

Case 52. 29-year-old painter fell from 120 to 130 feet onto the back of a parked pickup truck from a water tower that he had been painting.

On Friday, September 26, 2003, a 29-year-old male painter fell from 120 to 130 feet onto the back of a parked pickup truck from a water tower that he had been painting. He was the crew foreman on the job. One other worker was on the top of the water tower when the incident occurred. The other worker had been working in the scaffold originally. The victim came up and told the other worker to paint the guardrail and that he would use the scaffold to paint the dome. At some point just before quitting time, the victim had the worker help him move the scaffold suspension cable around a guardrail post. The victim then told him to go down the ladder to wrap up for the day. The worker was facing away from the scaffold when he heard a noise. When he looked he could not see the victim or the scaffold. It is unknown when the victim and the scaffold fell if he was holding onto the scaffold and was pulled off the tower by it, if he was getting into the scaffold, or if he was in the scaffold and descending. When he had reassembled his equipment, he had placed only one eye of the two-eyed chocker into the shackle on the cable that secured the scaffold to the supporting equipment on the tower. He was not using a life-line with a harness and rope grab.

MIOSHA issued the following thirteen “Serious” and one “Other” citations to the employer.

Serious:

1. The employer’s safety program was not adequately maintained or coordinated with employees. The employees were not adequately trained in how to survey the job site, recognize and reduce their exposure to hazards. The self-inspection safety checklist in the employer’s accident prevention program was not used. The safety program does not address the exposure/reduction of exposure of employees to the hazard of radio frequency radiation from antennas in the work area. The employer’s safety program identifies that it is unsafe to ride a boat-swain’s chair while it is suspended from a crane’s headache ball; employees were permitted to engage in this practice. (General Rules, Part 1, Rule 114(1))
2. Employees were inadequately trained to: (a) recognize deficiencies in the construction of scaffolding, (b) Part 45-Fall Protection requirements. Such training would include, but not be limited to ...”tie-off using a knot in a rope lanyard or lifeline (at any location) can reduce the lifeline or lanyard strength by 50 percent or more.” For vertical lifelines, “...the end terminated to prevent the device from sliding off the lifeline,” and training certification of same, how each component compatibility (as it might pertain to connection of different size lifelines), how to possibly compensate for rope strength reduction with a larger diameter, (c) how/when to inform company’s “competent person” of hazards for immediate correction if on-site supervision is unable to/cannot correct, and (d) check/double check scaffold rigging to

ensure proper attachment of all components.. (Scaffolds and Scaffold Platforms, Part 12, Rule R408.41209(1))

3. The company's competent person, responsible for erection of/moving of swing stage, is not adequately trained in: (a) correct procedures, including manufacturer's, for swing stage scaffold erection, (b) inspection and removal from service criteria, (c) safe procedures for moving swing stage components during painting operation from one area to another, and (d) how to correctly monitor/evaluate employees using fall protection and when to take corrective measures. (Scaffolds and Scaffold Platforms, Part 12, Rule R408.41209(2))
4. The swing stage scaffolding used for painting the 120-foot high water tower had not had any inspections by the company's competent person as required by the standard or the manufacturer. The scaffolding includes five single motor units, some with bridging between them. (Scaffolds and Scaffold Platforms, Part 12, Rule R408.41210(6))
5. The personal fall arrest protection is not in compliance with Part 45. (a) Two personal fall arrest lifelines for swing stage scaffold No. 3 are tied to a ¼ -inch thick, by 2-inch wide by 2-inch wide water tower guardrail, (b) Two personal fall arrest lifelines for swing stage scaffold No. 4, are tied to a ¼ -inch thick, by 2-inch wide by 2-inch wide water tower guardrail, (c) One personal fall arrest lifelines for swing stage scaffold No. 5 is tied to a ¼ -inch thick, by 2-inch wide by 2-inch wide water tower guardrail, (d) For swing stage scaffold (No. 4), one personal fall arrest safety lanyard is tied with knots to the aluminum tube spider stage upper guardrail. (Scaffolds and Scaffold Platforms, Part 12, Rule R408.41212(9))
6. A guardrail was not installed on any open side or end of a scaffold work platform that was 10 (3.1 meters) or more feet above the floor or ground as prescribed in R408.42150 except for any of the following: (a) boatswain's chair, (b) catenary scaffold, (c) float scaffold, (d) ladder jack scaffold, (e) needle beam scaffold. On swing stage scaffold No. 3 (on the water tower side): (a) rope that deflects one inch under its own weight, between each of the four posts, is used as a top rail, (b) two mid rail sections are missing to barricade 22-inch wide open area between the motor units and the bridging. On swing stage scaffold No. 3 (on the opposite side): (a) rope that deflects two inches under its own weight is used as a top rail between the motor units and the bridging, (b) two mid rail sections are missing to barricade 22-inch wide open area between the motor units and the bridging. On wing stage scaffold No. 4 (on the water tower side): (a) rope that deflects one inch under its own weight, between each of the four posts, is used as a top rail, (b) rope that deflects one inch under its own weight, between each of the four posts, is used as a mid rail. On swing stage scaffold No. 4 (on the opposite side), two mid rail sections are missing to barricade 22-inch wide open area between the motor units and the bridging. (Scaffold and Scaffold Platforms, Part 12, Rule R408.41213(1))

