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OSHA SAFETY REQUIREMENTS FOR SCAFFOLDING (29 CFR 1910.28)

OSHA CONSTRUCTION – FALL PROTECTION SYSTEMS CRITERIA & PRACTICES (29 CFR 1926.502)



PURPOSE

The purpose of this policy is to provide essential scaffold guidance necessary for scaffold erection, use, and disassembly to eliminate the possibility of:

- Substandard scaffolding and work platforms being erected.
- Persons falling from scaffolding and elevated work platforms.
- Persons working from scaffolding and elevated work platforms, dropping material onto people below.

INTRODUCTION

Tampa Electric Energy Supply is dedicated to providing a safe and healthful workplace for its employees by communicating information concerning scaffold erection, use, and disassembly and appropriate protective measures to all affected employees and contractors.

This policy contains the following elements:

- Responsibilities
- Training Requirements
- Construction, Use and Tagging Guidelines
- Periodic Policy Evaluations

Implementation of this program allows for information pertaining to scaffolds from the Occupational Safety and Health Administration (OSHA) and applicable ANSI standards to be communicated to all employees and contractors. This program is not intended as a replacement of these guidelines and standards with regard to erection, use, disassembly, and manufacture of scaffolding, except to the extent that this program is more stringent than those standards.



RESPONSIBILITY

Each station's Director is responsible for the implementation, monitoring and enforcing the Energy Supply Scaffolding Policy. Duties supporting this objective may be assigned to Station Safety & Health Personnel or others as designated to serve as Program Administrators.

The Director, Environmental, Health and Safety, Energy Supply is responsible for reviewing, maintaining and revising this program as necessary. Responsibilities supporting this objective may be assigned to others as designated.

Contractors shall be responsible to maintain compliance with these guidelines and be solely responsible for the compliance of their employee(s).

The Competent Person is responsible to:

- Ensure the scaffold is built as complete as possible.
- Conduct an inspection after completion of scaffolding erection, and prior to scaffold use, each work shift.
- Sign off and attachment of the appropriate inspection tag to the scaffold.
- Identify existing or predictable hazards of the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and take prompt corrective measures to eliminate them.
- Perform his or her assigned duties only to the level of training that they have received.

Both Tampa Electric Energy Supply and contractor employees are responsible for reading and following the information contained on the scaffold tags. All personnel shall immediately report any misuse or damaged/dangerous scaffold structures to their supervisor or a Competent Person. Personnel shall not use the scaffold until the Competent Person corrects the issue(s).

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EMPLOYEE TRAINING

Target Audience – All employees of TECO Tampa Electric, Energy Supply who work from, construct, dismantle or oversee the construction and dismantling of scaffolds.

Frequency – Initially and when refresher training is determined necessary by Tampa Electric Energy Supply Safety & Health Personnel or by the individual contracting firms working for Tampa Electric Energy Supply.

Methods – For Tampa Electric Energy Supply employees, training shall be accomplished through Computer-Based Training, by PowerPoint presentation with video, or other training materials determined adequate by the Energy Supply Safety & Health Personnel. For contractor employees, training shall be accomplished by means determined adequate by the individual contracting firm.

Scaffold users shall receive an awareness level training to recognize incomplete or basic hazards associated with using scaffolds and to become familiar with the tagging requirements outlined in these guidelines.

Scaffold builders shall receive, at a minimum, on-the-job training from a Competent Person covering, at minimum, the information listed below, as well as training specific to the type of scaffolding the builder is erecting or dismantling. This level of competence will enable the scaffold erector to construct or disassemble scaffold specific to the training received.

Competent Persons will be trained in the specific requirements for the scaffold they will be constructing, inspecting, tagging, and disassembling.

At a minimum, the content of the training shall include;

- Regulations and standards
- Erection/Dismantling planning
- PPE and proper procedures
- Fall protection
- Materials handling
- Access
- Working platforms
- Foundations
- Guys, ties and braces
- Parts inspection

Competency will encompass only the level of training which they have received. Training competency will be provided in one or more of the following areas:

 Two-Tier Scaffold Builder (Limited Builder) which covers Frame, System and Tube and Coupler scaffold not to exceed 30 feet in height.



