag used on energized circuits or equipment. Before this tag can be placed on any switch having an automatic re-closing feature, the re-closing feature shall be disabled.

19

When working under the protection of the Energized Work Permit, the circuit, equipment, or switch shall be considered energized at all times.

20

Should a switch bearing a Energized Work Permit open automatically, the Energized Work Permit prohibits the re-closing of the switch until permission is obtained from the person for whom the tag was placed.

21

The tag shall be securely attached in a conspicuous location on the control switch or device, or on the pole or structure where such switch or device is located.

TAGGING FOR OR BY OTHER COMPANIES

22

When another company requests a TECO circuit or piece of equipment removed from service, the switching shall be done under the orders of the TECO Switching Supervisor; and, if clearance is necessary, the tags shall be in the name of person specified by the other company.

23

When work is to be done by TECO requiring the opening and tagging of switches controlled by another company, the switching and tagging shall be arranged through the TECO Switching Supervisor.

24

When another company is working adjacent to TECO transmission lines and it becomes necessary to de-energize the line, the line shall be tagged to the Switching Supervisor's designated representative.

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LOW VOLTAGE (600 VOLTS or BELOW) UTILIZATION CIRCUITS

25

When work is to be done on a low voltage utilization circuit, the circuit shall be tagged and locked out or made inoperative in accordance with Section 133, Lockout/Tagout.

313 TESTING PROCEDURES

01

Test areas shall be guarded:

a.

Permanent test areas shall be guarded by walls, fences, or barriers designed to keep employees out of the test areas.

b.

In field-testing, or at a temporary test site where permanent fences and gates are not provided, one of the following means shall be used to prevent unauthorized employees from entering:

(1)

The test area shall be guarded by the use of distinctively colored safety tape that is supported approximately waist high and to which safety signs are attached.

(2)

The test area shall be guarded by a barrier or barricade that limits access to the test area to a degree equivalent, physically and visually, to the barricade specified in paragraph (1) above, or

(3)

One or more test observers stationed shall guard the test area such that the entire area can be monitored.

02

Only approved equipment shall be used when phasing the circuit or testing for polarity.

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03

When testing energized circuits or equipment, all temporary leads used in testing shall be adequately supported to prevent injury.

04

The lack of voltage on the low voltage side of a transformer shall not be considered as positive indication that the high voltage side is de-energized.

05

In testing for voltage, the employee shall use only an approved detector.

06

All temporary leads used in testing voltage from 600 volts to 15,000 volts shall be single conductor with 15,000-volt insulation. Everyone shall stand clear when making the test.

07

Safe grounding practices shall be followed in the test areas. Refer to Section 306, Grounding Procedures.

314 WORK PLANNING

01

Each day before beginning work on any equipment or structure, the person in charge shall conduct a tail-board conference at the job site with the members of the crew and in accordance with Section 128, Job Planning. This tailboard shall be recorded in writing on the Job Briefing Form.

02

Switching instructions shall be received from the dispatcher in accordance with Section 312, Switching and Tagging.

03

The person in charge shall be certain that each member of the crew is familiar with the status of equipment, what part is energized, location of grounds, what the limits of the working space are and what switches disconnect the equipment from source of supply.

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315 WORKING IN ENERGIZED SUBSTATION

01

When work is to be done in an energized substation, the person in charge shall determine:

(1)

That people who enter are qualified.

(2)

What equipment is energized?

(3)

What protective equipment and precautions are necessary for the safety of the employees; and

(4)

The extraordinary caution that shall be exercised in the handling of materials and equipment in the vicinity of energized equipment.

02

Climbing above exposed energized equipment or conductors is not permitted.

03

All equipment shall be considered energized at full voltage unless de-energized, tested for voltage and grounded. In a substation, special precautions shall be taken to guard against hazards of induced voltage. See Section 307, Induced Voltage.

04

No one shall be permitted to approach or take any conductive object any closer to exposed energized parts than the Minimum Approach Distance shown in Table R-6 unless: (1) the employee is insulated from the energized part; or (2) the energized part is insulated or guarded from the employee. See Section 318, Working On Or Near Exposed Energized Lines Or Equipment.

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05

Chain jacks shall not be used on energized conductors or equipment. When using chain jacks on de-energized conductors or equipment where accidental contact with energized equipment could be made, protective equipment shall be used.

06

When it is necessary to do any switching in a substation where employees are working, the Switching Supervisor shall notify the persons holding clearances in the substation, who in turn, shall notify their employees.

316 WORKING ON OVERHEAD STRUCTURES

01

Before climbing ladders, scaffolds, steel structures, or other elevated structures, a thorough inspection shall be made to determine if they are safe. When there is doubt, they shall not be climbed until they are made safe by guying, bracing or other adequate means. Fall protection devices shall be used when climbing.

02

Employees on the ground shall stay clear of the overhead work to prevent being struck by falling objects.

03

Tools or materials shall not be thrown up to or down from structures or elevated work areas.

04

When strapping off, employees shall observe the hooking of the safety snap into the D-ring.

05

No one shall be permitted under a structure which is being erected or assembled.

06

Tag lines shall be used to guide and handle steel.

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317 WORKING IN TRANSFORMER TANKS AND VESSELS

01

Entry into tanks and vessels shall be in compliance with the Tampa Electric's confined & enclosed space Permit Program.

02

When electrically operated tools are used, a ground fault interrupter shall be used with 110-volt lights. Lights shall be shielded.

03

When it is necessary to remove a manhole cover or inspection plate from a transformer, any pressure or vacuum shall be relieved prior to removing any stud or bolt.

04

Transformer tanks shall be ventilated while employees are working in them.

05

When pulling a vacuum on a transformer, no one shall be on top of the transformer.

318 WORKING ON OR NEAR EXPOSED ENERGIZED LINES OR EQUIPMENT

01

Only qualified employees may work on or with exposed energized lines or parts of equipment. Only qualified employees may work in areas containing unguarded, un-insulated energized lines or parts of equipment operating at 50 volts or more. Electric lines and equipment shall be considered and treated as energized unless they have been tested for voltage and grounded.

a.

Except as provided below in Paragraph b, at least two employees shall be present while the following types of work are being performed:

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(1)

Installation, removal, or repair of lines that are energized at more than 600 volts.

(2)

Installation, removal, or repair of de-energized lines if an employee is exposed to contact with other parts energized at more than 600 volts.

(3)

Installation, removal, or repair of equipment, such as transformers, capacitors, and regulators, if an employee is exposed to contact with parts energized at more than 600 volts.

b.

Paragraph a does not apply to the following operations:

(1)

Routine switching of circuits, if conditions at the site allow the work to be done safely.

(2)

Work performed with live-line tools (hot sticks), if the employee is positioned so that he or she is neither within reach of nor otherwise exposed to contact with energized parts, and;

(3)

Emergency repairs to the extent necessary to eliminate hazards and safeguard the general public.

02

Minimum Approach Distances: Employees shall don insulating gloves and\or sleeves as required before they are in a position from which they can reach into the minimum approach distance. No employee shall approach or take any conductive object closer to exposed energized parts than set forth in Table R-6 Minimum Approach Distance unless:

a.

The employee is insulated from the energized part (Insulating gloves or insulating gloves and sleeves worn in accordance with Section 309 are considered insulation of the employee).

b.

The energized part is insulated from the employee and from any other conductive object at a different potential. Return to Index

AC Live-Line Work Minimum Approach Distance (Table R-6)

VOLTAGE	DISTANCE	
Phase to Phase	Phase to Ground Exposure	Phase to Phase Exposure
0.05 to 1.0 kV	**Avoid Contact**	**Avoid Contact**
1.1 to 15.0 kV	2 ft.-2 in.	2 ft.-3 in.
15.1 to 36.0 kV	2 ft.-4 in.	2 ft.-7 in.
36.1 to 46.0 kV	2 ft.-7 in.	2 ft.-10 in.
46.1 to 72.5 kV	3 ft.-0 in.	3 ft.-6 in.
72.6 to 121 kV	3 ft.-2 in.	4 ft.-3 in.
138 to 145 kV	3 ft.-7 in.	4 ft.-11 in.
161 to 169 kV	4 ft.-0 in.	5 ft.-8 in.
230 to 242 kV	5 ft.-3 in.	7 ft.-6 in.
345 to 362 kV	8 ft.-6 in.	12 ft.-6 in.
500 to 550 kV	11 ft.-3 in.	18 ft.-1 in.
765 to 800 kV	14 ft.-11 in.	26 ft.-0 in.

Note 1:

These distances take into consideration the highest switching surge an employee will be exposed to on any system, with air as the insulating medium and the maximum voltages shown.

Note 2:

The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges.

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03

Employees shall wear approved FR clothing and 100% cotton as listed below, while working on energized lines and equipment. FR clothing shall be worn properly: Sleeve cuffs shall be fully rolled down and secured. All buttons below the collar shall be secured. Shirt tails shall be tucked into pants.

a.

FR shirt meeting a minimum Arc rating of HRC: 2 with long sleeves.

b.

FR pants meeting a minimum Arc rating of HRC: 2.

c.

Jackets or coats that are FR meeting a minimum Arc rating of HRC: 2.

d.

FR or 100% cotton or other natural fiber undergarments.

04

Extreme caution shall be exercised when working on energized lines in inclement weather.

05

Employees working on energized equipment shall devote their undivided attention to the work at hand.

06

When two or more employees are working within reach of each other, they shall never work simultaneously on different phases or items of different potential.

07

Employees working on energized conductors or equipment shall work from below the energized parts whenever possible.

08

Employees shall insulate themselves from equipment, conductors, or attachments that may be at ground potential.

Return to Index

09

All energized parts within reach and all grounded surfaces and equipment in the immediate work area shall be covered with approved insulating devices or protected by barriers.

10

Parts and equipment energized at between 600 volts and 15,000 volts phase to phase shall be worked from an insulated platform or insulated aerial device and with 20,000-volt rubber gloves.

11

Parts and equipment energized at over 15,000 volts phase to phase shall be worked with approved live-line tools.

12

The employee in charge shall closely supervise the work and keep the employees advised as to their personal safety and handling of the live-line tools.

13

Live-line tools shall be carefully inspected for defects before they are used. They shall be wiped down with a silicone-impregnated cloth before use.

14

Each live-line tool shall be removed from service every two years and thoroughly examined for defect. If a defect or contamination that could adversely affect the insulating qualities or mechanical integrity of the live-line tool is found, the stick shall be repaired and refinished or shall be permanently removed from service. If no such defect or contamination is found, the live-line tool shall be cleaned and waxed.

15

Proper minimum approach distance between the employee and the energized conductor shall be maintained.

16

Rope shall not be allowed to come in contact with energized conductors of 69 kV and above.

17

All energized conductors and equipment within reaching distance shall be covered.

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18

Employees shall not reach beyond the protective equipment. Rubber sleeves shall be electrically tested annually or more often if field conditions warrant.

319 MECHANICAL LIFTING & PULLING EQUIPMENT

01

When qualified employees operate mechanical lifting and pulling equipment such as cranes, derricks and winch lines near exposed energized lines, the following safe distances shall be maintained:

Phase to Ground Voltage		Minimum Clearance
13 kV	2 ft. 2 in.	2 ft. 2 in.
69 kV	3 ft.	3 ft.
138 kV	3 ft. 7 in.	3 ft. 7 in.
230 kV	5 ft. 3 in.	5 ft. 3 in.

02

If the equipment could become energized, the energized lines shall be insulated and the mechanical lifting equipment shall be grounded.

03

When mechanical lifting equipment is equipped with outriggers, they shall be used. Additional mats shall be used under outriggers for increased stability when working on unstable ground.

04

Overloading of winches, cables and derricks shall not be permitted. The manufacturer's designated load limit shall not be exceeded. The load limit warning devices shall not be bypassed.

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05

Cable or wire rope shall not be handled with bare hands.

06

When a winch line is operated, employees shall not stand inside the angle made by the line when tension is applied.

07

Hoisting cables (and slings) shall be visually inspected each day before they are used.

08

Lifting or pulling straps, slings, chains, or wire rope shall not be shock loaded. Tensioning and loading shall be done in a gradual, steady, and safe manner.

09

In assembling derricks, all pins shall be properly locked in place.

10

Employees shall not stand or pass under a suspended load or adjacent to or over or under a loaded winch line.

11

Hoisting equipment shall have a load-capacity chart and boom-angle indicator in view of the operator.

400 Meter Operations

401 AERIAL BASKET OPERATIONS

01

Employees shall visually check the bucket truck at the first job of the day where a basket is used. The lower controls shall be operated and checked before anyone goes aloft.

02

No one on the ground shall operate the controls to the aerial device while occupied, except in an emergency or when following the direct orders from the employee in the aerial device.

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03

The aerial device shall be parked out of traffic whenever possible.

04

Employees shall make sure that the brakes are set before setting up the aerial device. When parking on an incline, chocks shall be used.

05

When the vehicle is provided with outriggers, they shall be used. Before operating outriggers, employees shall first check to see that everyone is in the clear. The outriggers shall be firmly placed on pads or firm footing before operating the boom.

06

Employees working in aerial devices that are not approved work platforms shall wear a company approved body harness with a shock absorbing lanyard properly attached to the boom or basket.

07

Employees shall not climb into or out of the basket while the basket is elevated, except in an emergency. Employees shall not belt off to a structure while working in the basket.

08

The operating control box shall be kept clear of materials and tools. No objects, except approved storage containers, shall be allowed to hang on the outside of the basket when working in an energized area.

09

The boom shall be cradled when the bucket truck is being moved. Employees shall not ride in an aerial basket when the bucket truck is moving.

10

The manufacturer's designated load limit shall not be exceeded in the loading of a basket.

11

Employees working on energized equipment shall position themselves below the work if possible. Work shall be performed only on one conductor at a time.

Return to Index

12

When operating a multi-person aerial device, no change in device position shall be made without knowledge of all employees except in case of an emergency.

13

No tools or equipment shall be rigged to the basket in such a manner as to cause the basket to become unstable.

14

Good housekeeping shall be exercised in the basket.

15

2-way communication shall be utilized between person in aerial device and any person entering the bed of the truck.

402 CURRENT & POTENTIAL TRANSFORMERS

01

When necessary, instrument transformers shall be de-energized before any repairs are made on them.

02

Before starting any primary metering job, voltage checks shall be made on meter cabinets, conduits, and associated equipment to determine if they have become energized due to instrument transformer or other equipment failure.

03

The secondary side of a current transformer shall be properly wired or shunted before the primary side is energized.

04

When inserting test jacks into switchboard drawout type meters or into meter test blocks, test leads and equipment shall be checked to insure that current transformer secondaries are not open-circuited.

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05

When an open circuit exists in the secondary of a high voltage current transformer, the current transformer shall be de-energized before the secondary is closed. If an open circuit in a low voltage current transformer secondary is encountered, 20,000-volt gloves shall be worn to close the secondary. If arcing exists, extra care shall be taken or the circuit de-energized before the secondary is closed.

06

All secondary connections to primary metering instrument transformers shall be visually inspected by a qualified employee before energizing. This includes checking secondary connections on pole-mounted clusters.

07

The absence of voltage on the low-voltage side of a voltage transformer shall not be considered positive indication that the high-voltage side is de-energized.

08

Before clearing a high-voltage circuit for the purpose of working thereon, all voltage transformers shall be disconnected from the circuit.

403 FALL PROTECTION

Note: Refer to Section 113, Fall Protection.

01

Fall arrest equipment, work positioning equipment, or travel restricting equipment shall be used by employees working at elevated locations more than four feet above the ground unless an approved ladder, work platform, a guardrail system, or a safety net system is in place.

02

Personal fall-arrest systems shall be rigged such that an employee can neither free-fall more than six feet nor contact any lower level.

03

If vertical lifelines or drop lines are used, not more than one employee may be attached to any one lifeline.

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04

Snap hooks may not be connected to loops made in webbing-type lanyards.

05

Snap hooks may not be connected to each other.

06

One-man crews shall be equipped with suspension harness straps.

404 INSULATING EQUIPMENT

01

Insulating equipment shall be installed from a safe position, and whenever possible, from a position below the conductor or apparatus to be covered. The line or equipment nearest the employee shall be covered first. In removing insulating equipment, the equipment furthest away shall be removed first.

02

Climbing above exposed and energized conductors or equipment shall not be permitted.

03

When it is necessary to work on or near energized conductors or equipment, sufficient protective equipment shall be used to prevent accidental contact with the energized conductor or equipment.

04

All open leads and wires shall be de-energized and grounded or covered with insulating protective equipment whenever it is necessary to work around or climb through them.

05

When qualified employees cover 7,620-volt conductors and above, employee shall be positioned on an insulated platform, or in an insulated aerial device unless insulated handles or live-line tools are used to install protective equipment.

06

When not in use, equipment shall be shielded from sunlight, heat, ozone, oil and other harmful agents and protected from physical damage.

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07

Blankets shall not be used on the ground without protecting them from physical damage and moisture by means of a tarp, canvas, or other protective mats.

08

Flexible equipment shall always be stored in a relaxed position. Blankets, line hose and hoods shall not be stored in folded or strained positions.

09

Barriers rated for the voltage present shall be used when working adjacent to energized conductors or equipment that cannot be adequately insulated with cover-up material. When barriers are erected near energized equipment or conductors, they shall be rated for the voltage present.