7. An employee was working unprotected (no personal fall arrest system and guardrail system) in a single point adjustable scaffold. (Scaffold and Scaffold Platforms, Part 12, Rule R408.41213(2))
8. Powered hoisting machine-deadman type control requirements are defeated through the use of sections of wire used to keep the control in the up or down position on (a) swing stage No. 2, (b) swing stage No. 3 – both motor units, (c) swing stage No. 4- both motor units. (Scaffold and Scaffold Platforms, Part 12, Rule R408.41215(3))
9. No testing was done after installation of two-point adjustable scaffolding No. 3&4. At the beginning of each new installation, after a swing stage scaffold is completely suspended, the scaffold shall be tested by being set about 1 foot above the lowest elevation and leaded with 2 times the anticipated working load. (Scaffold and Scaffold Platforms, Part 12, Rule R408.41233(2))
10. No testing was done by suspending scaffolding one foot above the ground after moving/changing rigging for single point swing stage scaffolds used for painting/repairing the 120-foot high water tower. (Scaffold and Scaffold Platforms, Part 12, Rule 408.41235(3))
11. Wire rope shall not come in contact with sharp edges. The seven steel wire suspension ropes for swing stage scaffolding is being bent over the ¼ -inch thick steel toe board around the top of the water tower. (Scaffold and Scaffold Platforms, Part 12, Rule R408.41261(9))
12. The energized trailing cord entering the control box for an occupied 110-volt electric powered, two-point swing stage scaffold (No. 3) is not secured with a clamp to prevent strain on the terminal screws, The employee was working with flammable point and exposed to potential shock/fire. The male ends of two extension cords used to power swing stage scaffolding are not secured to prevent strain on the terminal screws. The outer covering for extension cord, used for swing stage scaffold No. 5 is damaged. A splice in the extension cord for scaffold No. 3 is covered with silver duct tape. The scaffolding is suspended from uninsulated steel wire rope and is used to paint/repair the water tower. (Electrical Installations, Part 17, Rule R408.41725(8)(a), Rule R408.41725(8)(c), Rule R408.41725(8)(d), Rule R408.41725(8)(e))
13. The employer did not furnish to each employee, employment and a place of employment which is free from recognized hazards that are causing, or are likely to cause, death or serious physical harm to the employee. Swing stage scaffold No. 3 and No. 4, bridging and related connections are not secured as required by the manufacturer's design engineers: (a) flat washers/lock washers/nuts are missing, (b) nuts are not tightened as required, (c) bolts are too long, shank extends past bridging section fingers, (d) bolts to prevent

uplift or guardrail posts are not tight, (e) top guardrail and intermediate guardrail are not secured to posts with nut/bolt/washer on swing stage scaffold No. 3., (f) one weld between a top guardrail and its corner supporting post is broken, a 3/4 –inch drive ratchet wrench (minus its internals) is slid over the top guardrail and is wired/taped to both pieces as a repair, (g) one weld between a top guardrail and its corner supporting post is broken, an adjustable wrench is used as a support for the top guardrail and is taped to both pieces as a repair, (h) a section of horizontal guardrail between Item D and Item E has a vertical break, Is split horizontally, has a section of all thread rod wedged into it, and is taped as a repair, (i) the end top rail is not secured as required by the manufacturer to prevent uplift, (j) the electric powered swing stage units are not protected with a circuit breaker. One method of abatement could include, but not be limited to, following the manufacturer's copy-written assembly instructions and repair criteria. (Act 154 Public Act of 1974, 4080.1011(a))

Other:

1. The steel wire suspension rope for swing stage scaffolds No. 1&2 are rusted and show no signs of lubricant. (Scaffolds and Scaffold Platforms, Part 12, Rule R408.41261(7))