EMPLOYEE TRAINING cont'd

- Multi-tier Scaffold Builder which covers Frame, System and Tube and Coupler scaffold limited to a maximum constructed height of 125 feet, (Scaffolds greater than 125 feet may be built, however they must be designed by a certified professional engineer)
- Suspended Scaffold Builder which covers wire rope supported "suspended" scaffold.

Tampa Electric may hire contractors to construct, dismantle and/or inspect scaffolding, in these cases the Contractor is responsible to ensure that their personnel are provided training in compliance with the OSHA Standard for the Scaffolding that they are constructing, dismantling and/or inspecting, to include designating a Competent Person. Tampa Electric may request training documentation for these contractor personnel.

Documentation – All Tampa Electric Energy Supply employee training will be documented electronically in the Medgate database. Classroom training will require the attendees to sign a roster and that information will later be transferred into the electronic Medgate database. When Computer Based Training (CBT) is used, the training may be documented in the separate CBT program database or transferred into the Medgate database, where practical. Contractor employee training will be documented by means determined adequate by each individual contracting firm.

PERIODIC PROGRAM EVALUATION

The Director, Environmental, Health and Safety, Energy Supply is responsible for periodically performing evaluations of the elements outlined in this document so that the effectiveness of the program may be maintained. Responsibilities supporting this objective may be assigned to others as designated.



GENERAL SCAFFOLD ERECTING/DISASSEMBLING REQUIREMENTS

- All scaffolds erected shall comply with OSHA standards (29 CFR 1910 and 1926).
 Scaffold erection, moving or dismantling must be done under the supervision of a competent person. A competent person is any person who by reason of experience and/or training is able to perform the work correctly and has the authority to halt unsafe work.
- Scaffold builders, during erection and dismantling, must be protected from falls greater than 4 feet to the next level. A competent person will determine the method of providing fall protection for employees erecting or dismantling supported scaffolds.
- The utilization of scaffold handrails & mid-rails is an acceptable method to protect employees erecting or dismantling a scaffold more than 4 feet above a lower level.
- Where personal fall arrest systems are necessary, a fall protection anchorage point independent of the scaffold being erected, dismantled, or used, should be utilized, where feasible.
- Where the utilization of an anchorage point independent of the scaffold is not feasible, the utilization of vertical scaffold members, at the joints created by horizontal members, is an acceptable anchor point for the erector/dismantler/user, provided the competent person has properly evaluated the anchor point. This evaluation should provide for the ability of the anchorage point to meet the criteria of 29 CFR 1926.502(d)(15). The provisions of paragraph 29 CFR 1926.502(d)(15) require the anchorage (i.e., the scaffold) either to be capable of supporting at least 5000 pounds, or to be designed, installed, and used as part of a complete personal fall arrest system which maintains a safety factor of at least two.
- Guardrails and mid-rails shall be placed on all open sides of platforms more than 4 feet above ground or a lower level (when possible). The top rail must be capable of supporting a minimum of 200 pounds. The top rail must be placed between 38 and 45 inches high with a mid-rail placed approximately midway between the top rail and the platform. A guardrail is not required if the front end of all platforms is no more than 14 inches from the face of the work.
- All scaffolds shall be provided with an access ladder that extends at least 36 inches above the platform, or, an equivalent safe access.
- To allow for personnel to safely access a scaffold and to avoid climbing over or through railings, a swing gate should be utilized to allow access directly to the scaffold platform.
- Platforms shall be tightly planked for the full width of the scaffold and they will extend over the end supports between 6 inches and 12 inches. A cleat or equivalent shall be used on the bottom edges of the plank to prevent slippage or movement. All scaffold planking shall be scaffold grade or equivalent.