10

All protective equipment shall be maintained in satisfactory condition. When it becomes defective, it shall be tagged for repair or replaced.

11

At least once a month, each person in charge shall see that the insulating equipment is properly inspected. The supervisor or person in charge shall fill out and sign the form provided to verify that this inspection has been completed.

12

Hot sticks shall be used to operate disconnect switches. When switching, employees shall keep as far as practical from the energized equipment.

13

Each live-line tool shall be wiped clean using a silicone wiping cloth and visually inspected for defects before use each day.

14

All live line tools shall be tested electrically every 24 months.

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405 INSULATING RUBBER GLOVES AND RUBBER SLEEVES

01

Rubber gloves shall be worn when working on exposed energized lines or equipment energized at 50 volts or more. Rubber gloves shall also be worn when working on ungrounded lines and equipment that are subject to backfeed and induced voltage.

02

In addition to rubber gloves, rubber sleeves shall also be worn, if exposed energized parts on which work is not being performed are not insulated from the employee exposing the employee's upper arm to contact with other energized parts.

03

The maximum voltage upon which rubber gloves alone shall be used is 5,000 volts to ground. Any voltage in excess of this shall be worked by approved method only.

04

Rubber gloves shall not be worn without leather protectors.

05

Before work is begun each day, where rubber gloves are required, each glove shall be visually inspected and air tested by the employee using the gloves. Defective gloves shall not be used.

06

Where rubber sleeves are required, each sleeve shall be visually inspected daily. Defective sleeves shall not be used.

07

Rubber gloves shall be electrically tested every 60 days for field personnel and 180 days for non-field personnel or more often if field conditions warrant. Rubber sleeves shall be electrically tested annually or more often if field conditions warrant.

08

Rubber gloves and sleeves shall be stored in approved bags in a fully extended position. Rubber gloves and sleeves shall not be folded. Bags shall be either hung up or placed in a special compartment. They shall not be placed where other tools or equipment can damage the rubber gloves or sleeves.

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09

Two pairs of rubber gloves, one inside the other, shall not be worn.

10

Care shall be taken not to allow gloves and/or sleeves to come in contact with oil-base products.

11

No items are permitted to be placed in the rubber glove bag (or sleeves bag) along with the rubber gloves and protector gloves (or sleeves).

12

Protectors shall not be worn in place of work gloves.

13

After use, rubber gloves should be washed daily at the end of the shift prior to storage.

406 LOAD MANAGEMENT OPERATIONS

01

This section applies to low voltage (600 volts or below) utilization circuits for the control of hazardous energy during servicing and maintenance of load management systems and equipment.

02

When work is to be done on a low voltage utilization circuit, the circuit shall be locked out and tagged or made inoperative in accordance with Section 133, Lockout/Tagout.

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407 METER TESTING AND INSTALLATION

Note: Refer to Section 135, Meters.

01

Prior to starting work on a meter installation, all meter parts shall be treated as energized until tested for voltage. If a neutral or ground is disconnected, all meter parts will be treated as energized until a permanent or temporary ground is installed. At any time when inspecting an exposed meter can rubber gloves shall be worn.

02

Only approved equipment shall be used in testing for voltage or in testing for polarity. Only approved tools shall be used.

03

All tools, leads, jumpers, and test equipment shall be frequently inspected. No defective tools or equipment shall be used.

04

When testing, one hand shall be used when possible to make connections to energized points.

05

Before installing a meter in a new or previously vacated meter socket, a visual check shall be made of the meter (including nameplate and meter base) and enclosure to ensure that the proper meter is being used and the equipment is in good working condition.

06

On all reconnects and new services, tests shall be made for backfeed, proper phasing and voltage, and grounded conductors before installing a meter.

Note: Refer to Specification 18-62.

07

When inserting socket-type meters into socket bases or adapters, load-side prongs shall be inserted first, then line-side. Meter removal shall be accomplished in reverse order. The exception is a 12S, 5th terminal network meter. It shall be installed and removed straight in and out due to the horizontal 5th terminal.

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08

When inserting a socket-type meter, the meter cover shall not be struck with the hand or other objects. Should breakage occur or exist, all broken glass shall be removed from the meter and the customer's premises and disposed of in a safe manner. Broken or cracked glass shall be removed before shipping.

09

Before bypassing any meter device with jumpers, a check shall be made to ensure that all electrical connections are tight and, by use of a voltage tester, ensure that the polarity of all jumpers is correct.

10

Extreme caution shall be used when working on or near meter installations above 240 volts.

11

Meters shall not be tested, installed or removed where explosive gases are suspected.

12

If a visual inspection of the metering installation reveals that the removal of the meter may cause a fault, no attempt shall be made to remove the meter until the service has been de-energized.

13

Customer loads shall be turned OFF before installing or removing meters, where practical.

14

Meter socket bypass handles shall not be used as service load-break devices.

15

If a meter socket is to be left energized, a proper meter or approved socket cover shall be installed, or other protective measures taken.

16

Portable test equipment leads shall be connected to the test equipment before energizing the test circuit.

17

Potential test leads and jumpers used in testing watt-hour meters shall be properly fused.

Return to Index

18

Approved fuse pullers shall be used to remove cartridge type fuses.

19

When removing or installing bolted-in, polyphase self-contained meters, the meter socket shall be de-energized, unless approved insulated (rated) tools are being used.

20

Special care shall be taken when setting or removing network meters so that the 5th terminal on the meter or socket is not damaged.

21

Special care shall be taken when installing or removing meters with teaser wires, affixed cables or harnesses.

408 PROTECTIVE EQUIPMENT

01

When installing, removing or working on energized meter installations, the following equipment shall be worn: hard hat, FR clothing, appropriate gloves, approved safety eyewear footwear, and 8 cal tinted Face Shield. 8 cal tinted face shields shall also be worn when working on energized metering equipment; large wire trough installations, or large group metering installation or any time a hazardous condition exists which may cause a flash or injury to the face or eyes. FR clothing shall be worn properly: Sleeve cuffs shall be fully rolled down and secured. All buttons below the collar shall be secured. Shirt tails shall be tucked into pants.

02

Approved rubber gloves shall be worn when working on energized equipment.

03

In the shop, eye protection shall be worn while repairing, soldering, wiring meter sockets or using an air hose, and other equipment.

04

Approved gloves shall be worn when handling a meter.

Return to Index

05

To prevent contact, insulating blankets or other approved protective equipment shall be used to cover exposed energized parts.

06

When working on energized self-contained 480 volt meter sockets, all FR clothing, safety glasses and additional PPE are required to be equivalent to 20 cal.

FR-HRC2 (Equals 8 cal.) shirt with long sleeves and pants (In addition to minimum category FR12 coveralls with the 20 cal. Hood, face shield and rubber gloves) shall be worn.

409 RESCUE OPERATIONS

GENERAL

01

Rescue and resuscitation techniques shall be reviewed and practiced every 2 years.

02

Radio calls for emergency medical assistance in life threatening situations shall be made on the Emergency Channel identified with the words “Mayday, Mayday.” Calls for other emergency situations shall be identified with the words “This is an emergency.” All other radio communication shall cease while the emergency is underway.

03

The dispatcher shall be notified of emergency situations, who, in turn, shall call for emergency assistance in accordance with approved policy.

POLE/STRUCTURE RESCUE

04

A lifeline of one-half inch minimum diameter shall be used whenever an employee climbs poles, towers or structures.

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05

A full body harness with shock absorbing lanyard shall be worn and used by employees working at elevated locations more than four feet above the ground on towers or on other structures where fall protection has not been provided.

06

The rescuer shall exercise extreme caution to prevent from also becoming a victim. The circuit shall be de-energized to remove the victim. If the circuit cannot be de-energized immediately, the rescuer shall use adequate protection for his or her own safety.

07

The rescuer shall proceed to lower the victim to the ground as soon as possible in accordance with approved methods.

AERIAL BASKET RESCUE

08

A full body harness with a shock absorbing lanyard shall be worn and used by employees working from aerial devices.

09

The rescuer shall proceed to lower the victim to the ground or to the cab screen as soon as possible using the lower controls on the equipment.

10

The victim shall be removed from the basket as soon as possible so that CPR can be administered. No attempt shall be made to ventilate the lungs or massage the heart while the victim is in the basket.

VAULT/MANHOLE RESCUE

11

When work is being performed in a vault or manhole containing energized equipment, an approved tripod or other type lifting device shall be in place.

Return to Index

12

Employees working in a vault or manhole containing energized equipment shall wear a full body harness.

13

When an employee is in a vault or manhole another qualified employee with the proper equipment readily available shall be stationed at the surface to assist in case of emergency.

14

Employees may not enter an enclosed space while it contains a hazardous atmosphere, unless entry conforms with the Permit-Required Confined Spaces Program.

15

Rescue Breathing and/or CPR shall be administered after the victim has been brought topside.

OTHER RESCUE

16

Whenever employees are engaged in work where the danger of drowning exists, they shall be required to wear an adequate personal flotation device.

410 TESTING PROCEDURES

01

Test areas shall be guarded:

a.

Permanent test areas shall be guarded by walls, fences, or barriers designed to keep employees out of the test areas.

b.

In field testing, or at a temporary test site where permanent fences and gates are not provided, one of the following means shall be used to prevent unauthorized employees from entering:

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(1)

The test area shall be guarded by the use of distinctively colored safety tape that is supported approximately waist high and to which safety signs are attached.

(2)

The test area shall be guarded by a barrier or barricade that limits access to the test area to a degree equivalent, physically and visually, to the barricade specified in paragraph (1) above, or

(3)

The test area shall be guarded by one or more test observers stationed so that the entire area can be monitored.

02

Only approved equipment shall be used when phasing the circuit or testing for polarity.

03

When testing energized circuits or equipment, all temporary leads used in testing shall be adequately supported to prevent injury.

04

The lack of voltage on the low voltage side of a transformer shall not be considered as positive indication that the high voltage side is de-energized.

05

In testing for voltage, the employee shall use only an approved detector.

06

All temporary leads used in testing voltage from 600 volts to 15,000 volts shall be single conductor with 15,000-volt insulation. Everyone shall stand clear when making the test.

07

Safe grounding practices shall be followed in the test areas. Refer to Section 207, Grounding Procedures.

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411 UNDERGROUND DISTRIBUTION

01

When performing a cut while operating hand tools with moving parts such as oscillating, circular, or reciprocating motion, the user shall ensure complete 360 degrees of visibility around the object being cut to ensure there are no hazards within the range of the moving parts. If 360 degrees of visibility is not possible, a power tool will be strictly prohibited, and the cut must be made by hand.

02

Only employees or authorized representatives of the Company shall be allowed to open a pad-mounted enclosure. When unattended these enclosures shall be closed and locked.

03

Before opening any enclosure such as live or dead- front transformer, or switching cubicle which contains exposed energized equipment, employees shall adhere to the following precautions:

1.

Rubber gloves, eye protection and hard hat shall be worn.

2.

Weeds, grass, and other vegetation that obstructs the work shall be cleared from the area.

3.

All loose objects which could cause an employee to stumble and fall into the energized equipment shall be removed from the area.

04

Door hinges of each enclosure shall be checked before being opened. Both hands shall be used to keep positive control of the lid of the enclosure. Doors shall be blocked so that they cannot close accidentally.

05

Employees shall check for hazardous conditions before proceeding with work.

06

Before opening any enclosure, all unauthorized persons shall be required to leave the immediate work area and remain in the clear. Where the public is endangered, the work area shall be roped off, barricaded or otherwise marked to prevent entry. Return to Index

07

Energized enclosures shall not be left unattended when unlocked or open.

08

Cables or equipment shall be considered energized unless de-energized, tested for voltage, and grounded in accordance with approved procedures.

09

A bayonet fuse shall be operated by the employee at a safe position from the side of the transformer using an approved hot stick.

10

When working on any energized cable or equipment, suitable barriers and protective covering to prevent accidental contact with other conductors or grounds shall be provided and used.

11

When work is being performed on energized conductors within service pedestals or hand holes, one conductor shall be uncovered at a time except when testing for voltage.

12

A check shall be made to assure that all grounds have been removed before equipment which has been grounded is put into service.

412 WORKING ON/OR NEAR EXPOSED ENERGIZED LINES OR EQUIPMENT

01

Only qualified employees may work on or with exposed energized lines or parts of equipment. Only qualified employees may work in areas containing unguarded, un-insulated energized lines or parts of equipment operating at 50 volts or more. Electric lines and equipment shall be considered and treated as energized unless they have been tested for voltage and grounded.

a.

Except as provided below in paragraph b, at least two employees shall be present while the following types of work are being performed:

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(1)

Installation, removal, or repair of lines that are energized at more than 600 volts.

(2)

Installation, removal, or repair of de-energized lines if an employee is exposed to contact with other parts energized at more than 600 volts.

(3)

Installation, removal, or repair of equipment, such as transformers, capacitors, and regulators, if an employee is exposed to contact with parts energized at more than 600 volts.

b.

Paragraph a. does not apply to the following operations:

(1)

Routine switching of circuits, if conditions at the site allow the work to be done safely.

(2)

Work performed with live-line tools (hot sticks), if the employee is positioned so that he or she is neither within reach of nor otherwise exposed to contact with energized parts, and

(3)

Emergency repairs to the extent necessary to eliminate hazards and safe guard the general public.

02

Minimum Approach Distances: Employees shall don insulating gloves and\or sleeves as required before they are in a position from which they can reach into the minimum approach distance. No employee shall approach or take any conductive object closer to exposed energized parts than set forth in Table R-6 Minimum Approach Distance unless:

a.

The employee is insulated from the energized part. Insulating gloves worn in accordance with Section 405 are considered insulation of the employee.

b.

The energized part is insulated from the employee and from any other conductive object at a different potential. Return to Index

AC Live-Line Work Minimum Approach Distance (Table R-6)

VOLTAGE	DISTANCE	
Phase to Phase	Phase to Ground Exposure	Phase to Phase Exposure
0.05 to 1.0 kV	**Avoid Contact**	**Avoid Contact**
1.1 to 15.0 kV	2 ft.-2 in.	2 ft.-3 in.
15.1 to 36.0 kV	2 ft.-4 in.	2 ft.-7 in.
36.1 to 46.0 kV	2 ft.-7 in.	2 ft.-10 in.
46.1 to 72.5 kV	3 ft.-0 in.	3 ft.-6 in.
72.6 to 121 kV	3 ft.-2 in.	4 ft.-3 in.
138 to 145 kV	3 ft.-7 in.	4 ft.-11 in.
161 to 169 kV	4 ft.-0 in.	5 ft.-8 in.
230 to 242 kV	5 ft.-3 in.	7 ft.-6 in.
345 to 362 kV	8 ft.-6 in.	12 ft.-6 in.
500 to 550 kV	11 ft.-3 in.	18 ft.-1 in.
765 to 800 kV	14 ft.-11 in.	26 ft.-0 in.

Note 1:

These distances take into consideration the highest switching surge an employee will be exposed to on any system, with air as the insulating medium and the maximum voltages shown.

Note 2:

The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges.

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03

Employees shall wear approved FR clothing and 100% cotton as listed below, while working on energized lines and equipment. FR clothing shall be worn properly: Sleeve cuffs shall be fully rolled down and secured. All buttons below the collar shall be secured. Shirt tails shall be tucked into pants.

a.

FR shirt meeting a minimum Arc rating of HRC: 2 with long sleeves.

b.

FR pants meeting a minimum Arc rating of HRC: 2.

c.

Jackets or coats that are FR meeting a minimum Arc rating of HRC: 2.

d.

FR or 100% cotton or other natural fiber undergarments.

04

Extreme caution shall be exercised when working on energized lines in inclement weather.

05

Employees doing work on energized lines shall devote their undivided attention to the work at hand.

06

When practical, all protective equipment shall be installed from a level below the conductor or equipment. The removal of protective equipment shall be done with equal care in reverse order.

07

Employees working on energized lines and equipment shall position themselves below the work whenever possible.

08

When working on or near energized circuits on wood poles, employees shall avoid standing on or touching grounds.

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09

A system neutral shall not be opened until the proposed opening has first been jumped or by-passed.

10

Proper minimum approach distance between the employee and the energized conductor shall be maintained.

11

All energized conductors and equipment within reaching distance shall be covered.

12

Employees shall not reach beyond the protective equipment.

413 WORK AREA PROTECTION

01

Guidelines for specific work area protection situations shall be followed, as described in the General Rules and Specifications Manual.

02

As much advance warning shall be given as practical. Signs and in some cases lights shall be placed well in advance of the work area to allow the motorist time to adjust to upcoming conditions in accordance with approved standards.

03

All signs shall be located on the side of the roadway and maintained at right angles to, and facing, oncoming traffic.

04

Only approved warning devices shall be used. Signs shall be equipped with orange flags for better visibility.

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05

Signs shall be removed when the work has been completed. If work is temporarily suspended signs shall be covered or removed.

06

When the work area is adjacent to, or encroaches upon a lane of traffic, cones shall be used as delineators to channel traffic away from the work area. The taper shall be long enough so vehicles approaching the restriction side by side have sufficient distance in which to adjust their respective speeds and merge to a single lane before the end of the transition.

07

Every effort shall be made to move traffic around the work area as safely and expeditiously as possible. If there is enough room for two vehicles to pass each other, cones shall be used to divide the space into two lanes. If there is only room for one-way traffic, the entire lane shall be blocked off.

