

Case 149. 23-year-old ironworker died after falling 120 feet to the concrete below while erecting a monopole cellular phone tower.

A 23-year-old male ironworker died after falling 120 feet to the concrete below while erecting a monopole cellular phone tower. The monopole had been stacked with a crane and the antenna array had been erected on the ground and then hoisted to the top with the crane. The monopole did not have any platforms installed at the top. The platforms make it easier to do the alignment and maintenance later on. The decedent was a member of a four-person work crew. Two crewmembers were on the ground cleaning up debris, another coworker and the decedent were assigned to work on the monopole. When the work crew arrived it was raining. The rain stopped at approximately 11:30 a.m. After lunch, at about 1:00 p.m., the decedent and his coworker ascended the monopole. The decedent was working on the final alignment of three groups of antennas while his coworker was working 10 feet below the antenna array on some buss bar installations. The decedent was working either on the antenna array facing north or the antenna array facing west at the time of the fall. To move around the antenna array, the decedent walked on 4-inch wide horizontal antenna supports extending from the monopole to each antenna quadrant. The MIOSHA file indicated that work practice for tying off was to: (a) clip to the horizontal masts (supports from the monopole to the main horizontal antenna mounting pipe), or (b) hook off to the individual vertical antenna mounting pipe (between the mounting clamps), or (c) hook off to the “all-thread” for the collars around the monopole. The coworker heard a metallic “clink, clink” from above. As he moved around the cell tower, he witnessed the decedent falling and called out “Headache” to warn workers below. A ground worker tried to call 911 on his cell phone, but could not get a connection. He then went to a nearby company office where the landline was used to call 911. When the MIOSHA compliance officer arrived at the site, one of the antennas facing north was flipped approximately 155 degrees from where it was prior to the accident. Upon inspection of the personal fall protection harness that the decedent was wearing at the time of the fall, MIOSHA found that: (1) the harness fabric only showed signs of use consistent with the normal use, (2) All of the hooks were of the double-locking type; all of the carabineers had the twist-lock latch on them and appeared to be functioning properly and did not open when the compliance officer pushed on them, (3) the six-foot lanyard (with integral shock absorber) did not show signs of deployment, (4) the double-locking hooks operated as designed when manually tested, (5) the pelican hook on the 1.5-foot positioning lanyard showed signs of surface rust. (6) the pelican safety hook safety latch did not close by itself and when the safety latch was manually closed it showed misalignment with the hook itself. It is unknown if the safety latch misalignment was a preexisting condition or damage that occurred when the decedent fell.

MIOSHA Construction Safety and Health Division issued the following Serious citations to the employer at the conclusion of their investigation:

SERIOUS:

TELECOMMUNICATIONS, PART 30, RULE 1910.268(c).

Employers shall provide training in the various precautions and safe practices described in this section and shall insure that employees do not engage in the

activities to which this section applies until such employees have received proper training in the various precautions and safe practices required by this section. However, where the employer can demonstrate that an employee is already trained in the safe practices required by this section prior to his employment, training need not be provided to that employee in accordance with this section. Where training is required, it shall consist of on-the-job training or classroom-type training or a combination of both. The training program shall include a list of the subject courses and the types of personnel required to receive such instruction. A written description of the training program and a record of employees who have received such training shall be maintained for the duration of the employee's employment and shall be made available upon request to the Assistant Secretary for Occupational Safety and Health. Such training shall, where appropriate, included the following subjects:

- (1) Recognition and avoidance of dangers relating to encounters with harmful substances, and animal, insect, or plant life.
- (2) Procedures to be followed in emergency situations, and
- (3) First aid training, including instruction in artificial respiration.

Employees not trained as required by 1910.268(c). Such training would include by not be limited to:

- a. Written certification of training for employees installing telecommunications equipment.
- b. Working ability to identify and eliminate fall hazards.
- c. What constitutes a proper anchorage for a personal fall protection safety lanyard on a monopole cell tower installation?
- d. The need for 100% fall protection while moving from one antenna quadrant to the next.

Two employees are 120-feet above the ground doing final alignment of an antenna array. One employee falls to the concrete below sustaining injuries.

SERIOUS:

TELECOMMUNICATIONS, PART 30, RULE 3005.

Where personal protective equipment is required by any provision of 29 C.F.R. 1910.268- Telecommunications, adopted by reference in R408.43001, that personal protective equipment shall be provided for and as prescribed in construction safety standard Part 6- Personal Protective Equipment, being R408.40601 et seq of the Michigan Administrative Code.

Two employees were not using complete personal fall arrest systems 120-feet above the ground. One employee was tied off to a cell phone monopole "step bolt" and working on buss bars. The second employee was walking on the support arms for the cell phone antennas fell 120-feet to the ground sustaining injuries. There is no documentation that any part/portion of the monopole/antenna array meets the minimum requirement, or is approved as a tie-off point.