GENERAL SCAFFOLD ERECTING/DISASSEMBLING REQUIREMENTS cont'd

- Any scaffold accessories such as braces, trusses, legs or ladders that are damaged shall be immediately replaced.
- The height of a rolling scaffold shall not exceed four times the minimum base dimension.
- Scaffolds and their components shall be capable of supporting without failure; at least four times the maximum intended load. Suspension scaffold rigging must support at least six times the maximum intended load.
- All scaffolds shall be built complete where possible, including a standard handrail and midrail, both rigidly secured, with complete decking.
- Falling object protection shall be installed on all scaffolds. This protection shall include at least one of the following methods:
 - Barricade the area below the scaffold to which objects can fall and prohibit personnel from entering the area.
 - Erect a toeboard, paneling, or screening along the edge of scaffold platforms to a height adequate to prevent objects from falling off of platforms.
 - Erect a canopy structure, debris net, or catch platform strong enough to withstand the impact forces of the potential falling objects.
- Toeboard, where installed, shall be securely fastened. There shall be no more than a 1/4-inch space between the toeboard and scaffold deck. Toeboard shall be built from 1-inch x 4-inch lumber, or equivalent. When a swing gate is utilized, an installed toeboard would create a tripping hazard, therefore:
 - The toeboard may be attached to the swing gate, or
 - The toeboard be eliminated in the area of the swing gate and implement any of the falling object protection methods described in the above paragraph.
- When the first section of scaffold has been installed, the scaffold foreman is responsible to
 ensure that the Red tag is placed in a visible location, preferably at the access point(s).
 The Red tag shall be removed after the erection has been completed. The Red tag is
 reinstalled when the scaffold is being dismantled.
- When the scaffold erection has been completed, a yellow or green scaffold tag shall be placed by the Competent Person at the scaffold access point indicating the scaffold is ready for use. For detailed requirements of scaffold tagging, refer to the "Scaffold Tagging" section of this program.



GENERAL SCAFFOLD ERECTING/DISASSEMBLING REQUIREMENTS cont'd

- A registered professional engineer must design any scaffold exceeding 125 feet in height.
- Scaffold legs shall be set on base plates and placed on foundations or mudsills that are adequate for supporting the maximum intended loads.
- The use of bricks and/or blocks is prohibited for use as foundations.
- Caster ratings are the limiting factor in calculating the maximum allowable load for scaffolds. Follow the manufacturer's specification for the rating of casters.
- All casters used with scaffolding shall have rubber treads and positive locks to hold the scaffold in position. Casters shall be locked when the scaffold is being erected or used.
- A rolling scaffold shall not be allowed on dirt, mud, grass, gravel, or uneven surfaces.
 Plywood or some kind of firm foundation shall be placed beneath the scaffold. When erecting a rolling scaffold on dirt, mud, grass, or gravel, the casters shall be set on runners (wood or channel iron) to keep the casters from digging into the ground.
- All scaffolds must be plumb.
- Scaffolds designed for "gate access" from ladders shall have gates installed at ladder access points.
- Modifications or alterations are to be performed only by qualified erectors/builders, and only under the direction of a competent person.
- Scaffold components manufactured by different manufacturers shall not be intermixed, unless determined compatible by the competent person.

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SCAFFOLD ELECTRICAL SAFETY PRECAUTIONS

Scaffolds shall not be erected, used, dismantled, altered or moved such that the scaffold components or any conductive material handled on the scaffold-could come within 10 feet of energized uninsulated conductors less than 50 kV. Additionally, if conductors are greater than 50kV, then the distance must be at least 10 feet plus 0.4 inches for each one kV over 50 kV for energized uninsulated conductors -. Where appropriate distance cannot be maintained, the scaffold shall not be erected, used, dismantled, altered or moved unless the uninsulated conductor is de-energized.

When erecting, using, dismantling, altering or moving scaffolds in the proximity of insulated, unguarded energized conductors, maintain the minimum distances as follows:

- 3 feet for insulated, unguarded conductors less than 300 volts.
- 10 feet for insulated, unguarded conductors >300 volts but < 50 kV.
- 10 feet plus 0.4 inches for each one kV for insulated, unguarded conductors over 50 kV.

Where the appropriate distance to insulated, unguarded energized conductors cannot be maintained, then at least one of the following precautions shall be taken:

- 1.) De-energize the conductor.
- 2.) Install appropriate guarding around the conductor.
- 3.) Institute other means as deemed appropriate (grounding, other actions) in order to protect personnel and equipment. This shall include the mandatory convening of a team of personnel at the outset of the scaffold assembly, including the scaffold competent person, the SPO and/or team leader and any other personnel deemed necessary.