08

In congested areas where there is heavy traffic, it may be necessary to designate a member of the crew as a flag person. A flag person shall wear a green neon vest and carry a red flag or approved paddle.

09

Under extremely heavy traffic conditions, a second flag person may be required. Each flag person shall be able to see the other clearly so as to coordinate their signals.

500 Energy Supply

Click Link: **Safe Work Practices**

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600 Facility Services
601 AIR CONDITIONING MAINTENANCE

01

All employees shall comply with the requirements of the departmental Lockout/Tagout Procedures when working with electrical equipment and grounds. Reference Section 607 (Lockout/Tagout) and the Department LOTO program.

02

Only qualified and certified personnel shall work with refrigerants.

03

The manufacturers' recommendations shall be followed to avoid over-filling or over-pressurizing lines and vessels.

04

Approved safety glasses with side shields shall be worn at all times while working with refrigerant, compressed gas, or while operating or servicing HVAC equipment.

05

Employees shall always be alert for bulging lines in pressure vessels in air conditioning maintenance. Equipment shall be shut OFF and pressure relieved at the first sign of bulging or potential rupture.

06

A regulating valve shall always be used when pressurizing a system. The valve shall have gauges indicating pressure in the drum, and the pressure being applied to the system.

07

Proper ventilation shall be provided in areas where high concentrations of refrigerant vapors/gases may accumulate (chiller rooms, storage areas, etc.).

08

Proper ventilation shall be provided when using an open flame or soldering around refrigerants. Care shall be taken to stay out of the smoke or fume stream while soldering.

Return to Index

09

Open flames and hot points shall not be used without approval in areas requiring a Hot Work Permit or in areas restricting flammable combustible materials.

10

Pressure and temperature fuse plugs shall not be re-soldered, and shall be replaced only with the type specified by the manufacturer.

11

Only approved solvents shall be used to clean refrigeration equipment. Any spilled or leaked fluid shall be cleaned up immediately following approved Spill Clean-Up Procedures.

12

Employees shall stand clear when starting or energizing HVAC equipment.

13

Auxiliary breathing apparatus shall be readily accessible in areas where large concentrations of refrigerant are present, either in stored amounts or being used in large units.

14

Cylinders must be stored and transported in dry environments.

15

Never refill a disposable (DOT 39) type cylinder.

16

Never fill an approved refrigerant cylinder over 80% capacity.

17

Never tamper with cylinder safety relief devices.

18

Regularly inspect the valves and condition of the refrigerant cylinders to ensure that nothing is obstructing the valve, and that no deterioration or damage to the cylinder has occurred.

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19

All used refrigerant containers must be properly labeled.

20

Unlabeled containers must be removed from service and either correctly labeled or disposed of properly.

21

Only approved recovery cylinders shall be filled if the present date is not more than five years past the test date that is stamped on the shoulder of the cylinder.

22

Handle cylinders with care. Do not bump or drop. Never heat a cylinder with a torch or open flame.

23

Never mix different refrigerants.

24

Never pressurize a refrigeration system with oxygen.

25

Never heat any part of a refrigeration system containing refrigerant.

26

Avoid skin contact with refrigerants. Follow SDS directions to cleanse the skin in the event of accidental exposure.

27

Foundations and supports for condensing units or compressor units shall be of noncombustible construction and capable of supporting loads imposed by such units.

28

All moving equipment and machinery shall be guarded as per manufacturer's design and/or specifications.

Return to Index

29

All panel covers and machine guards shall be replaced completely as per original installation.

30

Safe access and clear space for inspection and servicing of HVAC equipment shall be provided when designing and installing equipment.

31

Adequate illumination shall be provided for inspection and servicing of mechanical equipment.

32

Electrical equipment and wiring shall be installed in accordance with the National Electrical Code and the manufacturer's design specifications.

33

Refrigerant piping shall be properly isolated and supported to prevent damage from vibration, stress or corrosion.

602 BATTERIES - NON-SEALED LEAD-ACID TYPE

Note: Refer to Section 103, Batteries.

01

The manufacturers' recommendations shall be followed when performing maintenance and/or charging such systems.

02

Only qualified persons shall operate and/or maintain lead-acid batteries and associated charging equipment.

03

Full face shield, chemical gloves, rubber apron, and chemical mono-goggles shall be worn whenever maintenance or charging procedures are being performed.

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04

Approved signs shall be posted at all entrances to and within all battery charging and storage areas. The signs shall read Danger-No Smoking, Open Flame or Ignition Sources.

05

An approved eye-wash station and/or emergency shower shall be readily identified and accessible within 25 feet of the battery area.

06

Ventilation to remove gases expelled from batteries shall be required in all areas where batteries are in use or stored. Where natural ventilation or air movement does not constantly change the air, forced ventilation shall be used.

07

Care shall be taken to prevent shorting of exposed battery terminal(s).

08

Care shall be exercised when adding/removing liquid to/from batteries to prevent spills or splashes of the liquid.

09

Should any liquid from batteries come in contact with skin or clothing, contaminated clothing shall be removed and skin washed as soon as possible with water.

10

The battery charger shall be turned OFF when practical if it is necessary to perform work in a battery room.

11

When charging batteries, all vent caps shall be kept in place. Care shall be exercised to ensure such vent caps are functioning properly to allow gas to escape the battery cell.

12

If batteries are within a cabinet/enclosure, doors and/or covers shall be opened during the charging procedure to dissipate heat and vapors.

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13

If it becomes necessary to replace or transport a battery, care shall be taken to protect the battery case.

603 ELECTRICAL MAINTENANCE

01

All employees shall comply with the requirements of the departmental Lockout/ Tagout Procedures when working with electrical equipment and grounds.

02

Only qualified employees may work near exposed energized lines or parts of equipment. Only qualified employees may work in areas containing unguarded, un-insulated energized lines or parts of equipment operating at 50 volts or more. Electric lines and equipment shall be considered and treated as energized unless they have been tested for voltage and grounded.

When working on or near energized installations the following personal protective equipment shall be used: safety glasses, approved gloves, Approved FR Clothing, a face shield and head protection. FR clothing shall be worn properly: Sleeve cuffs shall be fully rolled down and secured. All buttons below the collar shall be secured. Shirt tails shall be tucked into pants.

TECO'S APPROVED FR CLOTHING CONSISTS OF:

a. FR shirt meeting a minimum Arc rating of HRC: 2 with long sleeves.

b. FR pants meeting a minimum Arc rating of HRC: 2.

c. Jackets or coats that are FR meeting a minimum Arc rating of HRC: 2.

d. FR or 100% cotton or other natural fiber undergarments.

03

Approved safety glasses with side shields shall be worn at all times when performing electrical maintenance.

04

A circuit shall be considered energized unless it has been de-energized, tested, properly grounded, and re-tested.

05

Portable electrical equipment shall be inspected before each use, and tested on a regular basis.

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06

Equipment rooms shall not be used for material storage. Good housekeeping shall be maintained in these areas.

07

A three-foot area shall be kept clear in front of electrical distribution panels.

08

A disconnect switch shall be installed within six feet of all fixed electric space heaters and shall be provided on all electric motors of two horsepower and above.

09

Motors and motor-driven machinery shall have a manually operated disconnect switch located within sight of the machinery that will isolate the motor from its source of electric supply.

10

Whenever practical electrical equipment will be de-energized, tested and grounded before work is begun.

11

Caution shall be exercised and Minimum Approach Distances shall be maintained whenever work is performed on switchboards, equipment, or busses that are energized on the line side of the breaker. Whenever possible employees shall use rubber blankets or other equipment to insulate them from the hazard.

Note: Minimum Approach Distance for 0.05 to 1.0 kilovolts phase to phase is to avoid contact.

12

When work is interrupted, disconnect switches and circuits that have been previously locked out and grounded shall be tested to ensure they are still de-energized before work may resume.

13

Rotors, armatures, or other rotating parts or hazardous energy sources shall be blocked and secured before work may begin in or around their area.

14

Fused disconnects shall be placed in the OPEN or OFF position before removing fuses, and an insulated fuse puller shall be used to remove all fuses. Return to Index

604 FLUORESCENT LAMPS

01

Approved safety glasses with side shields and other approved safety equipment shall be worn when handling fluorescent lamps.

02

Care shall be taken when removing lamps from the packaging and/or fixtures to ensure the lamps remain intact and unbroken.

03

Used fluorescent lamps will be stored separately from new lamps until arrangements for disposal are made in compliance with approved departmental procedures.

04

Fluorescent lamps shall be maintained in a container which will protect them from possible breakage during handling, storage or transportation.

05

Broken fluorescent lamps shall be placed in a sealed container, and under no circumstances be disposed of in ordinary trash/waste receptacles.

06

Broken fluorescent lamps are considered universal waste and shall be cleaned up and disposed of according to approved departmental procedures.

605 GROUNDING

01

All personnel shall comply with the requirements of the departmental Lockout/Tagout Procedures when working with electrical equipment and grounds.

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02

Only approved grounding devices shall be used.

03

Only a qualified person shall install electrical grounds.

04

Approved safety eyewear with side shields and insulating gloves shall be worn when routing and connecting grounds and when removing grounds and restoring equipment to service.

05

All grounding conductors, devices, fittings, etc., shall be inspected and tested periodically to ensure grounds are intact, continuous, and in good repair. Where such grounds are found to be broken, corroded, non-continuous or in need of repair, they shall be removed from service, tagged with a Repair tag and repairs will be made immediately.

06

Grounding cables shall be flexible and of sufficient current carrying capacity to activate protective devices without damage to the cable.

07

Where entry or work is required on or around normally energized equipment, or where equipment could become energized, grounding and/or insulation will be required to remove the possibility of contact with energized equipment.

08

Before grounds are attached, the circuit shall be de-energized, tested for absence of voltage, locked and tagged out.

09

Protective grounds shall not be removed until the work has been completed and all personnel are in the clear.

10

Whenever possible, a ground shall be installed on all phase conductors at the point of work. When grounding at the point of work will present a hazard to personnel, grounds shall be placed as close as possible to the point of the work.

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11

Grounds shall always be connected first to the suitable grounding point, then to the conductor or bus (nearest phase first, furthest phase last). When removing grounds, the order shall be reversed.

12

The circuit shall be tested for absence of voltage before work may begin.

606 INSULATION

01

All personnel shall comply with safety and health procedures as defined in the Company's Asbestos Program and Procedures.

02

Unless it has been determined through sample testing or monitoring that the material is not asbestos, all jobs requiring the handling or removal of insulation shall be treated as "presumed asbestos" jobs, and all applicable procedures and requirements concerning working with asbestos shall be followed.

03

Proper personal protective equipment shall be worn.

607 LOCKOUT / TAGOUT

Note: See also Departmental Lockout/Tagout procedures.

01

Within Energy Supply locations, employees shall be familiar with and comply with the tagging procedures for each facility. Refer to the Energy Supply Hazardous Energy Control (HEC) Procedures.

Within Energy Delivery locations, employees shall be familiar with and comply with the clearance and tagging procedures for their locations. Refer to Section 218, Switching and Tagging.

02

Approved lockout/tagout, and application devices shall be the only devices used for controlling energy, and shall not be used for other purposes.

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03

Tagout devices shall be constructed and printed so that exposure to weather conditions or wet locations will not cause the tag to deteriorate or the tag message to become illegible.

04

All information required on the tag shall be properly and legibly entered so that exposure to the elements will not cause the message to deteriorate.

05

If more than one person is required to lockout or tagout equipment or machinery, each person will place their own personal lockout or tagout device on the energy isolating device.

06

When an energy isolating device cannot accept multiple locks or tags, a multiple lockout/tagout device such as a multi-holed hasp shall be used.

07

As an alternative to utilizing a multi-holed hasp to lockout a device, a single lock may be used to lockout the equipment or machinery with the single key to that lock being placed in a lockout box or cabinet which allows the use of multiple locks or tags to secure that cabinet. Each employee will then use their own lock or tag to secure the box or cabinet. As each person no longer needs to maintain their lockout protection, that person will remove their lock or tag from the multiple lockout device or the lockout box or cabinet, whichever is being used.

08

Shift changes shall be coordinated by the authorized employee in charge, utilizing the departmental lockout/tagout procedure to assure the safe exchange of information and control of hazardous energies.

09

In the event work cannot be completed by the end of a shift, and there are no overlapping shifts or direct exchange of information between authorized employees assuming the work, the authorized employee in charge of the outgoing shift must document the information required in the departmental procedures for the authorized person in charge of the next immediate incoming shift.

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10

Once the information defined in departmental procedures has been reviewed by the authorized person in charge of the incoming shift, and by the authorized mechanic about to perform the work as applicable, the mechanic may apply his/her own lock or tag to the equipment and remove the previous lock and/or tag once he/she is confident that the work can be performed safely.

11

In the event an employee leaves the facility without removing his/her lock from equipment or machinery on which work must continue, all efforts must be made to contact that employee to return to work and remove the lock or tag.

12

If an authorized employee who applied the lock or tag device is not available to remove it, and cannot be contacted, the lock or tag may only be removed according to the following procedures:

a.

A supervisor and authorized employee from the same department as the employee whose lock or tag has been applied shall be assembled at the equipment or machinery.

b.

The supervisor will verify that the authorized employee who applied the device is not available.

c.

The supervisor and authorized employee will evaluate the equipment or machinery in question to include the inspection of any energy control device, all affected energy sources, (e.g.: hydraulic, electrical, chemical, pneumatic, thermal, stored energy, etc.) and any other potential hazards that may result from continuing the maintenance and/or repair, or from restarting that piece of equipment or machinery.

d.

Make all reasonable effort to notify the original authorized employee that their lock or tag has been removed.

e.

Apply as necessary any new locks and/or tags to the equipment or machinery.

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f.

Document the results of this exception procedure and maintain with appropriate lockout/tagout files.

LOCKOUT /TAGOUT PROCEDURES

13

The authorized employee shall know the type and magnitude of energy sources that the machine or equipment utilizes, shall understand the hazards and the appropriate means to eliminate the hazard.

14

If the machine or equipment to be serviced is operating, it shall be shut down using normal shut down procedures.

15

Operate the disconnect switch, line valve, or other isolation devices so that the equipment is isolated from its energy source(s). Always trace all lines of supply back to their source to assure that there are no added splices, connections or T's that have not been secured. Stored energy in springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam or water pressure, etc., must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, etc.

16

The authorized employee shall lockout and/or tagout the energy isolating devices with assigned individual locks and/or tags.

17

Any time a lock is used to secure a system, it must be accompanied by a tag identifying the person that installed it, the date and time it was installed, and a means by which the employee may be contacted. At no time will the locking device be removed by anyone other than the person who is identified on the tag unless following specific departmental procedures.

18

After ensuring that no personnel are exposed, and as a check on having disconnected the proper energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate.

Return to Index

19

All operating controls shall be reset to NEUTRAL or the OFF position after the initial test, if the equipment or machinery being serviced or repaired has stored energy which cannot be realistically removed by dissipation, bleeding down, or restrained to prevent movement.

20

The equipment or machine is now locked or tagged out of service and maintenance or repairs may begin.

TERMINATION OF LOCKOUT/TAGOUT

21

After the service and/or maintenance is complete and the equipment is ready to be tested and/or returned to normal operation, it must be inspected for completeness of assembly, the area around the machine or equipment checked to ensure that exposures to hazards or risks are minimal, and that all non-essential items have been removed from the operating area.

22

All equipment guards must be in place and properly adjusted.

23

All affected employees must be notified of the intention to energize and test the machine or equipment. All non-essential personnel will move to a safe location.

24

The authorized employee(s) who applied any lock or tag shall remove all lockout or tagout devices and operate the energy isolating devices to restore energy to the machine or equipment in the exact reverse order that they were installed.

25

Do not remove the last lock or tag until all hazards have been considered and corrected as needed.

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608 METERING AND TEST DEVICES

01

All devices to be used for metering, testing and/or checking of electrical equipment shall be used in accordance with the manufacturers' instructions.

02

Approved safety eyewear with side shields and other safety equipment as appropriate shall be worn while connecting meters, and at all times when working on energized equipment.

03

Only qualified employees will use electrical metering or testing devices.

04

All electrical metering and testing devices shall be maintained in a safe, serviceable, clean and ready to use condition. All leads, power cords, etc. shall be inspected before each use to ensure insulating material(s) are not worn, cracked or otherwise defective. Any hazardous condition shall be corrected before further use of the device.

609 PNEUMATIC TOOLS

01

Consult manufacturer's safe operating procedures before the use of any pneumatic tool to identify and comply with the requirement for additional personal protective equipment and safety precautions.

02

Only qualified persons shall operate pneumatic tools.

03

Eye protection is required at all times when working with or around pneumatic tools.

Return to Index

04

Hearing protection is required when working with jack hammers and other loud, high-impact pneumatic tools.

05

Manufacturers' safe operating pressures for hoses, pipes, valves, filters and other fittings shall not be exceeded.

06

Rented or leased tools will be inspected carefully prior to use to ensure they are safe and in good operating condition.

07

Pneumatic tools shall never be pointed at another person.

08

Pneumatic tools shall be secured to the hose by a positive locking device to prevent the tool from becoming accidentally disconnected.

09

Safety clips or retainers shall be securely installed and maintained on pneumatic tools to prevent attachments or extensions from being accidentally expelled.

