

Case 185. 44-year-old construction laborer was electrocuted when he contacted an energized crawler excavator.

A 44-year-old male construction laborer was electrocuted when he contacted an energized crawler excavator. The decedent was a member of a two-person work crew; the foreman was at another location at the worksite. The firm was installing a large sewer line for a city and had been on this project for approximately eight weeks. The firm's employees had been made aware of and trained to keep equipment at least 10 feet from the energized 7,200-volt overhead lines. On the day of the incident, a shipment of 10-foot by 10-foot square pipe had arrived. To permit other business access to the roadway, the pipe material was unloaded and placed under the 7,200-volt energized line. During the truck unloading process, short lifting cables that were attached to the pipe and used to lift and place the pipe into the excavation were pushed to the backside of the pipe. Because the cables were not in a position to be used to lift/place the pipe into the excavation, the decedent located some chain and attached it to the cables so the excavator could be used to reposition them for use. The decedent signaled the crawler excavator operator to bring the bucket of the excavator toward him so he could attach the chain/cables to the bucket hook. The excavator operator positioned the bucket according to the signals the decedent was giving him. Because the excavator boom arm was blocking his view of the overhead line, the excavator operator relied on the decedent's signals. When the boom/bucket was in the final position as indicated by the decedent, the boom was in contact with or within arcing distance of the 7,200-volt line. When the decedent placed the chain onto the excavator's bucket hook, he became a path to ground and was electrocuted. The excavator operator immediately moved the boom away from the overhead line. Emergency response was called and the decedent was transported to a local hospital where he died.

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

SERIOUS: LIFTING AND DIGGING EQUIPMENT, PART 10.

- **RULE 1023a(1):** Crane, derrick, or excavation equipment shall not be operated closer to an exposed energized part than the clearances prescribed in Table 1, unless adequate clearance cannot be maintained.

The employees working on the project did not exercise reasonable care when working around high voltage electrical lines located at the project.

- **RULE 1023a(4):** Material stored near electrical distribution or transmission line shall not be closer to the line than the following distances:
 - (a) For a line that is rated 50kv or less – 10 ft. + length of stored material.
 - (b) For a line that is rated 50kv or more – 10 ft. + 0.4 in. for each 1 kv over 50 + the length of the material stored.

The employees working on the storm sewer improvements project did not recognize the hazard of placing square 10 ft. x 10 ft., outside diameter, storm sewer pipes adjacent to high voltage power lines (7,200 volt).