GENERAL SCAFFOLD USE REQUIREMENTS

- Scaffolds shall be cleaned off upon completion of work by the personnel using the scaffold.
- Personnel using the scaffold shall ensure tools, materials, and debris does not accumulate in quantities that create a hazard.
- A toeboard should never be used to aid access to a working platform; grab bars should be used instead.
- Tools or materials shall be removed or secured so they cannot fall or roll off when the scaffold is moved.
- Any ice or slippery conditions shall be removed or resolved before use of the scaffold.
- The use of scaffolds exposed to high winds or storms shall be prohibited, unless specifically designed for wind loading and approved by the facility General Manager.
- Personnel are prohibited from using untagged scaffolds.
- Each shift prior to use, scaffolds shall be inspected by a competent person and the inspection recorded on the scaffold tag. (See Appendix B – Scaffold Inspection Tags.)
- Prior to use, the scaffold user shall visually inspect the scaffold for visible defects or hazards. Any deficiencies shall be immediately reported to a competent scaffold person, to be corrected, prior to the scaffold being used. Personnel shall be prevented from using the scaffold until the Competent Person corrects the issue(s).
- The wheels of rolling scaffold shall be locked when personnel are on the scaffold.
 Personnel are prohibited from riding scaffolds while they are being moved.
- Materials and equipment taken onto scaffolds shall be evenly distributed on platforms and not concentrated in one area.
- Personnel must work within the scaffold handrail system and not climb onto or lean over the scaffold mid or top rails.
- Ladders may not be used on scaffold platforms.
- A minimum distance of 10 feet shall be maintained between energized lines and scaffold assemblies.
- Where the utilization of an anchorage point independent of the scaffold is not feasible, the
 utilization of vertical scaffold members, at the joints created by horizontal members, is an
 acceptable anchor point for the erector/dismantler/user, provided the competent person
 has properly evaluated the anchor point, and it is indicated on the scaffold tag. This
 evaluation should provide for the ability of the anchorage point to meet the criteria of 29
 CFR 1926.502 (d)(15).



SCAFFOLD INSPECTION

All components of the scaffold shall be inspected for visible defects by a competent person before each work shift that the scaffold is being used, and following any occurrence that could affect the scaffold's structural integrity. Any defective components shall be immediately replaced, prior to the scaffold being used. Defective scaffold components shall be properly disposed of so that they may not be mistakenly used again.

Before erecting and while dismantling scaffolds, all components shall be visually inspected. Scaffold components must be straight and free from bends, kinks, dents, and severe rusting. Any defective components shall be immediately disposed of. Inspections shall include at least the following, as applicable:

- Nicks, splits, cracks or other damage to handrails, mid-rails, cross-bracing and steel tubing.
- Accumulation of welding slag or signs that welding arcs may have struck the components.
- Cracks in the weld zones on the scaffold frame(s).
- Damage or stretching of suspension components.
- Defects or damage to any connection component or any other scaffold component.
- Rot, cracks, cuts, loose connections or other damage to planking or decking material.
- Casters for rough rolling surfaces, sticky swivels, and defective locks.



SCAFFOLD TAGGING

The use of scaffold tagging is mandatory. Only a designated Competent Person trained in the characteristics of the scaffold they are inspecting and tagging shall tag that scaffold.

No one shall use an un-tagged scaffold. No one shall use a scaffold which has not been inspected by a Competent Person during the current work shift.

Scaffold tagging procedures shall not be used as a substitution for building a complete scaffold. Scaffolds will be built as completely as possible. Scaffolds will be tagged appropriately. Personal fall arrest systems are only to be required when passive fall protection on the scaffold is incomplete.

Hazards specific to a scaffold shall be communicated by signage or notes on the tag. (See Appendix B - Scaffold Inspection Tags.)

A **Green Scaffold Inspection Tag** shall be completed and affixed to all scaffolds that have been erected as structurally sound, are provided with complete passive fall protection, and are free from other recognized hazards.

A Yellow Scaffold Inspection Tag shall be completed and affixed to all scaffolds that have been erected as structurally sound, but have a condition or other recognized hazard, such as a hot surface or pipe nearby, a head-bump hazard or the lack of passive fall protection (i.e. handrail, mid-rail or uprights that may require the installation and use of a personal fall protection system. The potential hazard and preventative measure(s) to be taken shall be identified and recorded on the tag.

A **Red Scaffold Inspection Tag** shall be completed and affixed to all scaffolds that have are partially erected or dismantled, or if a scaffold has been found to be defective or damaged in any way. Personnel are prohibited from using red-tagged scaffold for any reason. Only personnel assigned to erect, dismantle, or make repairs to this scaffold, under the supervision of a Competent Person, are allowed on this scaffold.