10

Care shall be exercised to ensure the trigger or control will not operate when the tool is laid down.

11

The hose shall not be kinked in order to stop the tool.

12

Before making adjustments or changing pneumatic tools, unless equipped with quick-change connectors, air pressure shall be shut OFF at the air supply. The hose shall be bled at the tool before breaking the connection.

Return to Index

13

Conductive hoses shall not be used near exposed energized equipment.

14

The air tank drain valve shall be opened at regular intervals to prevent excessive moisture accumulation in the tank.

15

Safety relief valves are required on air tanks and shall be tested periodically to ensure proper operating condition. Relief valves shall not be tampered with or restrained.

16

The supply line shall be shut OFF at the source before disconnecting the air hose. Reducers or pressure relief devices shall be used to ensure that compressed air used for cleaning purposes is below 30 psi.

17

Compressed air shall not be used to blow dust and dirt from clothing or the body.

18

Air hoses shall not be used for hoisting or lowering tools or equipment.

19

All compressed air hoses exceeding one-half inch inside diameter shall have a safety device at the source of supply or branch line to quickly reduce pressure in the event of emergency.

610 SHOP WORK

01

All shop equipment and machinery shall only be operated according to manufacturer's safe operating procedures.

02

Only qualified employees shall operate or make adjustments to shop equipment and machinery.

Return to Index

03

Shop equipment and machinery shall be inspected and serviced regularly to ensure that it is working properly and can be operated safely.

04

Approved safety eyewear with side shields shall be worn at all times when work is being performed in the shop area. Additional eye protection is required in designated areas and for specific work.

05

Hearing protection shall be worn in designated shop areas while equipment or machinery is being used, and when working around specific tools and equipment requiring hearing protection.

06

Respiratory protection shall be worn when required.

07

Employees shall comply with Section 102, Barricades, Barriers and Warning Signs when performing work that extends outside the normal shop work area.

08

Materials shall be properly placed or stored so as not to create a hazard to employees working in or passing through the shop area.

09

All machine safety guards shall be kept in place except when maintenance or inspection requires removal. Shop equipment or machinery shall only be operated with safety guards properly installed.

10

Machines shall not be left unattended while running.

11

Push sticks or blocks shall be used whenever possible when operating shop equipment or machinery. Hands and clothing shall be kept clear of moving parts.

Return to Index

12

Clamps should be used to hold the work securely on the work surface.

13

Gum, resin and loose material shall be removed immediately from saw blades and drill bits. Only sharp blades and drill bits, and well-set saws that are properly tensioned, shall be used.

14

Employees shall comply with departmental lockout/tagout procedures whenever servicing or inspecting shop equipment.

611 TRENCHING, EXCAVATION AND SHORING

Note: Some deep trenches and excavations qualify as confined spaces and require compliance with the Permit-Required Confined Spaces Program.

Within Energy Supply locations, personnel shall be familiar with and comply with the Generation Confined Spaces Program as well as the specific entry procedures for the location involved.

01

A competent person shall conduct daily visual inspections for signs of possible cave-ins, failure of protective systems, or other hazardous conditions. Immediate corrective measures to eliminate or control hazards and conditions shall be taken.

02

A competent person shall be available to conduct inspections prior to start of work, after every rainstorm and as needed throughout the shift. Work shall not continue until after the inspections have been completed.

03

While an excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard employees.

Return to Index

04

Prior to digging with any mechanized equipment, (Dial 811) Sunshine State One Call of Florida, to get any underground utilities marked. Hand digging is permissible in an emergency situation. If the call has already been made, make sure that you have the locate ticket number on site for reference in case of a problem. All after hour Emergency Locate Ticket requests must be made Online.

05

A competent person shall design the excavating or trenching work and inspect the work throughout each day to ensure the stability of the trench, the safety of the crew, and compliance with departmental procedures.

06

Employees shall comply with all appropriate safe work practices for Section 102, Barricades, Barriers and Warning Signs; Section 144, Public Safety, and Section 153, Work Area Protection/Maintenance of Traffic (MOT).

07

Employees required to work in trenches or excavations over 54 inches deep shall be protected by a shoring system, or by laying back the earth a minimum of two feet to a stable slope.

08

If examination of the ground indicates that hazardous earth movement may be expected, trenches or excavations less than 54 inches in depth shall also be properly shored or sloped.

09

Other hazards in the immediate vicinity, such as trees, boulders, building foundations, slides and banks, shall be considered and appropriate steps taken to secure them from collapse.

10

In planning excavation operations, additional factors such as vibration from nearby traffic or heavy machinery, water seepage, and other such factors shall be considered and necessary precautions taken. Water shall not be allowed to accumulate in trenches or excavations.

Return to Index

11

Open trenches or excavations in which employees are working for a period of time shall be inspected daily to determine if weather conditions or other factors have increased the hazards.

12

Excavated materials shall be stored at least two feet from the edge of all trenches and excavations in which employees are working. When conditions make this impractical, earth shall be removed or otherwise retained.

13

Tools and materials shall not be left near the edge of excavations or trenches. Tools and materials shall not be thrown into or out of trenches and excavations.

14

Ramps or ladders shall be provided in trenches or excavations over four feet in depth. Ladders shall be located not more than 25 feet apart. Ladder side rails shall extend at least three feet above any horizontal landing in the trench or excavation and shall be secured top and bottom when practical.

15

A qualified observer shall assist equipment operators in excavation or trenching if needed. Extreme caution shall be taken to prevent cave-ins due to the superimposed weight of heavy equipment near the edge of trenches or excavations.

16

Employees shall not jump over trenches or excavations. Where needed, crossover walkways or bridges of approved design shall be provided.

17

In the event a gas line is cut, employees shall: (1) Shut down equipment and clear the area; (2) Report the incident; (3) Resume work only when assured by an authorized representative of the gas company that the hazardous condition has been corrected.

18

Employees exposed to vehicular traffic shall wear high-visibility warning vests.

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612 WORK IN MANHOLES AND VAULTS

01

Reasonable efforts will be made to de-energize all energized cables/circuits prior to TEC personnel performing any work in a manhole.

02

If energized cables/circuits in a manhole cannot be de-energized, TEC personnel shall request an "Energized Work Permit" (EWP) on all energized cables/circuits.

03

Upon entry into an energized manhole, the first qualified TEC personnel shall perform a visual inspection. See revised TEC Risk Assessment/Tailboard Conference Plan form.

04

Upon completion of the visual inspection the use of thermal imaging device (FLIR Model 60) shall be utilized to identify any energized cable and/or splice hot spots.

05

Employees shall follow the procedures outlined in the Permit-Required Confined Spaces Program, as well as the specified entry procedures for the location involved when working in an area that meets these requirements. Within Energy Supply locations, personnel shall be familiar with and comply with the Generation Confined Spaces Program as well as the specific entry procedures for the location involved.

06

When covers are removed from enclosed spaces, the opening shall be promptly guarded by railing, temporary cover or other barrier intended to prevent an accidental fall through the opening and to protect employees working in the spaces from objects entering the space.

07

Where possible, the manhole cover shall be removed parallel with the flow of traffic and placed on the side away from approaching traffic.

08

Manhole ladders, tools and materials shall be placed so as not to constitute a hazard.

Return to Index

09

When work is to be done in a manhole or a vault, proper work area protection, barricades and barriers shall be installed. Refer to Section 102, Barricades, Barriers and Warning Signs and Section 153, Work Area Protection/Maintenance of Traffic (MOT).

10

Before an employee enters an enclosed space, the internal atmosphere shall be tested for oxygen deficiency and for flammable gases and vapors with a direct-reading meter or similar instrument, capable of collection and immediate analysis of data samples without the need for off-site evaluation.

11

Forced ventilation into the manhole or unvented vault shall be used to maintain a safe environment.

12

If, in an emergency, it is necessary to enter a manhole or a vault where gas may be present, employees shall use an approved self-contained breathing apparatus.

13

Open flames or smoking shall not be permitted in manholes or vaults until after the air has been tested and found free of explosive or flammable substances.

14

Whenever an employee enters, or is working in, an enclosed space, manhole or vault, another qualified employee with the proper equipment readily available shall be stationed at the surface to assist in case of an emergency. This requirement shall not preclude this employee from performing other duties.

15

A ladder shall always be used when entering or leaving the manhole or a vault. A cable shall not be used to assist in climbing into or out of a manhole except in an emergency.

16

Tools or material shall not be thrown in or out of the manholes or vaults.

17

Materials shall not be lowered into the hole until definite instructions to do so have been given by an employee in the hole.

Return to Index

18

Clearances shall be obtained in accordance with approved switching and tagging procedures as appropriate.

19

When working in a vault which contains energized equipment, both doors shall be unlocked except when switching.

20

Manhole covers shall be properly seated when replaced.

21

Manhole covers shall be removed with an approved tool.

613 AERIAL DEVICE OPERATIONS

01

Employees shall visually check all aerial devices at the first job of the day before use. The lower controls shall be operated and checked before anyone goes aloft.

02

No one on the ground shall operate the controls to the aerial device while occupied, except in an emergency or when following the direct orders from the employee in the aerial device.

03

The aerial device shall be parked out of traffic whenever possible.

04

Employees shall make sure that the brakes are set before setting up the aerial device. When parking on an incline, chocks shall be used.

05

If the vehicle is provided with outriggers, they shall be used. Before operating outriggers, employees shall first check to see that everyone is in the clear. The outriggers shall be firmly placed on pads or firm footing before operating the boom.

Return to Index

06

Employees working in aerial devices that are not approved work platforms shall wear a company approved body harness with a shock-absorbing lanyard properly attached to the boom or basket.

07

Employees shall not climb into or out of the aerial device while it is elevated except in an emergency. Employees shall not belt off to a structure while working in the basket.

08

The operating control box shall be kept clear of materials or tools. No objects, except approved storage containers, shall be allowed to hang on the outside of the aerial device when working in an energized area.

09

The boom shall be cradled when the bucket truck is being moved. Employees shall not ride in an aerial basket when the bucket truck is moving.

10

The manufacturer's designated load limit shall not be exceeded in the loading of an aerial device.

11

Employees working on energized equipment shall position themselves below the work if possible. Work shall be performed on only one conductor at a time.

12

When operating a multi-person aerial device, no change in device position shall be made without knowledge of all employees except in case of an emergency.

13

No tools or equipment shall be rigged to the basket in such a manner as to cause the basket to become unstable.

14

Good housekeeping shall be exercised in the basket.

15

2-way communication shall be utilized between person in aerial device and any person entering the bed of the truck.

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614 OIL SPILL CLEANUP

Note: See also Departmental Oil Spill Procedures and section 612, Work in Manholes and Vaults.

01

Only company approved traffic vests in good condition shall be worn. See also section 153 Work Area Protection / Maintenance of Traffic (MOT).

02

Oil spill response vehicles will be set up in the safest possible location.

03

Oil spill response vehicles will have their high-intensity, rotating, flashing, oscillating and/or strobe lights operating.

04

At a minimum, the work area protection/ Maintenance of Traffic shall have cones placed in advance of on-coming traffic.

05

Use extreme caution when the oil spill response vehicles are in or near energized lines or equipment. Follow the instructions of the qualified person in charge consistent with the Safe Work Practices.

06

Only FDOT approved containers shall be used for gasoline, diesel, oil etc.

07

Tools, parts, and other supplies carried by oil spill response vehicles shall be properly secured.

700 Stores & Salvage Operations

701 CRANES AND HOISTS

Note: Refer to Section 110, Cranes and Hoists.

01

Cranes and hoists shall be operated only by qualified personnel. Return to Index

02

When working around a crane, employees in the immediate area shall wear a hard hat and approved safety eyewear. Also, a spotter shall wear a reflective vest.

03

The controls of all cranes shall be distinctly marked so that their functions cannot be misunderstood.

04

The operator shall take all signals from the designated signalperson. Should it be apparent that obeying a signal would result in an injury, the operator shall not proceed but shall notify the signalperson at once. A STOP signal shall be obeyed regardless of who gives the signal.

05

All lifting equipment, slings, and attachments shall be properly marked to show load capacity.

06

The rated capacity of the equipment shall not be exceeded.

07

Clearances shall be checked before raising or lowering a load.

08

After the slack is taken up, employees shall stand clear of the load before the actual lift is started, except as required by the job. When moving large, heavy equipment or materials by crane, a tag line shall be used.

09

Operators shall not move loads over the heads of employees. Employees shall not work under suspended loads or inside the angle of a winch line.

Return to Index

10

The operator shall not leave controls unattended when the load is suspended.

11

Upon leaving the crane or hoist, the operator shall be certain to position all necessary switches or controls to prevent movement of the crane or hoist while unattended.

12

Approach distances with overhead lines shall be constantly checked. An observer shall be used when cranes or hoists are within ten feet of exposed energized overhead lines.

13

When working within ten feet of exposed energized lines or equipment, cranes shall be properly grounded and lines or equipment shall be insulated, or isolated.

14

Employees shall exercise extreme caution when working in the vicinity of a mobile crane that is operating near exposed energized equipment. Employees who may contact or come in close proximity to the crane shall wear rubber gloves.

15

If the mobile crane accidentally makes contact with energized equipment, employees shall not approach the crane until the contact is broken or the equipment is known to be de-energized. If it becomes necessary for the operator to leave the crane, the operator shall jump clear rather than step down.

16

All outriggers shall be used to level a mobile crane. Once the initial strain is taken, and before proceeding with the job, the blocking and outriggers shall be re-checked to assure stability.

Return to Index

17

Should an overhead crane or hoist lose power, the controls shall be turned to the OFF position, until power is restored.

18

An approved fire extinguisher shall be easily accessible to the crane operator.

19

After the load is removed, the hook and/or slings shall be secured.

20

Hoisting cables (and slings) and other associated hardware shall be visually inspected each day before they are used.

21

A load shall be attached to the hook by means of slings or other approved devices.

22

“Shock” loads shall be avoided.

702 FORKLIFT OPERATIONS

Note: Additional safe work practices are included under Section 706, Powered Industrial Trucks, and should be consulted for order pickers, reach trucks, narrow aisle forklifts, motorized pallet jacks, and material chasers.

01

Only qualified and authorized personnel shall operate a forklift. All operations shall be in accordance with manufacturers’ safe operating instructions. All forklift operators will be tested/certified on a 3-year cycle or whenever an incident mandates re-testing.

02

Hard hat and safety glasses shall be worn at all times when operating a forklift in a designated hard hat area or when exposed to overhead hazards. Hard hats shall also be worn when using a forklift to lift a load when the top of the load being lifted is higher than the cab protection of the forklift.

Return to Index

03

The operator shall complete an equipment (inspection) checklist examination at the beginning of each shift prior to using the unit. A written copy of the completed checklist shall be retained on file according to department procedures.

04

When descending an incline, the load shall be to the rear. When ascending an incline, the load shall be in front.

05

Wheels shall be blocked if the forklift is parked on an incline.

06

Sudden stops that might spill the load shall be avoided.

07

The horn shall be sounded when blind corners or intersections are approached.

08

Forklifts with gasoline or diesel engines shall not be operated in an enclosed area for prolonged periods of time, so as not to exceed the allowed levels of carbon monoxide.

09

When a forklift is moved, loaded or empty, forks shall be carried as low as possible but high enough to clear uneven surfaces.

10

Loads shall not be raised or lowered while the truck is traveling.

11

The warning light on the forklift shall be operating whenever it is in operation.

12

Passengers are not allowed to ride a forklift. No one shall be permitted to ride the load at any time.

Return to Index

13

Only an approved platform shall be used as a man lift. The platform will be properly secured to the mast or forks, and guards will be in place to prevent hands or materials from passing into the mast area.

14

Appropriate personal fall arrest equipment (full body harness and shock absorbing lanyard) shall be used and properly secured by all personnel while working in an elevated platform. The full body harness and shock absorbing lanyard shall be inspected prior to operating the unit to ensure they are in good repair and securely fastened.

15

Personal fall arrest equipment shall be properly secured to the fork-tine carriage and not to the platform or work basket.

16

The forklift operator shall never leave the lift while an occupied work platform/basket is elevated.

17

When forklifts are used in loading and unloading operations inside trucks or trailers, special precautions shall be exercised. Extreme caution shall be used when inside the trailer while loading or unloading is taking place. The vehicle shall be properly docked and parked with the wheels safely chocked. In addition, there shall be no personnel (other than the operator) permitted inside trucks or trailers while the forklift is in operation (traveling). Beware of your surroundings when entering and exiting a trailer.

18

Upon control difficulty, malfunction, or equipment failure, the unit shall be tagged out-of-service until repairs are made and the unit re-certified.

19

When the forklift is not in use, the forks shall be lowered, brakes set, and the key turned to the OFF position.

20

Personnel shall not stand or pass beneath the elevated forks, whether loaded or empty.

Return to Index

21

Forklift trucks shall not be used in place of jacks or other lifting devices.

22

Only loads which are securely and safely loaded and within the rated capacity of the truck shall be handled.

23

When fueling gas/diesel powered forklifts the engine shall be turned OFF. When fueling a propane powered forklift, ensure that the propane bottle is in the off position and the propane fuel line is purged before loosening the hose. Wear the proper PPE, then exchange empty cylinder for a full one, properly secure hose to cylinder.

