

Case 495. A 50-year-old construction laborer was struck by a cast iron plate at the end of a traveling grate spreader stoker chain being dismantled.

A 50-year-old male construction laborer was struck by a cast iron plate at the end of a traveling grate spreader stoker chain being dismantled. The stoker chain system was located on the first floor. The decedent was in the basement performing fire watch duties. The cast iron plate at the end of the chain was approximately 40 inches long and 4 feet wide and weighed 52.5 pounds. A nearby beam was 17 feet 7 inches above the basement floor. The work crew had placed a double row of red danger tape across a basement stairwell located approximately 11 feet 3 inches to the south of the beam's pivot point. The crew radioed the decedent, indicating they were ready to cut the chain. The decedent radioed back – all clear. The decedent was positioned in the stairwell when the crew on the first floor cut the stoker chain free without controlling the dropping of the cut end. When the chain dropped, the beam acted as a pivot point and the chain swung toward the south (like a pendulum). The cast iron plate at the end of the chain struck the decedent. Plant personnel called for emergency response. Emergency responders transported the decedent to a nearby hospital. He was declared dead in the emergency room.

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

SERIOUS: 408.1011(a): ACT 154, Michigan Occupational Safety and Health Act: An employer shall furnish to each employee, employment and a place of employment that is free from recognized hazards that are causing, or are more likely to cause, death or serious physical harm to the employee.

The employee was not protected from the hazard of being struck by swinging/flying material in the demolition process. A length of stoker chain was cut free on the 1st floor, without a means of controlling the swinging/dropping of the chain into the basement level. *(MIFACE removed the brand name of the stoker chain).*

Among others, one feasible and acceptable method to correct the violation is to attach a tag line or chain-fall to the load to lower it in a controlled manner. Reference: ANSI/ASSE A10.6 – 2006 Safety and Health Program Requirements for Demolition Operations.

SERIOUS: CS Part 20 Demolition

- Rule 408.42031(7): An employer shall ensure that an employee is not permitted to work on a floor below a floor opening when demolition is conducted on the upper level, unless the employee is protected by a solid barricade not less than 42 inches high and located not less than 6 feet back from the projected edge of the opening above.

The employee in the basement level was not protected by a solid barricade below the floor opening on the 1st floor from which the stoker chain dropped or swung. *(MIFACE removed the brand name of the stoker chain).*

- 408.42034(1): The area onto and through which material is to be dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the opening and the area receiving the material. Signs warning of the hazard of falling materials shall be posted on the barricades at each level containing the barricades.

The basement area, where the stoker chain was dropped, was not completely enclosed with barricades. *(MIFACE removed the brand name of the stoker chain).*