

**Case 426. 75-year-old electrician died when he fell 24 feet to a cement pad.**

A 75-year-old male electrician died when he fell 24 feet to a cement pad. The decedent, the owner of an electrical contracting company, and a coworker were installing an exterior light fixture positioned 24 feet above the ground on a pole barn. Based on the position of the exterior light, the 2-jack, 10-foot high tubular welded mobile scaffold could not be completely placed on the concrete pad. The crew placed a couple of pallets on the sand next to the concrete pad and covered them with a sheet of 4-foot by 8-foot by ½-inch OSB sheathing. The scaffold had 4 locking wheels and cross-bracing. The platform consisted of three 2-inch by 10-inch by 10-foot 1-inch planks (not scaffold grade). The planks had a 2x4 board screwed to the top to act as a ladder block, preventing the extension ladders from slipping off the scaffold. Another ladder was placed from the ground to the “front” of the scaffold to brace the scaffold and prevent it from tipping; the base of the ladder was in the sand and secured in position by a crowbar. The workers worked for approximately one hour. The decedent, in an effort to make access to the platform easier, wanted the ladder bracing the front of the scaffold moved to the side of the scaffold. After moving the ladder to the side, the crew ascended the ladder to the scaffold to finish the work and the scaffold tipped over. The decedent fell to the concrete pad and his coworker fell to the sand, sustaining a non-fatal injury.

MIOSHA Construction Safety and Health Division issued the following Serious and Other-Than-Serious citations to the employer at the conclusion of its investigation:

SERIOUS: GENERAL RULES, CS PART 1, RULE 408.40114(1):

An employer shall develop, maintain, and coordinate with employees an accident prevention program, a copy of which shall be available at the worksite.

Employees performing electrical work; no accident Prevention Program developed.

SERIOUS: SCAFFOLD AND SCAFFOLD PLATFORMS, CS PART 12

- RULE 408.41209(1):

This rule supplements and clarifies the requirements of R 408.40114(2) of construction safety standard Part 1, General Rules, as the rule relates to the hazards of work on scaffolds. An employer shall have each employee who performs work on a scaffold trained by a person qualified in scaffold safety. The training shall enable an employee to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize the hazards. The training shall include the following areas as applicable:

- a. The nature of any electrical hazards, fall hazards, and falling object hazards in the work area.

- b. The correct procedures for dealing with electrical hazards and for erecting, maintaining, or disassembling the fall protection systems and falling object protection systems being used.
- c. The proper use of the scaffold, and the proper handling of materials on the scaffold.
- d. The maximum intended load and the load-carrying capacities of the scaffolds used.
- e. Any other pertinent requirements.

Employee not trained in proper scaffold usage and capabilities.

- RULE 408.41210(1):

A scaffold shall be designed, constructed, erected, and used in accordance with the provisions of this part. A scaffold shall be designed by a qualified person.

Employee designed scaffold was not built by a qualified person. Employees performing electrical activities at a height of approximately 24 feet when the scaffold collapsed.

- RULE 408.41210(14):

A ladder shall not be used on a scaffold to increase the working level height of employees, except on a large area scaffold where an employer has satisfied all of the following criteria:

(a) When the ladder is placed against a structure that is not a part of the scaffold, the scaffold shall be secured against the sideways thrust exerted by the ladder.

(b) The platform units shall be secured to the scaffold to prevent the units from moving.

(c) Either the ladder legs shall be on the same platform or another means shall be provided to stabilize the ladder against unequal platform deflection.

(d) The ladder legs shall be secured to prevent them from slipping or being pushed off the platform.

Two (2) extension ladders placed on top of a welded frame scaffold that was two (2) jacks high. Employees performing electrical activities at a height of approximately 24 feet when the scaffold collapsed.

- RULE 408.41213(1):

A guardrail shall be installed on any open side of a scaffold work platform that is 10 (3.1 meters) or more feet above the floor or ground, except for any of the following:

(a) A boatswain chair

- (b) A catenary scaffold
- (c) A float scaffold
- (d) A ladder jack scaffold
- (e) A needle beam scaffold

The guardrail shall be as prescribed in R 408.42150.

Employees working at approximately 11 feet without fall protection while performing electrical activities.

- RULE 408.41241(3):

Locking devices shall be used to secure the casters to the frame or adjusting screw. The adjusting screw shall not extend more than 12 inches. The casters shall be provided with a positive locking device to prevent movement of the scaffold. The device shall be used when the scaffold is in use, except where the work platform is 4 feet or less from the floor.

Casters not pinned on welded frame scaffold that is two jacks high while employees are performing electrical work.

- RULE 408.41241(4):

Vertical members of the scaffold shall be braced by cross bracing and diagonal bracing. Not less than 2 horizontal diagonal braces shall be installed, 1 as close to the casters as possible, at intervals of not more than 4 times the least-based dimension. The horizontal diagonal brace may be omitted on a scaffold that is specifically designed to absorb racking.

Scaffold base not horizontally braced while employees are performing electrical work.

- RULE 408.41241(9):

When being used, a mobile scaffold shall rest upon a suitable footing and shall stand plumb. Where leveling of the scaffold is necessary, screw jacks or an equivalent means shall be used.

No adjustment screws used on mobile scaffold. Concrete approach and pallet/plywood base not level and sloping away from building.

- RULE 408.41241(11):

A mobile scaffold shall be in compliance with the applicable provisions of R 408.41217, R 408.41218, R 408.41223, and R 408.41224.

Mobile scaffold not in compliance while performing electrical activities:

Instance a) Three planks in use were not scaffold grade

Instance b) Planks in use were not cleated to prevent shifting

Instance c) Scaffold work area not fully decked

Instance d) Scaffold planks too long at 10 feet – 1 inch

OTHER-THAN-SERIOUS: GENERAL RULES, CS PART 1, RULE 408.40132(3):

A person who has a valid certificate in first aid training shall be present at the worksite to render first aid. A certificate is valid if the requirements necessary to obtain the certificate for first aid training meet or exceed the requirements of the United States Bureau of Mines, the American Red Cross, the guidelines for basic first aid training programs, or equivalent training.

Employees performing electrical work.