Battery powered lifts: Ensure power is disconnected and connect charge to proper lead, wear appropriate PPE. When check battery water levels, wear proper PPE and never use another forklift to push battery out to check water levels.

24

Only approved attachments to the mast or forks shall be used. Improvised methods shall not be used.

25

All fork-tine attachments, slings and lifting accessories shall be properly inspected and marked indicating load capacity.

26

The rated capacity of all lift equipment shall not be exceeded. Equipment not rated with load capacity shall be taken out-of-service until properly inspected and rated.

703 MATERIAL HANDLING

01

Employees shall be familiar with the Safety Data Sheets (MSDS) for all stored and processed materials, and comply with all special handling instructions and wear personal protective equipment as required.

02

Specific hand protection as required by the SDS shall be worn when handling chemicals, or special materials. Approved work gloves shall be used when handling wire, wire rope, glass, porcelain and other materials with sharp or rough edges.

Return to Index

03

Approved safety shoes shall be worn at all times while working in storerooms or around outside storage racks and bins.

04

Employees shall use proper lifting techniques when handling all heavy or awkward materials, or when required to lift materials from a squatting or twisted position.

05

Employees shall use approved warehouse ladders, stairs, personnel lifts, or reach trucks/order pickers to retrieve materials from overhead storage. Employees shall not climb on shelves or bins to reach such materials.

06

Full drums and barrels shall be handled with approved mechanical equipment.

07

Sharp ends or edges of wire or banding material, nails, and staples shall be removed, secured, or blunted, and disposed of properly when crating or uncrating materials or equipment.

08

Employees shall exercise care when cutting wire. Both ends of the wire being cut shall be secured or held firmly while cutting. The end of the wire shall be securely fastened on the inside of the coil so that no sharp end protrudes.

09

Trucks shall be backed flush against the dock and wheels securely chocked. Before loading or unloading materials or equipment check the condition of the trailer floor.

10

Items shall be properly handled or passed and shall not be thrown when loading or unloading materials or equipment.

11

Proper lighting and ventilation shall be provided when operating forklifts in truck trailers.

Return to Index

12

Floats and hand trucks shall be pushed, not pulled. Extra care shall be exercised when maneuvering around corners or doorways, and when ascending or descending slopes. Employees shall not stand or ride on floats.

13

Material shall be properly stacked on a float so as not to obstruct the vision of the operator. Loads shall be evenly distributed to prevent tipping or damaging material on the bottom of the load.

14

Chains, tow-bars or pull straps shall be properly secured when used to pull carts, skids, or materials. Employees shall stand clear during pulling operations.

15

Shock loading shall not be permitted. Tensioning and loading shall be done in a gradual, steady and safe manner.

16

Employees shall use approved ladders or steps when descending platforms or loading docks.

704 MATERIAL STORAGE

01

Manufacturers' Safety Data Sheets shall be readily available or kept on file at each storeroom for all appropriate products and materials which are stored and/or processed at that location.

02

Racks, shelves, and other devices on which material is stored shall be of substantial construction capable of supporting the weight and size of the material, located properly out of aisles and passageways, and secured to the floor or otherwise stabilized to prevent tipping or shifting.

Return to Index

03

Materials shall be stored so that weight is evenly distributed. Material stored in tiers shall be secured to prevent falling or sliding.

04

A minimum clearance of 36 inches shall be maintained between stored material and overhead lights, sprinkler heads, and heating/cooling ducts, and fire door openings.

05

Poles, pipes, conduit and similar materials shall be racked or blocked to prevent shifting. Barrels, drums and reels shall be stored on end to prevent shifting, or shall be otherwise blocked to prevent rolling.

06

Flammable or combustible materials shall not be stored near sources of extreme heat, sparks or flame.

07

Materials or equipment shall not be stored under energized busses, energized lines or near energized equipment. Stored materials shall also not block access to electrical panels, fire control panels or exits.

08

The contents of all stored or staged materials shall be clearly marked and easily visible on the outside of the package. Labeling shall include the flammability/combustibility, corrosiveness, and oxidation properties of the contents as well as any special handling and personal protective equipment and safety precautions required by the manufacturer.

09

Stored materials shall be kept within the confines of the storage bin or area in which they are placed.

10

Prudent efforts shall be made to store heavier material on lower shelves or bins.

11

Cardboard boxes shall not be stacked directly on top of each other at a height greater than 48 inches.

Return to Index

12

Loose items stored on shelves or racks above the floor shall be secured to prevent them from becoming dislodged and falling.

13

Boxes, bins, and/or other containers shall be used to secure small items to prevent them from falling.

705 POLE LOADING, UNLOADING AND HAULING

01

During pole loading or unloading operations, employees shall not stand between the pole pile and the loading or transporting equipment.

02

Employees shall not stand or pass beneath suspended loads.

03

Care shall be taken to position employees and equipment in such a way as to avoid injury or damage, should a load of poles get out of control.

04

When loading or unloading poles and it becomes necessary to control the pole, employees shall work at the ends of the poles.

05

Employees handling poles shall always wear a hard hat, safety glasses and work gloves.

06

When poles are to be rolled from a pile or from a trailer to the ground, it shall be done with a line, fiberglass handled cant hook or other approved tools. Wood handled cant hooks shall not be used. Fiberglass cant hooks shall not be used to support the weight of the pole while moving the sling.

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07

Poles shall be securely fastened to the trailer when being hauled. During daylight hours, a red flag shall be fastened to the end of the pole that protrudes furthest to rear. After dark a steady burning red light shall be used instead of a flag.

08

When hauling transmission poles it may be necessary to have a follow vehicle depending on pole length. These vehicles must meet all DOT requirements.

09

When maneuvering corners, motorists shall be given as much advance warning as practical.

10

A pole trailer with a pintle hook attachment shall be properly connected to its towing vehicle with safety latches and chains.

11

Whenever possible, poles temporarily stored along the streets or highways shall be placed back of the curb or beyond the ditch line and blocked so that they cannot roll.

12

When preparing to unload poles from a transporter, steel stanchions shall be securely in place before restraining straps are released or restraining bands are cut.

13

Employees shall not ride the pole or the hooks when loading or unloading poles.

14

Extra caution shall be exercised during pole hauling operations because of the limited visibility of the poles and unexpected hazard of the extended load. Avoid blocking roadways and intersections and otherwise endangering traffic.

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706 POWERED INDUSTRIAL TRUCKS

Note: Refer to Section 702, Forklifts.

01

Only qualified and authorized personnel shall operate forklifts and powered industrial trucks, i.e.: order pickers, reach trucks, motorized pallet jacks, and material chasers.

02

All operations shall comply with the manufacturer's safe operating procedures.

03

The operator shall complete an equipment checklist examination at the beginning of each shift prior to using the unit. A written copy of the completed checklist shall be retained on file according to department procedures.

04

The full body harness and shock absorbing lanyard shall be inspected prior to operating the unit to ensure they are in good repair and securely fastened. The safety harness shall be properly worn by the operator at all times when operating the unit or retrieving orders.

05

Keep all hands and feet inside the perimeter of the operator cab. Never place any part of the body into the mast structure, or outside the unit.

06

Only the operator will ride a powered industrial unit. Passengers shall not ride in the operator cab or on a pallet or platform.

07

Be sure the pallet or platform is securely attached and stable on forks. Position forks to the outer edges to minimize possibility of tipping.

08

Balance the load on the pallet evenly within the limits of the unit.

Return to Index

09

Do not overload the unit. Work within the capacity limits displayed on the specification plate.

10

Use special care when traveling without a load as the risk of overturning is greater.

11

Do not turn on grades. Travel on grades with the load on the uphill slide.

12

Elevate platform only to pick an order, pick up a stack or stack a load. Lower the platform close to the floor before moving the unit.

13

Do not allow anyone to stand or pass under the load or lifting mechanism.

14

Place the travel controls in NEUTRAL, fully lower lifting mechanism, and completely shut down the unit before removing the safety harness and leaving the operator cab.

15

Never leave a unit unattended while the load is raised or with the engine running.

16

Operate the truck in reverse facing in the direction of travel when visibility is impaired.

17

Be certain that the dockboard or bridge plate is properly secured prior to driving over it. Drive carefully and slowly across the dockboard or bridge plate, and never exceed its rated capacity.

18

Order picker trucks shall not be used on ramps and are not designed for outdoor use.

Return to Index

19

Order picker trucks are designed for use on smooth, hard floors with minimal grades. They should be used in dry areas only, and in areas requiring exhaust free operation.

20

Operate three-wheel material chasers with extra caution and slow speeds when crossing uneven pavement or in adverse weather conditions.

21

Follow all traffic control rules, yield to pedestrians and other vehicles, and exercise extreme caution when operating a three-wheel material chaser in a parking lot throughout all areas.

707 SALVAGE OPERATIONS

01

Approved safety shoes and safety eyewear shall be worn during all phases of salvage operations and throughout salvage areas.

02

Approved work gloves shall be worn during all material handling and salvage operations. Additional hand protection may be required to address specific safety hazards.

03

All salvage equipment and machinery shall be routinely inspected and tested, and properly maintained to ensure they are operating safely and according to manufacturers' specifications.

04

Only qualified and authorized employees shall operate salvage equipment and machinery.

Return to Index

LIGHTNING ARRESTOR OR BULB TESTING

05

Only qualified and authorized personnel shall operate test equipment. All test procedures shall be properly followed, and all records properly maintained.

06

Extra caution shall be exercised to ensure the proper operation of interlock mechanisms and other safety devices before energizing testing equipment.

07

Lightning arrestors and bulbs shall be properly stored and handled to avoid breakage.

708 TRANSFORMER REPAIR (Substation)

01

Only qualified and authorized employees shall operate the powered roller conveyor, overhead hoists, and transformer testing and repair equipment.

02

Transformer Shop Safe Operating Procedures shall be followed during all operations of transformer repair.

03

Approved safety shoes and safety eyewear shall be worn during all phases of transformer servicing and repair operations.

04

Employees shall review and comply with all Safety Data Sheet requirements for safe use of chemicals and products utilized in transformer servicing, testing, and repair.

Return to Index

05

All transformer repair equipment and machinery shall be regularly inspected, maintained, and operated in accordance with manufacturers' specifications. Any tool, equipment or machinery found not to be operating properly shall be immediately taken out-of-service, and tagged with a Repair tag until maintenance or repairs can be made.

06

A signaling device shall alert all employees working on or around the conveyor before it begins operation. Employees shall communicate with each other if an interruption in conveyor operation is required and not readily observable by other employees working on the line.

07

All machine guards, barriers, and other warning devices shall be maintained in place at all times during conveyor operation.

08

The conveyor shall not be restarted until the employee activating the emergency stop cable has cleared the obstruction or hazard. An inspection of the conveyor shall be made before resuming conveyor operation.

09

Employees shall refrain from walking or stepping on rollers, wheels, chains, pallets, or other items on the conveyor surface. Tread plates shall be used to crossover the conveyor.

10

Employees shall not ride the conveyor at any time.

11

Whenever possible, employees shall stand on the ground or work platforms next to the conveyor to service transformers. Employees shall not stand on pallets or tread plates to service transformers unless the entire conveyor is switched OFF, and tagged out.

12

Transformers shall be placed on the slave pallets so as to avoid rubbing or sliding on the conveyor system walls. Sufficient space shall be maintained between transformers on the same pallet to allow safe access to equipment and accessories.

Return to Index

13

Unstable transformers shall not be loaded onto the conveyor unless otherwise blocked and secured to the pallet.

14

Safety interlocks in the transformer electrical testing area shall be properly utilized. Safety interlocks shall not be bypassed or otherwise compromised.

15

Approved barricades and barriers shall be in place before electrical testing is performed.

16

All oil spills shall be cleaned up immediately and the oil residue properly tested and disposed of according to departmental procedures.

17

Proper gloves shall be worn when performing transformer oil servicing, sampling and testing.

18

Employees shall exercise caution when working with transformer oil and avoid contact with eyes, skin and clothing. Hands shall be washed after work is completed and before eating, drinking, or smoking.

19

The safe working limit of the hoist shall be clearly indicated on the hoist and shall not be exceeded.

FIELD REPAIRS

20

All repairs made on energized transformers in the field shall be coordinated with Energy Delivery Operations.

21

Employees shall comply with all requirements of the Section 207, Grounding Procedures in Energy Delivery Operations.

Return to Index

22

Application of all grounds shall be applied by authorized Energy Delivery personnel whenever possible.

23

Employees shall comply with all requirements of Section 223, Working on or Near Exposed Energized Lines or Equipment in Energy Delivery Operations.

709 WIRE WINDING OPERATIONS

01

Only qualified and authorized employees shall operate the Reel-O-Matic machine. Work gloves and safety glasses shall be worn at all times during wire winding operations.

02

Employees shall exercise caution when cutting wire. Both ends of the wire being cut shall be secured or held firmly while cutting. The end of the wire shall be securely fastened on the inside of the coil so that no sharp end protrudes.

03

The operator of the wire winding equipment shall be positioned so as to avoid pinch-points and to be able to observe both pay-out and take-up reels and the wire winding machine.

04

Hands shall be kept well back or behind the guiding bar while tensioning and positioning the wire on the take-up reel.

05

The wire pay-out reel shall be properly balanced and securely fastened on the pay-out cart. The pay-out cart shall be secured to the floor with the brakes firmly set prior to initiating wire winding operations.

06

Only permanent solid weight supports will be used to support pay-out reels during wire winding operations.

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800 Telecommunications
801 AERIAL DEVICE OPERATIONS

01

Employees shall visually check all aerial devices at the first job of the day before use. The lower controls shall be operated and checked before anyone goes aloft.

02

No one on the ground shall operate the controls to the aerial device while occupied, except in an emergency or when following the direct orders from the employee in the aerial device.

03

The aerial device shall be parked out of traffic whenever possible.

04

Employees shall make sure that the brakes are set before setting up the aerial device. When parking on an incline, chocks shall be used.

05

When the vehicle is provided with outriggers, they shall be used. Before operating outriggers, employees shall first check to see that everyone is in the clear. The outriggers shall be firmly placed on pads or firm footing before operating the boom.

06

Employees working in aerial devices that are not approved work platforms shall wear a company approved body harness with the shock absorbing lanyard properly attached to the boom or basket.

07

Employees shall not climb into or out of the aerial device while it is elevated, except in an emergency. Employees shall not belt off to a structure while working in the aerial device.

Return to Index

08

The operating control box shall be kept clear of materials and tools. No objects except approved storage containers, shall be allowed to hang on the outside of the aerial device when working in an energized area.

09

The boom shall be cradled when the bucket truck is being moved. Employees shall not ride in an aerial basket when the bucket truck is moving.

10

The manufacturers' designated load limit shall not be exceeded in the loading of an aerial device.

11

Employees working on energized equipment shall position themselves below the work if possible. Work shall be performed on only one conductor at a time.

12

When operating a multi-person aerial device, no change in device position shall be made without knowledge of all employees except in case of an emergency.

13

No tools or equipment shall be rigged to the basket in such a manner as to cause the basket to become unstable.

14

Good housekeeping shall be exercised in the basket.

15

2-way communication shall be utilized between person in aerial device and any person entering the bed of the truck.

802 ANTENNAS & RADIO FREQUENCY TRANSMITTERS

01

Microwave transmitters shall be de-energized before internal inspections are conducted.

Return to Index

02

Do not inspect Heliax or other waveguide devices without de-energizing them.

03

Maintenance shall not be performed on a radio in a vehicle that is in an area where explosives are being used.

04

Maintenance shall not be performed on a radio in a vehicle that is in an energized primary contact area. If practical move the vehicle from the work area to a safer location.

05

An antenna shall not be installed in such a manner as to radiate RF energy into someone's eyes.

803 ENCLOSED SPACES: MANHOLES, VAULTS

01

Reasonable efforts will be made to de-energize all energized cables/circuits prior to TEC personnel performing any work in a manhole.

02

If energized cables/circuits in a manhole cannot be de-energized, TEC personnel shall request an "Energized Work Permit" (EWP) on all energized cables/circuits.

03

Upon entry into an energized manhole, the first qualified TEC personnel shall perform a visual inspection. See revised TEC Risk Assessment/Tailboard Conference Plan form.

04

Upon completion of the visual inspection the use of thermal imaging device (FLIR Model 60) shall be utilized to identify any energized cable and/or splice hot spots.

05

When covers are removed from enclosed spaces, the opening shall be promptly guarded by railing, temporary cover or other barrier (i.e. barricade tapes and cones) intended to prevent an accidental fall through the opening and to protect employees, working in the spaces from objects entering the space.

Return to Index

06

Where possible, the manhole cover shall be removed parallel with the flow of traffic and placed on the side away from approaching traffic.

07

Manhole ladders, tools and materials shall be placed so as not to constitute a hazard.

08

When work is to be done in a manhole or a vault, proper work area protection shall be installed.

09

Before an employee enters an enclosed space, the internal atmosphere shall be tested for oxygen deficiency and for flammable gases and vapors with a direct-reading meter or similar instrument, capable of collection and intermediate analysis of data samples without the need for off-site evaluation.

10

Forced ventilation into the manhole or unvented vault shall be used to maintain a safe environment.

11

If, in an emergency it is necessary to enter a manhole or a vault where gas may be present, employees shall use an approved self-contained breathing apparatus.

