

**Case 451. 38-year-old demolition laborer died when a concrete 2nd floor collapsed in a building undergoing demolition.**

A 38-year-old Hispanic male demolition laborer died when a 2<sup>nd</sup> floor collapsed in a building undergoing demolition. The 9-foot wide by 20-foot long concrete 2<sup>nd</sup> floor was adjacent to an existing stairway extending from the main floor to an upper seating area. There were two employees performing manual demolition of the floor to the east of the stairway with a 90-pound jackhammer and a sledge hammer. A mini excavator with an attached hydraulic jackhammer, which had performed demolition in other areas was not able to utilized for this work. The floor which collapsed had previously been saw cut on the south end. The decedent and his coworker were working from north to south, parallel to where the seats would have been located and perpendicular to the direction of the steps. Both employees were wearing harnesses as part of the personal fall arrest system (PFAS) harnesses utilizing a 50-foot long self-retracting lifelines (SRL's) attached to a single bar joist overhead, each with a nylon choker. The workers were approximately 10-15 feet away from the attachment location at the time of incident. No shoring had been installed under the floor prior to the manual demolition. The floor collapsed and both workers fell approximately 15-16 feet.

MIOSHA Construction Safety and Health Division issued the following Serious and Repeat-Serious violations to the employer at the conclusion of its investigation.

SERIOUS: GENERAL RULES, CS PART 1, RULE 408.40114(2)(c): An accident prevention program shall, at a minimum, provide for all of the following:

- (a) Instruction to each employee regarding the operating procedures, hazards, and safeguards of tools and equipment when necessary to perform the job.
- (b) Inspections of the construction site, tools, materials, and equipment to assure that unsafe conditions which could create a hazard are eliminated.
- (c) Instruction to each employee in the recognition and avoidance of hazards and the regulations applicable to his or her work environment to control or eliminate any hazards or other exposure to illness or injury.
- (d) Instruction to each employee who is required to handle or use known poisons, toxic materials, caustics, and other harmful substances regarding all of the following:
  - (i) The potential hazards.
  - (ii) Safe handling.
  - (iii) Use.
  - (iv) Personal hygiene.
  - (v) Protective measures.
  - (vi) Applicable first-aid procedures to be used in the event of injury.
- (e) Instruction to each employee if known harmful plants, reptiles, animals, or insects are present regarding all of the following:

- (i) The potential hazards.
- (ii) How to avoid injury.
- (iii) Applicable first-aid procedures to be used in the event of injury.

(f) Instruction to each employee who is required to enter a confined space regarding all of the following:

- (i) The hazards involved.
- (ii) The necessary precautions to be taken.
- (iii) The use of required personal protective equipment.
- (iv) Emergency equipment.
- (v) The procedures to be following if an emergency occurs.

(g) Instruction in the steps or procedures to be following in case of an injury or accident or other emergency.

The company's accident prevention program does not address demolition hazards and the regulations related to demolition activities. Employees exposed to demolition related hazards on the job site.

SERIOUS: DEMOLITION, CS PART 20:

- RULE 408.42032: Guarding floor and wall opening. The provisions of Part 45, Fall Protection, being R 408.44501 et seq. of the Michigan Administrative Code, shall be complied with for all portions of the structure where there is employee exposure to the conditions covered by that part.

Employees engaged in demolition activities were exposed to fall hazards of up to 16 feet, 5 inches on the job site. Reference Part 45 Fall Protection.

- Instance A) Rule 1926.501(a)(2) the structural integrity of the work surface was not maintained to support employees.
  - Instance B) Rule 1926.502(d)(15) Two nylon slings used in a choked configuration were not rated for 5000 lbs.
  - Instance C) Rule 1926.502(d)(16)(iii) Employees shall not hit a lower level.
  - Instance D) Rule 1926.502(d)(21) Slings not inspected for damage before being put into service.
  - Instance E) Rule 1926.503(a)(2)(ii) Employees not properly trained in the use and installation of retractable lifelines used as part of a vertical lifeline for fall protection.
  - Instance F) Rule 1926.503(b)(1) Actual dates of training not indicated on employee training cards.)
- RULE 408.42044(1): A floor upon or above which an employee is working, and which will be weakened by manual demolition, shall be shored to support the intended load.

Employees engaged in demolition activities on the second floor of the job site were exposed to a fall hazard of up to 16 feet, 5 inches. The floor area where they were performing demolition activities was not shored or supported.

- RULE 408.42044(5): Before demolishing a floor arch, debris and other material shall be removed from the arch and other adjacent floor area. Planks that are not less than 2 inches by 10 inches in cross section, full size undressed, shall be provided for, and used by, an employee to stand on while breaking down a floor arch between beams. The planks shall be located so as to provide a safe support for the workmen if the arch between the beams collapses. The open space between the planks shall not be more than 16 inches.

Employees engaged in demolition activities of the second floor seating area on the job site were exposed to up to a 16 feet, 5 inch fall hazard by not having a work platform installed for the employees to stand on.

REPEAT-SERIOUS: DEMOLITION, CS PART 20, RULE 408.42031(8): During demolition, an employer or his or her designated representative shall make daily inspections to detect hazards and unsafe conditions. An employer shall ensure that an employee is not permitted to work where hazards exist until the hazards are corrected by shoring, bracing, or other effective means.

Employees engaged in demolition activities on the second floor seating area of the building were exposed to up to a 16 feet, 5 inch fall hazard by not having the floor area shored or braced.

The company was previously cited for violation of this Occupational Safety and Health standard or its equivalent standard 408.42031(8) which was contained in MIOSHA Inspection Number *Citation Number, Item Number, issued on a particular date* with respect to a workplace located at *street address, city, MI zip code*. (MIFACE removed the citation number, item number, date of issuance and location)