APPENDIX A - GLOSSARY

Anchorage – A secure point of attachment for lifelines, lanyards and deceleration devices which are components of a personal fall arrest system. Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed, and used as part of a complete personal fall arrest system which maintains a safety factor of at least two; and under the supervision of a qualified person.

Brace - A tie that holds one scaffold member in a fixed position with respect to another member.

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. Competent Persons will be trained in the specific requirements for the scaffold they will be constructing, inspecting, tagging, and disassembling.

Guarded - Covered, fenced, enclosed, or otherwise protected, by means of suitable covers or casings, barrier rails or screens, mats, or platforms, designed to minimize the possibility, under normal conditions, of dangerous approach or accidental contact by persons or objects. Note: Wires which are insulated, but not otherwise protected, are not considered as guarded.

Guardrail - A barrier secured to uprights and erected along the exposed sides and ends of platforms to prevent falls of persons.

Handrail - A single bar or pipe supported on brackets from a wall or partition to provide a continuous handhold for persons using a stair.

Maximum intended load - The total of all loads including the working load, the weight of the scaffold, and such other loads as may be reasonably anticipated.

Mid-rail - A rail approximately midway between the guardrail and platform, used when required, and secured to the uprights erected along the exposed sides and ends of platforms.

Personal Fall Arrest System - A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

Platform - A working space for persons, elevated above the surrounding floor or ground; such as a balcony or platform for the operation of machinery and equipment.



APPENDIX A - GLOSSARY cont'd

Scaffold - Any temporary elevated platform and its supporting structure used for supporting workmen or materials or both.

Shift – For purposes of this program, a shift is defined as the no-longer-than twelve hour period from which the last scaffold inspection was conducted. Shift length for scaffold inspection shall be determined by the competent person as based upon the time period of work that one group performs while working on that scaffold.

Runner - The lengthwise horizontal bracing or bearing members or both.

Toeboard - A vertical barrier at floor level erected along exposed edges of a floor opening, wall opening, platform, runway, or ramp to prevent the falling of materials.



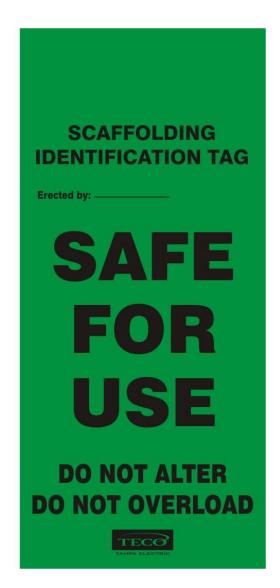
APPENDIX B - SCAFFOLD INSPECTION TAGS

Green Scaffold Inspection Tag

Stock # TSN 2015385

This tag shall be completed and affixed to all scaffolds that have been erected as structurally sound, are provided with complete guardrail and midrail protection, and are free from other recognized hazards.







APPENDIX B - SCAFFOLD INSPECTION TAGS

Yellow Scaffold Inspection Tag

Stock # TSN 2015384

This tag shall be completed and affixed to all scaffolds that have been erected as structurally sound, but have a condition or other recognized hazard, such as a hot surface or pipe nearby, a head-bump hazard or the lack of complete guardrail and midrail protection that may require the installation and use of a personal fall protection system. The potential hazard and preventative measure(s) to be taken shall be identified and recorded on the tag.

SCAFFOLD	#	TECO
SC	AFFOL	DING
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):
Job Numbe	er:	
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work speci	ified.	letion of the
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SCAFFOLDING IDENTIFICATION TAG
The following client company representative authorizes the use of this scaffold subject to fulfillment of the conditions listed under the preventative measures of this tag.
CAUTION
POTENTIAL OR UNUSUAL HAZARD
WHAT IS THE TOTENTIAL TIALARD.
PREVENTATIVE MEASURES TO BE TAKEN:
TECO TAMPA ELECTRIC



APPENDIX B - SCAFFOLD INSPECTION TAGS

Red Scaffold Inspection Tag

Stock # TSN 2015383

This tag must be attached to a scaffold which is partially erected or dismantled. It shall also be used when a scaffold is found to be defective or damaged in any way. *Personnel are prohibited from using this scaffold for any reason when this tag is displayed.* Only personnel assigned to erect, dismantle, or make repairs to this scaffold, under the supervision of a Competent Person, are allowed on this scaffold.