12

Open flames or smoking shall not be permitted in manholes or vaults until after the air has been tested and found free of explosive or flammable substances. (At no time shall cigarette, cigar or pipe smoking be allowed in an enclosed space, manhole, or vault and equal consideration shall be given to all uses of tobacco immediately outside of the enclosed space, manhole or vault opening.)

13

Whenever an employee enters, or is working in, an enclosed space, manhole or vault, another qualified employee with proper equipment readily available shall be stationed at the surface to assist in case of an emergency. This requirement shall not preclude this employee from performing other duties.

14

A ladder shall always be used when entering or leaving the manhole or a vault. A cable shall not be used to assist in climbing into or out of a manhole except in an emergency.

15

Tools or material shall not be thrown in or out of the manholes or vaults.

Return to Index

16

Material shall not be lowered into the hole until definite instructions to do so have been given by an employee in the hole.

17

Identifying tags or markers shall not be removed from more than one cable at the same time.

18

When working in a vault which contains energized equipment, both doors shall be unlocked except when switching.

19

Manhole covers shall be properly seated when replaced.

20

Manhole covers shall be removed and replaced with an approved tool.

804 FALL PROTECTION

Note: Refer to Section 113, Fall Protection.

01

Fall-arrest equipment, work positioning equipment, or travel restricting equipment shall be used by employees working at elevated locations more than four feet above the ground unless an approved ladder, work platform, a guardrail system, or a safety net system is in place.

02

Personal fall-arrest systems shall be rigged, such that an employee can neither free-fall more than six feet nor contact any lower level.

03

If vertical lifelines or drop lines are used, not more than one employee may be attached to any one lifeline.

04

Snap hooks may not be connected to loops made in webbing-type lanyards.

05

Snap hooks may not be connected to each other.

Return to Index

06

One-man crews shall be equipped with suspension harness straps.

805 FIBER OPTICS

01

Only qualified and authorized personnel shall cleave and splice fiber cable.

02

Only approved safety eyewear with side shields shall be worn to prevent loose fiber from entering the eyes.

03

Bare fiber shall be handled with extreme caution and disposed of properly to reduce injury from sharp ends.

04

Employees shall avoid direct exposure to invisible laser radiation, which may emanate from un-terminated fiber connections.

05

Employees shall not look into open ends of open fibers, un-terminated fibers or into parts of fiber equipment.

06

Employees shall take necessary precautions when working with flammable or combustible cleaning agents used in fiber optic splice preparation.

806 INSULATING RUBBER GLOVES

01

Rubber gloves shall be worn when working on exposed energized lines or equipment energized at 50 volts or more. Rubber gloves shall also be worn when working on ungrounded lines and equipment that are subject to backfeed and induced voltage.

02

Rubber gloves shall not be worn without leather protectors. Return to Index

03

Before work is begun each day, where rubber gloves are required, each glove shall be visually inspected and air tested by the employee using the gloves. Defective gloves shall not be used.

04

Rubber gloves shall be electrically tested every 60 days or more often if field conditions warrant.

05

Rubber gloves shall be stored in approved bags in a fully extended position. Rubber gloves shall not be folded. Bags shall be either hung up or placed in a special compartment. They shall not be placed where the tools or equipment can damage the rubber gloves.

06

Two pairs of rubber gloves, one inside the other, shall not be worn.

07

Care shall be taken not to allow gloves to come in contact with oil-base products.

08

No items are permitted to be placed in the rubber glove bag along with the rubber gloves and protector gloves.

09

Protectors shall not be worn in place of work gloves.

10

After use, rubber gloves should be washed daily at the end of the shift prior to storage.

807 RESCUE OPERATIONS

GENERAL

01

Rescue and resuscitation techniques shall be reviewed and practiced at least once a year.

Return to Index

02

Radio calls for emergency medical assistance in life threatening situations shall be identified with the words “Mayday, Mayday.” Calls for other emergency situations shall be identified with the words “This is an emergency.” All other radio communication shall cease while the emergency is underway.

03

The dispatcher shall be notified of emergency situations, who, in turn, shall call for emergency assistance in accordance with approved policy.

POLE/STRUCTURE RESCUE

04

A lifeline of one-half inch minimum diameter shall be used whenever an employee climbs poles, towers or structures.

05

An approved full body harness with shock absorbing lanyard shall be worn and used by employees working at elevated locations more than four feet above the ground or when working from other structures where fall protection has not been provided.

06

The rescuer shall exercise extreme caution to prevent from also becoming a victim.

07

The rescuer shall proceed to lower the victim to the ground as soon as possible in accordance with approved methods.

AERIAL DEVICE RESCUE

08

An approved full body harness with a shock absorbing lanyard shall be worn and used by employees working from aerial devices.

09

The rescuer shall proceed to lower the victim to the ground or to the cab screen as soon as possible using the lower controls on the equipment.

10

The victim shall be removed from the basket as soon as possible so that CPR can be administered. No attempt should be made to ventilate the lungs or massage the heart while the victim is in the basket.

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VAULT/MANHOLE RESCUE

11

When work is being performed in a vault or manhole containing energized equipment, an approved tripod or other type lifting device shall be in place.

12

Employees working in a vault or manhole shall wear an approved full body harness.

13

When an employee is in a vault or manhole another qualified employee with the proper equipment readily available shall be stationed at the surface to assist in case of emergency.

14

Employees may not enter an enclosed space while it contains a hazardous atmosphere, unless entry conforms with the Permit-Required Confined Spaces Program.

15

Rescue Breathing and/or CPR shall be administered after the victim has been brought topside.

OTHER RESCUE

16

Whenever employees are engaged in work where the danger of drowning exists, they shall be required to wear an approved personal flotation device.

808 SOLDERING

01

Use an ungrounded soldering iron when working on energized circuit boards, when possible equipment shall be de-energized.

02

Adequate ventilation shall be provided during soldering operations. Avoid breathing soldering smoke residue. Respiratory protective equipment shall be utilized if conditions warrant. Holding excess solder in one's mouth shall be avoided.

Return to Index

03

Open flame and hot points shall not be used without approval in areas requiring a Hot Work Permit or in areas restricting flammable combustible material.

04

Only approved safety eyewear with side shields shall be worn to prevent loose wires or solder from entering the eyes. In addition to safety eyewear full face shields should be considered as an additional means of protection.

809 USE AND CARE OF TOOLS

01

Metal tapes, tapes having metal strands woven in the fabric, brass-bound rulers, metal scales and metal gauges shall not be used when working on or near energized conductors or equipment.

02

Hand lines shall be a minimum of one-half inch in diameter and equipped with an approved safety hook and block.

03

Tools carried in the tool belt shall be secured so that they cannot fall. Large tools shall not be carried in the tool belt.

04

The tool bucket shall be kept free of broken glass, broken pieces of porcelain, nails and other materials which might damage rubber gloves or other protective equipment.

05

Tools should not be thrown from the ground to the working position or from the working position to the ground.

06

Insulation on tools shall not serve as a substitute for rubber gloves when the rubber glove rules require their use.

07

When not in use, pruning tools, hand saws, axes, hatchets and machetes shall be covered with an approved sheath.

Return to Index

08

All tools shall be periodically inspected and any defective tools removed from service, regardless of ownership.

810 WORK AREA PROTECTION (Maintenance of Traffic - MOT)

01

Guidelines for specific work area protection situations shall be followed, as described in the General Rules and Specifications Manual, section 26. Only employees trained or those supervised by a trained person in Maintenance of Traffic procedures shall install MOT equipment.

811 WORKING NEAR ENERGIZED LINES AND EQUIPMENT

01

Only qualified employees may work near exposed energized lines or parts of equipment. Only qualified employees may work in areas containing unguarded, un-insulated energized lines or parts of equipment operating at 50 volts or more. Electric lines and equipment shall be considered and treated as energized unless they have been tested for voltage and grounded.

02

Minimum Approach Distances: Employees shall don insulating gloves and\or sleeves as required before they are in a position from which they can reach into the minimum approach distance. No employee shall approach or take any conductive object closer to exposed energized parts than set forth in Table R-6, Minimum Approach Distance unless:

a.

The employee is insulated from the energized part. Insulating gloves worn in accordance with Section 806 are considered insulation of the employee.

b.

The energized part is insulated from the employee and from any other conductive object at a different potential.

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AC Live-Line Work Minimum Approach Distance (Table R-6)

VOLTAGE	DISTANCE	
Phase to Phase	Phase to Ground Exposure	Phase to Phase Exposure
0.05 to 1.0 kV	**Avoid Contact**	**Avoid Contact**
1.1 to 15.0 kV	2 ft.-2 in.	2 ft.-3 in.
15.1 to 36.0 kV	2 ft.-4 in.	2 ft.-7 in.
36.1 to 46.0 kV	2 ft.-7 in.	2 ft.-10 in.
46.1 to 72.5 kV	3 ft.-0 in.	3 ft.-6 in.
72.6 to 121 kV	3 ft.-2 in.	4 ft.-3 in.
138 to 145 kV	3 ft.-7 in.	4 ft.-11 in.
161 to 169 kV	4 ft.-0 in.	5 ft.-8 in.
230 to 242 kV	5 ft.-3 in.	7 ft.-6 in.
345 to 362 kV	8 ft.-6 in.	12 ft.-6 in.
500 to 550 kV	11 ft.-3 in.	18 ft.-1 in.
765 to 800 kV	14 ft.-11 in.	26 ft.-0 in.

Note 1:

These distances take into consideration the highest switching surge an employee will be exposed to on any system, with air as the insulating medium and the maximum voltages shown.

Note 2:

The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges.

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03

When working on or near energized installations the following personal protective equipment shall be used: safety glasses, approved gloves, Approved FR Clothing, a face shield and head protection. FR clothing shall be worn properly: Sleeve cuffs shall be fully rolled down and secured. All buttons below the collar shall be secured. Shirt tails shall be tucked into pants.

TECO'S APPROVED FR CLOTHING CONSISTS OF:

a. FR shirt meeting a minimum Arc rating of HRC: 2 with long sleeves.

b. FR pants meeting a minimum Arc rating of HRC: 2.

c. Jackets or coats that are FR meeting a minimum Arc rating of HRC: 2.

d. FR or 100% cotton or other natural fiber undergarments.

04

Extreme caution shall be exercised when working near energized lines in inclement weather.

05

Employees doing work near exposed energized lines shall devote their undivided attention to the work at hand.

06

When practical, all protective equipment shall be installed from a level below the conductor or equipment. The removal of protective equipment shall be done with equal care in reverse order.

07

Employees working near exposed energized lines and equipment shall position themselves below the work whenever possible.

Return to Index

08

When working near energized circuits on wood poles, employees shall avoid standing on or touching grounds.

09

A system neutral shall not be opened until the proposed opening has first been jumped or by-passed.

10

Proper minimum approach distance between the employee and the energized conductor shall be maintained.

11

All exposed energized conductors and equipment within reaching distance shall be covered.

12

Employees shall not reach beyond the protective equipment.

812 WORKING ON OVERHEAD STRUCTURES

Note: Refer to Section 113 and 804, Fall Protection.

01

Before climbing ladders, scaffolds, steel structures, or other elevated structures, a thorough inspection shall be made to determine if they are safe. When there is doubt, they shall not be climbed until they are made safe by guying, bracing or other adequate means.

02

Employees on the ground shall stay clear of the overhead work to prevent being struck by falling objects.

Return to Index

03

Prior to working an elevated structure, the employee shall become acquainted with the physical layout and condition of the conductors, poles, guys and equipment on the structure on which work is to be performed.

04

Employees shall avoid standing on any foreign equipment which may be attached to the structure or located near it. Employees shall not trust their weight to pins, braces, guy wires, lines or other such equipment which may be unstable.

05

When working on elevated structures, employees shall wear an approved full body harness. When strapping off, employees shall observe the hooking of the safety snap into the D ring.

06

No one shall be permitted under a structure which is being erected or assembled.

07

Tag lines shall be used to guide and handle steel.

900 Fleet Services

901 AERIAL DEVICE OPERATIONS

01

Employees shall visually check all aerial devices at the first job of the day before use. The lower controls shall be operated and checked before anyone goes aloft.

02

No one on the ground shall operate the controls to the aerial device while occupied, except in an emergency or when following the direct orders from the employee in the aerial device.

Return to Index

03

The aerial device shall be parked out of traffic whenever possible.

04

Employees shall make sure that the brakes are set before setting up the aerial device. When parking on an incline, chocks shall be used.

05

If the vehicle is provided with outriggers, they shall be used. Before operating outriggers, employees shall first check to see that everyone is in the clear. The outriggers shall be firmly placed on pads or firm footing before operating the boom.

06

Employees working in aerial devices that are not approved work platforms shall wear a company approved body harness with a shock-absorbing lanyard properly attached to the boom or basket.

07

Employees shall not climb into or out of the aerial device while it is elevated except in an emergency. Employees shall not belt off to a structure while working in the aerial device.

08

The operating control box shall be kept clear of materials or tools. No objects, except approved storage containers, shall be allowed to hang on the outside of the aerial device when working in an energized area.

09

The boom shall be cradled when the bucket truck is being moved. Employees shall not ride in an aerial basket when the bucket truck is moving.

10

The manufacturer's designated load limit shall not be exceeded in the loading of an aerial device.

11

Employees working on energized equipment shall position themselves below the work if possible. Work shall be performed on only one conductor at a time.

Return to Index

12

When operating a multi-person aerial device, no change in device position shall be made without knowledge of all employees except in case of an emergency.

13

No tools or equipment shall be rigged to the basket in such a manner as to cause the basket to become unstable.

14

Good housekeeping shall be exercised in the basket.

15

2-way communication shall be utilized between person in aerial device and any person entering the bed of the truck.

902 EQUIPMENT MAINTENANCE

01

Employees shall know and comply with the Lockout/Tagout Procedures in Section 907 and as defined in Departmental Procedures.

02

Before working beneath raised hoods, tilted cabs or dump truck bodies, mechanical supports shall be checked to assure proper support.

03

No employee shall work beneath a vehicle or other piece of equipment held by a chain hoist. Such equipment shall be supported by a stand (locked if adjustable) or otherwise blocked or cribbed.

04

Oil drippings shall be cleaned promptly and shall not be allowed to accumulate on floors or work surfaces.

05

Only approved cleaning fluids shall be used on floors, parts, etc.

Return to Index

06

Exhaust fumes shall be vented to the outside if it is necessary to run engines inside a closed garage.

07

Tools, parts, hoses, etc., shall not be left in walkways where they can cause a tripping hazard.

08

Portable floor fans shall be equipped with a grill or mesh having openings no larger than one-half inch.

09

Hands shall be kept clear of the high pressure grease gun nozzle when the handle is pulled. Employees shall make sure the top of the grease cylinder gun is securely in place, when filling a cylinder with a pressurized system.

10

Use approved brake wash methods and appropriate personal protective equipment to minimize airborne dust.

11

Observe manufacturer's safety precautions while using brake pressure bleeders.

12

Exercise proper precautions when handling brake fluid.

13

When using a stepladder for access to a vehicle or vehicle mounted equipment, the stepladder shall be tied or chained off if possible.

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903 EYE PROTECTION

01

Only Energy Delivery approved eye protection with side shields (meeting ANSI Z-87.1) that is in good condition shall be worn.

02

Energy Delivery approved eye protection with side shields shall be worn in a shop work area, while performing work on road calls, in designated eye protection areas, in areas where hard hats are required, and any time a hazardous condition exists.

03

Tinted lenses are prohibited in the shop work area when they contribute to or increase the risk of injury.

04

Contact lenses shall not be worn while in the shop work area, on road calls, or in areas designated as eye protection areas. Employees requiring corrective lenses shall be provided prescription safety glasses through an approved eyewear safety supplier.

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904 FOOT PROTECTION

01

Only approved foot protection meeting ANSI Z-41.1 that are in good condition shall be worn.

02

At a minimum, footwear with impact resistant toe caps and non-slip soles shall be worn.

03

Only boots or shoes with defined heels shall be worn to help prevent slipping when climbing.

04

Leggins are required when welding or cutting with low-quarter footwear. High top shoes may be worn in lieu of leggins as long as the tops of the shoes are close-fitting and covered by the pants leg when welding or cutting.

905 HYDRAULICS

01

Employees shall know and comply with the Lockout/Tagout Procedures as defined in Section 907 and in Departmental Procedures.

02

Consult the manufacturer's maintenance procedures for specific instructions and warnings before attempting any hydraulic repairs.

03

Always neutralize (relieve) the pressure in all hydraulic systems before beginning disassembly.

04

Do not loosen fittings or lines when hydraulic systems are in operation or under pressure.

Return to Index

05

Air pressure shall not be used to remove or cycle the cylinder rod assembly. Only a controlled source of hydraulic pressure shall be used for hard-to-move rod assemblies.

06

Always use extreme care when removing plugs or any restriction from a hydraulic system suspected to have entrapped air that may be pressurized.

07

Never check for hydraulic leaks with your hand.

08

Pressurized hydraulic systems shall be vented slowly and completely before opening the system. The manufacturer's maintenance and safety procedures will be followed.

09

Secure or block in place any component that may fall, close, or present additional hazard upon removal of any hydraulic component.

906 HYDRAULIC LIFTS AND JACKS

01

Only qualified and authorized persons shall operate lifts. When directing vehicles over the lifts, employees shall maintain a safe clearance from the vehicle, and be cautious of tripping hazards.

02

Hydraulic lift controls shall be manually operated and not blocked in the open or shut position.

03

Before raising a vehicle, loose equipment on the vehicle shall be secured and doors closed. Overhead clearance shall be checked before raising any large piece of equipment.

Return to Index

04

Mechanical positive locking devices shall be used, in all lifts equipped with such devices, before any work is performed under vehicles that are on lifts.

05

Loads shall be squarely engaged, and neither the lift nor adapter shall be overloaded.

06

Jacks shall be securely positioned on a firm surface.

07

No work shall be done under a vehicle supported only by jacks. A vehicle on jacks shall be supported by adjustable stands in the locked position or otherwise cribbed or blocked before work may begin.

08

Each jack shall have its load rating permanently and legibly marked. No jack shall be overloaded.

09

Every jack shall be inspected before use. Jacks shall be tested, and inspected during monthly shop inspections. Jacks that are damaged or unsatisfactory shall be tagged out-of-service, and repaired before returning to use.

10

When jacking a vehicle up or down, wheels shall be locked.

907 LOCKOUT/TAGOUT

Note: See also Departmental Lockout/Tagout procedures.

01

Only qualified and authorized personnel may apply Fleet Services locks or tags. All other affected personnel shall be properly trained in the purpose and application of these procedures.

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02

Approved lockout, tagout, and application devices shall be the only devices used for controlling energy, and shall not be used for other purposes.

03

Tagout devices shall be constructed and printed so that exposure to weather conditions or wet locations will not cause the tag to deteriorate or the message to become illegible.

04

All information required on the tag shall be properly and legibly entered so that exposure to the elements will not cause the message to deteriorate.

05

If more than one person is required to lockout and/or tagout equipment, vehicles or machinery, each person will place their own personal lockout and/or tagout device on the energy isolating device.

06

When an energy isolating device cannot accept multiple locks or tags, a multiple lockout/tagout device such as multi-holed hasp shall be used.

07

As an alternative to a multi-holed hasp, a single lock may be used to lockout the equipment or machinery with the single key to that lock being placed in a lockout box or cabinet which allows the use of multiple locks or tags to secure that cabinet. As each person no longer needs to maintain their lockout protection, that person will remove their lock or tag from the multiple lockout device or the lockout box or cabinet, whichever is being used.

08

Shift changes shall be coordinated by the authorized employee in charge utilizing the departmental lockout/tagout procedure to assure the safe exchange of information and control of hazardous energies.

09

In the event work cannot be completed by the end of a shift and there are no overlapping shifts or direct exchange of information between authorized employees assuming the work, the authorized employee in charge of the outgoing shift must document the information required in the departmental procedures for the authorized person in charge of the next immediate incoming shift.

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10

Once the information defined in departmental procedures has been reviewed by the authorized person in charge of the incoming shift, and by the authorized mechanic about to perform the work as applicable, the mechanic may apply his/her own lock and/or tag to the equipment and remove the previous lock and/or tag once he/she is confident that the work can be performed safely.

11

In the event an employee leaves the facility without removing his/her lock and/or tag from equipment, machinery, or vehicles on which work must continue, and the information defined in the departmental procedures is not available, all efforts must be made to contact that employee to return to work and remove the lock and/or tag or to provide the necessary information as defined in the departmental procedures.

12

If an authorized employee, who applied the lock and/or tag device, is not available to remove it, and cannot be contacted; the lock or tag may only be removed according to the following procedures:

a.

A supervisor and authorized mechanic, from the same department as the employee whose lock and/or tag has been applied, shall be assembled at the equipment, machinery, or vehicle.

b.

The supervisor will verify that the authorized employee who applied the device is not available.

c.

The supervisor and authorized mechanic will evaluate the equipment, machinery or vehicle in question to include the inspection of any energy control device, all affected energy sources, (i.e., hydraulic, electrical, chemical, pneumatic, thermal, stored energy, etc.) and any other potential hazards that may result from continuing the maintenance and/or repair, or from restarting that piece of equipment, machinery, or vehicle.

d.

Make all reasonable effort to notify the original authorized employee that their lock and/or tag has been removed.

e.

Apply as necessary any new locks and/or tags to the equipment, machinery, or vehicle.

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f.

Document the results of this exception procedure and maintain with appropriate lockout/tagout files.

NON-VEHICULAR EQUIPMENT AND MACHINERY

13

The authorized employee shall know the type and magnitude of energy sources that the machine or equipment utilizes, and shall understand the hazards and the appropriate means to eliminate the hazard.

14

If the machine or equipment to be serviced is operating, it shall be shut down using normal shut down procedures.

15

Operate the disconnect switch, line valve, or other isolation devices so that the equipment is isolated from its energy source. Always trace all lines of supply back to their source to assure that there are no added splices, connections, or T's that have not been secured. Stored energy in springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc., must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, etc.

16

The authorized employee shall lockout and/or tagout the energy isolating devices with assigned individual locks and/or tags.

17

Anytime a lock is used to secure a system, it must be accompanied by a tag identifying the person that installed it, the date and the time it is installed, and a means by which the employee may be contacted. At no time will the locking device be removed unless following departmental procedures.

18

After ensuring that no personnel are exposed, and as a check on having disconnected the proper energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate.

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19

All operating controls shall be reset to NEUTRAL or the OFF position after the initial test.

20

The equipment or machine is now locked and/or tagged out-of-service and maintenance or repairs may begin.

VEHICULAR AND MOBILE EQUIPMENT

21

The authorized employee shall know the type and magnitude of energy sources that the vehicle or mobile equipment utilizes and shall understand the hazards, and the appropriate means to eliminate the hazards.

22

If the vehicle or mobile equipment to be serviced is operating, it shall be shut down using normal shut down procedures.

23

Turn off ignition key, and battery circuit key if used, and remove key from switches. Tag the unit with the approved signed and dated tag indicting the tagout is in effect and place the Danger Do Not Operate or other similar sign on the access to the operator's compartments or on the steering wheel tag.

24

When working on electrical systems, disconnect all battery cables, apply a cable locking device, if necessary, and attach a signed and dated tag.

25

Stored energy in springs, elevated machine members, air, gas, steam, and water pressures, rotating flywheels, hydraulic systems, etc., must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, or mechanically restraining, before work can begin.

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26

Anytime a lock is used to secure a system, it must be accompanied by a tag identifying the person that installed it, the date and time it was installed, and a means by which the employee can be contacted. At no time will any employee other than the one that tagged out the device be allowed to remove the tag and restore the vehicle or mobile equipment to use, unless following specific departmental procedures.

27

After the vehicle or mobile equipment is tagged out, the authorized employee shall test the system by trying to activate it through normal procedures (ignition switch, start button, etc.) to assure it is safe to work on. All systems shall be reset to a NEUTRAL or OFF position after the initial test.

28

If it is necessary to utilize valves and/or release devices that must remain in an open or closed position during the service and/or repair procedure, they must be tagged out as well.

TERMINATION OF LOCKOUT/TAGOUT

29

After the service and/or maintenance is complete and the equipment is ready to be tested and/or returned to normal operation, it must be inspected for completeness of assembly, the area around the machine or equipment checked to ensure that exposures to hazards or risks are minimal, and that all non-essential items have been removed from the operating area.

30

All equipment guards must be in place and properly adjusted.

31

All affected employees must be notified of the intention to energize and test the machine or equipment. All non-essential personnel will move to a safe location.

32

The authorized employee(s) who applied any lock or tag shall remove all lockout and/or tagout devices and operate the energy isolating devices to restore energy to the machine or equipment in the exact reverse order that they were installed.

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33

Do not remove the last lock and/or tag until all hazards have been considered and corrected as needed, and all affected personnel informed.

908 PAINT, FIBERGLASS AND GEL COAT

Note: Refer to Sections 137, Paints and Paint Storage and Section 145, Respiratory Protection.

01

Employees shall review and comply with the Safety Data Sheets (MSDS) for all paint, fiberglass and gel coat products prior to applications.

02

Employees shall comply with the manufacturers' specifications for the safe application of these products.

03

An approved respirator shall be used when applying or sanding any paint, fiberglass or gel coat product.

04

Energy Delivery approved safety eyewear with side shields shall be worn when handling, mixing, or applying these products.

05

Approved chemical resistant gloves shall be used in accordance with the SDS.

06

Open flames shall not be permitted in the area where painting is being done.

07

Adequate ventilation shall be maintained in enclosed areas where painting is being performed.

Return to Index

08

Air pressure to spray guns shall be properly regulated.

09

Paint and paint by-products shall be stored in an approved storage area, with adequate ventilation and no excessive heat.

10

An eyewash fountain and safety shower shall be readily available and in good operational condition.

11

Wash hands thoroughly after handling products and before eating or smoking.

12

Paint waste and empty containers shall be properly disposed of in accordance with departmental procedures and SDS information.

909 PART WASHERS

01

All parts washers will be used in accordance with the manufacturer's operating procedures.

02

Do not reach inside a cabinet type washer with the turntable moving or while it is in operation.

03

Keep the floor clean and dry around parts washers to reduce the risk of slipping or falling.

04

Never climb or stand on a parts washer.

05

Unplug or disconnect the parts washer from the power supply before attempting any maintenance.

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06

Do not operate a parts washer if it is damaged, malfunctioning, partially disassembled, or has broken parts, including a damaged cord or plug.

07

Use only approved cleaning solutions in any parts washer.

08

Do not introduce toxic materials, solvents, or combustible materials with a flash point below 300 degrees into an automatic cabinet's parts washer utilizing heated water or solvent for cleaning. Flash points of products may be found by referring to the SDS.

09

For cabinet type washers, allow heated parts time to cool before handling.

910 TIRES

01

Comply with all manufacturer's specifications and industry instructional materials when changing or servicing tires.

02

If there is known or suspected damage to the wheel, or if the tire has been run at below 80% of its recommended pressure, completely deflate the tire by removing the valve core before removing the wheel/tire from the axle.

03

Only use approved tire tools for dismounting and mounting tires.

04

A tire shall be completely deflated before dismounting from the rim.

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05

All tires mounted on two-piece bolted rims, such as forklift tires, shall be fully deflated before removing the tire from the hub.

06

Tires mounted on two-piece bolted rims shall not be inflated to more than 50% of the rated psi prior to mounting on a hub.

07

Bent, broken, or damaged tire rims shall not be used and shall be disposed of properly.

08

Do not weld, heat, or braze any rim parts for any reason.

09

Check the Multi-Piece Rim Matching Chart to see that the rim parts are properly matched. Never use a rim part unless you can positively identify it from the manufacturer's stamped markings. If it cannot be identified, destroy it.

10

Remove rust, dirt, or corrosion from wheel rim parts. Repaint to extend the life of the part. Approved tire lubricant shall be used to seat the beads of a tubeless tire.

11

Do not use starting fluid, ether, gasoline, or other explosive material to lubricate, seal, or seat the beads of a tubeless tire.

12

Never inflate beyond 5 psi before placing the tire/rim in an approved restraining device (cage).

13

Use a clip-on air chuck with gauge while inside the restraining device (cage). Do not rest or lean any part of the body against the restraining device (cage) during inflation.

14

Never inflate beyond inflation pressure specified on the rim or tire.

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15

Inspect proper seating of all parts before removing from restraining device (cage).

16

If a tire must be changed in the field, the vehicle shall be a safe distance from passing traffic. Reflectors, flares, or other warning devices shall be used in addition to traffic cones to alert oncoming traffic.

17

If work is to be done on a vehicle near energized lines, all instructions of a qualified person in charge shall be followed, consistent with safe work practices.

18

Do not use externally installed plugs to permanently repair any over the road vehicles. Internal plug patches shall be used as a permanent repair.

19

“Fix-A-Flat” or other tire chemical inflators shall not be used to repair or re-inflate flat tires.

20

Extreme caution shall be used to avoid sparks or chemical contact when dismounting a tire that has been inflated with a tire chemical inflator.

911 ROAD CALLS

01

Only Energy Delivery approved traffic vests in good condition shall be worn.

02

The vehicle to be serviced shall be moved to the safest location possible before beginning work.

03

Service trucks will be set up in the safest possible location.

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04

Service vehicles will have their high-intensity, rotating, flashing, oscillating and/or strobe lights operating.

05

Cones shall be placed in advance of on-coming traffic.

06

Use extreme caution when the vehicle to be serviced is in or near energized lines or equipment. Follow the instructions of the qualified person in charge consistent with the Safe Work Practices.

07

To maintain communications the radio shall be switched to the external speaker while work outside the service vehicle is in progress.

08

Only FDOT approved containers shall be used for gasoline, diesel, oil etc.

09

Tools, parts, and other supplies carried in the service vehicle bed shall be properly secured.

10

Only approved towing / pulling equipment shall be used in accordance with the manufacturer's recommendations.

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APPENDIX A (DEFINITIONS)

A

Aerial Lift Device

Any piece of equipment utilizing a bucket, basket or platform to place the worker(s) at an elevated worksite.

Affected Employee

An employee whose job requires him or her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him or her to work in an area in which such servicing or maintenance is being performed.

Alive, Live

Electrically connected to a source of potential difference or electrically charged so as to have a potential significantly different form that of earth or ground potential. The term also means "current carrying."

Anchorage

A secure means of attachment for lifelines, lanyards, and straps.

ANSI

American National Standards Institute.

Approved

When used in connection with methods, tools, or equipment, refers to the methods, tools, or equipment approved by the Company through committee, departmental action, or safety rule.

Assured Grounding System

An equipment grounding program covering all cord sets, any equipment connected by cord sets and receptacles which are not a part of a building or structure. This program includes regular inspections and continuity tests to ensure that there is no damage, defects, deformed or missing parts that would render the device or equipment unsafe.

Attendant

An employee assigned to remain immediately outside the entrance to an enclosed or permit-required confined space to render assistance as needed to entrants inside the space.

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Automatic Circuit Recloser

A self-controlled device for interrupting and reclosing an alternating current circuit with a predetermined sequence of opening and reclosing.

Authorized Person

One who has the authority to perform specific duties under certain conditions or who is carrying out orders from responsible authority and who is knowledgeable in the construction and operation of the equipment and the hazards involved.

B

Backfeed

To energize a section of a circuit, or a section of a power network that is supplied from a source other than its normal source. As an intended or planned work procedure, this can be done in a safe manner. When this occurs (where a circuit or section of power network is supplied from a source other than its normal source) and it is unexpected or unintended, an extremely hazardous condition can occur, for example, when a customer's portable generator is connected to circuits that have not been isolated from the Company's service and distribution lines.

Note: A hazardous backfeed condition can occur on lines and equipment through interconnections on transformer banks.

Barricade

Materials such as tapes, cones, or A-frame type wood or metal structures intended to provide a warning about a hazardous area and to limit access to it.

Barrier

A physical obstruction which is intended to prevent contact with energized lines or equipment or to prevent unauthorized access to a work area or restricted area.

Basket

One component of the bucket truck and is the enclosure in which the employee stands and works aloft.

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.

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Body Belt, Safety Belt

A strap that both secures around the waist and attaches to a lanyard, lifeline, or strap.

Body Harness

Straps that are secured about an employee in a manner that distributes the arresting forces over at least the thighs, shoulders, and pelvis with provisions for attaching a lanyard, lifeline, or deceleration device.

Bond

The electrical interconnection of conductive parts designed to maintain a common electrical potential.

Bucket Truck

An aerial lift and includes the entire piece of equipment: the truck, auxiliary power supply, upper boom, lower boom, controls, etc.

Bus

A conductor or a group of conductors that service as a common connection for two or more circuits.

Bushing

An insulating structure, including a through- conductor or providing a passageway for such a conductor, with provision for mounting on a barrier, conducting or otherwise, for the purpose of insulating the conductor from the barrier and conducting current from one side of the barrier to the other.

C

Cable

A conductor with insulation, or a stranded conductor with or without insulation and other coverings (single–conductor cable), or a combination of conductors insulated from one another (multiple-conductor cable).

Cable Sheath

A conductive protective covering applied to cables. A cable sheath may consist of multiple layers of which one or more is conductive.

Carboy Tilter

A large plastic or glass bottle or container in a supporting frame used to safely control and pour liquids.

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Catastrophic Release

A major uncontrolled emission, fire, or explosion involving one or more highly hazardous chemicals that presents serious danger to employees.

Chemical

Acids, caustics, solvents and other materials and substances used in the plants and within the Company.

Circuit

A conductor or system of conductors through which an electric current is intended to flow.

Class D Grade Air

Specification for compressed air for industrial breathing and firefighting uses (as per ANSI/CGA G-7.1): percent oxygen: 19.5-23.5; carbon monoxide: < 10 ppm; oil (hydrocarbons: <5 mgt/m^3; carbon dioxide: <1000ppm; odor: none.

Clear Hot Stick Distance

The minimum distance for the use of live-line tools held by employees when performing live-line work.

Clearance (For Work)

Authorization to perform specified work or permission to enter a restricted area or notification given that lines or equipment have been isolated from all known feed points and that the necessary switching and tagging has been completed.

Clearance (Between Objects)

The clear distance between two objects measured surface to surface.

Combustible Liquids

Any liquid having a flash point at or higher than 140ºF and less than 200ºF.

Competent Person

One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

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Communication Lines

The conductors and their supporting or containing structures that are used for public or private signal or communication service. Telephone, telegraph, railroad signal, data clock, fire, police-alarm, community television antenna, and other similar systems are included.

Conductor

A material, usually in the form of a wire, cable, or bus bar, used for carrying an electric current.

Confined Space

A working space such as a transformer, tank, vessel, boiler, hopper or pit etc., that is large enough and so confined that an employee can bodily enter and perform assigned work; has limited or restricted means for entry or exit and is not designed for continuous human occupancy under normal operating conditions, meet the definition of a confined space. Spaces that meet this definition and contain a hazardous atmosphere or other recognized serious safety hazards (i.e. engulfment, entrapment, etc.) and may only be entered in accordance with the Permit-Required Confined Spaces Program. Similarly, enclosed spaces that cannot be safely entered must be entered under the more comprehensive Permit-Required Confined Spaces Program.

Covered Conductor

A conductor covered with a dielectric having no rated insulating strength or having a rated insulating strength less than the voltage of the circuit in which the conductor is used.

Current-Carrying Part

A conducting part intended to be connected in an electric circuit to a source of voltage. Non-current-carrying parts are those not intended to be so connected.

D

Danger Pole Flag

A warning device to be hung on the pole of the isolating device for a section of line where clearance is not required by the DSO.

De-Energized

Free from any electrical connection to a source of potential difference and from electric charge; not having a potential different from that of the earth. The term is used only with reference to current-carrying parts, which are sometimes energized (alive).

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Designated Person

An employee (or person) who is designated to perform specific duties and who is knowledgeable in the construction and operation of the equipment and the hazards involved. See Authorized Person.

Disconnected

Disconnected from any electrical source of supply.

E

Effectively Grounded

Intentionally connected to earth through a ground connection or connections of sufficiently low impedance and having sufficient current-carrying capacity to prevent the buildup of voltages that may result in undue hazard to connected equipment or to persons.

Emergency

An emergency occurs when an unusual condition exists that endangers life and / or property.

Employee

A general reference to those personnel performing work or a task that are employed by the Company. Depending upon circumstances, this can also include temporary workers, contractor's workers or others.

Enclosed

Surrounded by a case, cage, or fence, which will protect the contained equipment and prevent accidental contact of a person with live parts.

Enclosed Space

A working space, such as manhole, vault, tunnel, or shaft, that has a limited means of egress or entry, that is designed for periodic entry under operating conditions, and that under normal conditions does not contain a hazardous atmosphere, but that may contain a hazardous atmosphere under abnormal conditions.

Energized (Alive, Live)

Electrically connected to a source of potential difference, or electrically charged so as to have a potential significantly different from that of earth in the vicinity.

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Energy Isolating Device

A physical device that prevents the transmission or release of energy, including, but not limited to, the following: a manually operated electric circuit breaker, a disconnect switch, a manually operated switch, a slide gate, a slip blind, a line valve, blocks, and other control-circuit-type devices are not energy isolating devices.

Energy Source

Any electrical, mechanical, hydraulic, pneumatic, chemical, nuclear, thermal, or other energy source that could cause injury to personnel.

Equipotential Zone

Temporary protective grounds shall be placed at such locations and arranged in such a manner as to prevent each employee from being exposed to hazardous differences in electrical potential. Reference General Rules and Specifications OP 25-2.

Ergonomics

Founded in applied science, this is a process that focuses on human capabilities and limitations in the design of workstations, jobs, tools and equipment. The goal of ergonomics is to reduce or eliminate stressful body movements.

Excavations

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

Exposed

Not isolated or guarded. A bare condition applied to objects not guarded or insulated.

F

Fall-Arrest System

Arrests fall from one level to another. The assemblage of equipment such as line-worker's body belt or full body harness in conjunction with a deceleration device and an anchorage to limit the forces a worker experiences during a fall from one elevation to another.

Fall Prevention System

Prevents fall from one level to another. A system intended to prevent a worker from falling from one elevation to another. Such systems include positioning devices, guardrails, barriers, and restraint systems.

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First Aid Providers

Employees designated and trained to provide immediate care for injury or sudden illness until medical help arrives or medical help is obtained.

Flammable Liquid

any liquid having a flash point less than 140ºF and having a vapor pressure not exceeding 40 pounds per square inch (absolute) at 100ºF.

FR

Fire resistant or fire retardant.

Free-Fall

The act of falling before the personal fall protection system begins to arrest the fall.

G

Ground (Noun)

A conducting connection, whether intentional or accidental, between an electric circuit or equipment to reference ground. Connect to earth or some conducting body that serves in place of earth.

Ground (Verb)

Connecting or establishing a connection, either intentionally or accidentally, of an electric circuit or equipment to reference ground. Connect to earth or some conducting body that serves in place of earth.

Ground Cluster, Set

A one-piece apparatus designed to ground two and three phase lines. This device must be installed with a hot stick.

Grounded

Connected to earth or to some conducting body that serves in place of the earth.

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Grounded System

A system of conductors in which at least one conductor or point (usually the middle wire or neutral point of transformer or generator winding) is intentionally grounded, either solidly or through a current-limiting device (not a current-interrupting device).

Grounding Electrode, Ground Electrode

A conductor embedded in the earth, used for maintaining ground potential on conductors connected to it and for dissipating into the earth current conducted to it.

Guarded

Protected by personnel, or covered, fenced, or enclosed by means of suitable casings, barrier rails, screens, mats, platforms, or other suitable devices in accordance with standard barricading techniques designed to prevent dangerous approach or contact by persons or objects. Wires that are insulated but not otherwise protected are not considered guarded.

H

Hazardous Atmosphere

Means an atmosphere that may expose employees to the risk of death, incapacitation, impairment or ability to self-rescue (that is, escape unaided from a confined or enclosed space), injury, or acute illness from one or more of the following causes:

(1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).

(2) Airborne combustible dust at a concentration that meets or exceeds its LFL.

Note: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less.

(3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;

(4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z of 29 CFR 1910, Toxic and Hazardous substances, which could result in employee exposure in excess of its dose or permissible exposure limit

Note: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self- rescue, injury, or acute illness due to its health effects is not covered by this provision.

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(5) Any other atmospheric condition that is immediately dangerous to life or health.

Note: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Safety Data Sheets that comply with the Hazard Communication Standard, 29 CFR 1910.1200, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Hazard Communication Program

Company program to ensure that information concerning hazardous chemicals (material) is transmitted to employees through the use of warnings, procedures, Safety Data sheets, and employee training.

Hazardous Material (Substances)

Any substance that is a physical hazard or a health hazard. A substance is a physical hazard when there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive), or water reactive. The substance is a health hazard when it is determined to be a carcinogen, a toxic or highly toxic agent, a reproductive toxin, irritant, corrosive, sensitizer, hepatotoxin, nephrotoxic, neurotoxin, an agent that acts on the hematopoietic system, or an agent that damages the lungs, skin, eyes, or mucous membranes.

Highly Hazardous Chemical

A substance possessing toxic, reactive, flammable, or explosive properties.

High Power Tests

Tests in which fault currents, load currents, magnetizing currents, and line-dropping currents, are used to test equipment, either at the equipment's rated voltage or at lower voltages.

High Voltage Tests

Tests in which voltages of approximately 1000 volts are used as a practical minimum in which the voltage source has sufficient energy to cause injury.

High Wind

A wind of such velocity that an employee would be exposed to being blown from elevated locations, an employee or material handling equipment could lose control of material being handled, or an employee could be exposed to other hazards. Winds exceeding 40 miles per hour or winds exceeding 30 MPH, if material handling is involved are considered to be high winds unless precautions are taken to protect employees from the hazardous effects of the wind.

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Hot Work Permit

An authorization to perform work involving electric or gas welding, cutting, brazing or similar flame or spark producing operations. The permit form is a written authorization certifying that certain safety precautions have been implemented prior to, during and after completion of work operations.

Hydrometer

An instrument for measuring the specific gravity of liquids.

I

Immediately Dangerous To Life Or Health (IDLH)

Means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided form a permit-required confined space.

Induced Voltage

The basic process of generating voltages and / or current requiring an electromagnetic field, a conductor and relative motion. This process occurs, in a practical manner, where an ungrounded conductor is in proximity to another energized (AC) conductor. The strength of the induced voltage varies directly with the distance (length) of the conductors, closeness to one another and amount of loading (current) on the energized (AC) conductor. Also can occur with electrical equipment situations and in conductive objects. Whether a voltage is defined as being induced or generated is often simply a matter of point of view.

Note: Grounding to earth potential removes this potentially hazardous condition from occurring.

Insulated

Separated from other conducting surfaces by a dielectric (including air space) offering a high resistance to the passage of current.

Note: When any object is said to be insulated, it is understood to be insulated for the conditions to which it is normally subjected. Otherwise, it is un-insulated.

Insulation (Cable)

That which is relied upon to insulate the conductor from other conductors or conducting parts or from ground.

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L

Lanyard

A flexible line used to secure a body belt or body harness to a lifeline or directly to a point of anchorage.

Lifeline

A line provided for direct or indirect attachment to a worker's body belt, body harness, lanyard, or deceleration device. Such lifelines may be horizontal or vertical in application.

Line-Clearance Tree Trimming

The pruning, trimming, repairing, maintaining, removing, or clearing of trees or the cutting of brush that is within 10 feet of electric supply lines and equipment.

Line-Clearance Tree Trimmer

An employee who, through related training or on-the-job experience or both, is familiar with the special techniques and hazards involved in line-clearance tree trimming.

Live-Line Tools

Those tools and ropes that are especially designed for work on energized high voltage lines and equipment. Insulated aerial equipment especially designed for work on energized high voltage lines and equipment shall be considered live-line.

M

Maintenance Of Traffic (MOT)

A system of directing and controlling traffic so as to: (1) prevent injury to our employees whose work area is adjacent to or encroaches upon one or more lanes or traffic; and (2) to prevent injury to the motorist who is sometimes forced to make rapid adjustments to unexpected road conditions. See also work area protection in this Appendix.

Manhole

A subsurface enclosure, which personnel may enter, that is used for installing, operating, and maintaining equipment and / or cable.

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Manhole Opening

An opening through which persons may enter into a confined or enclosed space.

Manhole Steps

A series of steps individually attached to or set into the walls of a manhole structure.

Safety Data Sheets (MSDS)

A document provided by manufacturers and importers of chemicals to convey information to the users of their products. The information includes data on physical characteristics, fire and explosion hazards, reactivity, and health hazards, special precautions, and fire and spill procedures.

Minimum Approach Distance

The closest distance an employee is permitted to approach an energized or a grounded object.

N

Near Miss

An unintended, unplanned, and unexpected event that could have, but did not result in personal injury or property damage.

P

Padmount

Transformer or equipment in a surface-mounted enclosure normally worked from ground level.

PCBs (Polychlorinated Biphenyls)

A nonconductive and noncombustible liquid used in some transformers and capacitors. It has several trade names – Pyranol, Askeral, Inerteen, etc.

Personal Hygiene

Habitual patterns and behaviors for any individual involving sanitary practices and cleanliness which are the principles for the preservation of health and the prevention of disease.

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Personal Protective Equipment

Any safety material or safety device worn to protect an employee from exposure to, or contact with any harmful material or force and meets applicable ANSI standards.

Person In Charge

In a general sense, any person, regardless of classification, who is directly in charge of a specific job or jobs.

Positioning Device

A body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface such as a wall or pole and to work with both hands free.

Primary Compartment

A compartment containing voltages greater than 600 volts.

Primary Voltage

Any electrical circuit that normally operates at more than 600 volts.

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.

PSIA

Pounds per square inch absolute. The absolute, thermodynamic pressure, measured by the number of pounds-force exerted on an area of 1 square inch.

PSIG

Pounds per square inch gauge. The gauge pressure, measured by the number of pounds-force exerted on an area of 1 square inch.

Public

Any individual not an employee or representative of the Company.

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Q

Qualified Employee (Qualified Person)

A qualified person is one who is specially qualified to do a particular job because of education, training and / or experiences.

Qualified Person (In General)

A qualified person is one who is specially qualified to do a particular job because of education, training and / or experience.

R

Reduced Visibility

Times when normal visibility is reduced because of insufficient daylight (dawn or dusk) or adverse weather conditions such as fog or heavy rainfall.

Registered Professional Engineer

A person who is registered as a professional engineer in the state where the work is to be performed.

Relay Vault

A substation building structure used to house protection and control relay panels, annunciators, load centers, control cable junction boxes, battery banks and other electrical apparatuses (also known as a control house).

Road

The paved or unpaved surface of a roadway upon which vehicles are intended to travel. When the road is paved, the entire surface is thus included.

Roadway

The road and the areas immediately adjacent thereto, such as the shoulder of the road, parking strip, etc. This area normally extends approximately 15 feet from the road.

Rope Grab

A device that attaches to a lifeline as an anchoring point to provide a means for arresting a fall.

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S

Safety Can

An approved closed container of not more than five-gallon capacity having a flash-arresting screen, spring-closing lid, and spout cover and designed so that it will safely relieve internal pressure when subjected to a fire.

Safety Rule

A positive rule requiring compliance by all employees concerned. Deviation from safety rules is not permitted and may be subject to disciplinary action.

Secondary Compartment

A compartment containing voltages less than 600 volts.

Secondary Voltage

Any electrical circuit that normally operates at less than 600 volts.

Shall

When the word "shall" appears in the wording of a rule, it defines the statement as a requirement or obligation to do something or have something take place. The rule is to be obeyed as written. A mandatory requirement.

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. Shield structures can be permanent or portable and move along as work progresses.

Shock Absorber

Any of several devices for absorbing the forceful energy or impact of a sudden impulse or shock load upon an object or system.

Shock Load

A hazardous condition resulting from sudden energy or load transmittal with a forceful impact with often violent and potentially shattering effects.

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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.

Should

When the word “should” appears in the wording of a rule, it defines the statement as a duty or expectation to do something or have something take place. Less stringent than “shall”, it is used to indicate advisability or prudence as well as desirability, with the same meaning as “ought to” – an advisory requirement.

Note: Where discretionary judgments are made in performance of an advisory rule, adequate measures shall be taken to ensure that an equivalent level of accident prevention is provided.

Sign

An openly displayed board, placard, etc. bearing information, warning or instructions. Accident prevention signs have standard signal words or symbols, legends and colors to convey a danger, warning, caution or notice.

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 surface loads.

Snap Hook

A self-closing device with a keeper, latch, or other similar arrangement that will remain closed until manually opened. Such devices include self-closing, single-action, double-action, or double-locking snap-locks.

Step Bolt

A bolt or rung attached at intervals along a structural member and used for foot placement during climbing or standing.

Switch

A device for opening and closing or for changing the connection of a circuit. In this section, a switch is understood to be manually operable, unless otherwise stated.

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Switching Operator

A qualified person designated to operate the system or its parts. The person actually doing the switching as ordered by the switching supervisor.

Switching Supervisor, System Operator

Person designated as having authority over switching and clearances of high-voltage lines and station equipment. The person under whose orders the switching is done.

T

Tag

An openly displayed card, ticket, plastic marker, etc. tied or securely attached to something as a label to give information, warning or instruction. Accident prevention tags have standard signal words, symbols and colors to convey a danger, warning, caution or information.

Tailboard Safety Talk

A short informal discussion of the work to be accomplished and the safety measures to be incorporated. Normally conducted by the person in charge, these discussions are sometimes referred to as tailgate talks, tool box talks, or five-minute safety talks.

U

Underground Residential Distribution (URD)

A general term that covers the necessary facilities to furnish underground service, generally to residential and commercial customers through buried cable.

Universal Precautions

The concept of universal precautions, as an approach to infection control, means that all human blood and certain human body fluids are treated as if known to be infectious for HIV (human immunodeficiency virus), HBV (hepatitis B virus) and other blood borne pathogens.

Unsafe Conditions

Used to indicate dangerous conditions, hazardous conditions, defective conditions, or unusual conditions that could be conducive to accidents.

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Utilization Circuit

An electrical circuit and its associated equipment which utilizes (uses) electric energy for mechanical, chemical, heating, lighting or similar useful purpose. (Specifically covered under OSHA Subpart S 1910.301 – 1910.399). Also, defined as any electrical circuit not a part of power generation, transmission and distribution installations, including related equipment for the purpose of communication or metering.

V

Vault

An enclosure, above or below ground, which personnel may enter and which is used for the purpose of installing, operating, or maintaining equipment or cable.

Vented Vault

A vault that has provision for air changes using exhaust flue stacks and low level air intakes operating on differentials of pressure and temperature providing for airflow which prevents a hazardous atmosphere from developing.

Voltage

The effective potential difference between any two conductors or between a conductor and ground. The voltage specified in this manual shall mean the maximum effective voltage to which the personnel or protective equipment may be subjected. Low voltage includes voltages up to 600 volts. High voltage shall mean voltages in excess of 600 volts.

W

Warning Signs

Any sign or similar means of employee or public notification alerting them to an actual or possible hazard. Included are Danger signs, Caution signs, traffic protection signs, instructional signs, and informational signs.

Work Area

That area in which all work activities and equipment are confined.

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Work Area Protection

A system of directing and controlling traffic so as to: (1) prevent injury to our employees whose work area is adjacent to or encroaches upon one or more lanes or traffic; and (2) to prevent injury to the motorist who is sometimes forced to make rapid adjustments to unexpected road conditions. See also maintenance of traffic (MOT) in this Appendix.

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