

A 59 year old male employee was crushed by an elevator mechanism on a machine that moves vinyl fence posts while performing maintenance activities without the machine being locked out.

During the investigation, it was determined that the victim was employed as a Maintenance Technician. He was attempting to repair a cylinder in an area referred to as EDL #2. EDL #2 is a pre-package staging area for completed vinyl fence posts, for which the process of conveying, wrapping, and heating is automated. The automated process relies on a series of electronic sensors to govern its programming and actions. The conveyor is a two-tiered system; the posts on top are wrapped and packaged differently than posts that are conveyed along the bottom. The Elevator involved in the incident acts as a type of bridge; if there are posts on the top conveyor, then the Elevator will position itself to convey the posts at the top. If posts are running along the bottom conveyor, the Elevator will lower to the bottom position and convey those posts. The positioning of the Elevator, either up or down, is determined by the presence of posts on the conveyors. Presence or absence of posts on a conveyor is determined by the electronic sensors.

Once conveyed to EDL #2 in preparation for wrapping and heating, the posts are halted by small cylinders that deploy upwards to stop the posts from moving on the conveying rails. If the cylinders do not work properly, the posts will stack up incorrectly and will cause problems as they convey to the next area. The victim was attempting to repair one of the cylinders that had begun to malfunction when the elevator unexpectedly started moving downward, catching him between the elevator and the floor and crushing him. Coworkers were unable to raise the elevator and were unable to remove him from the area; apparently the elevator had to complete a cycle before it would raise. Maintenance staff had to take the machine apart to remove the victim; he died before being transported to the hospital.

At the beginning of the inspection, the employer explained that the EDL #2 area, including the Elevator, had not been locked out prior to beginning maintenance activities. The employer further explained that the caged area surrounding EDL #2 and the Elevator was protected by interlocks and key switches; the victim turned the switch to OFF and removed the key. He then entered the left side (facing) of the caged area; he did not enter the Elevator side, which was guarded by a different set of interlocks and a key switch. He did not switch the Elevator side to OFF, nor did he open the interlocked door to the Elevator.

At some point after entering, the victim moved from the EDL #2 conveyor side of the cage to the Elevator side. The cylinder requiring repair was on the far side of the conveyor and would have been difficult to reach from the side where he entered. Through interviews, TOSHA believes that he moved to the Elevator side of the cage to obtain a better reach to the cylinder. Further, TOSHA and the employer believes that he triggered a sensor on the bottom conveyor, which would have given the Elevator directions to move to the lower position of the conveyor due to its programming. In the lowering of the Elevator, the victim was caught between it and the floor.

Citation(s) as Originally Issued

A complete inspection was conducted at the accident scene. Some of the items cited may not directly relate to the fatality.

Citation 1 Item 1 Type of Violation: Serious \$5400

29 CFR 1910.147(c)(4)(i): Procedures were not developed, documented and utilized for the control of hazardous energy when employees were engaged in activities such as servicing and/or maintenance of equipment.

In that, employees performed maintenance on equipment without utilizing procedures for the control of hazardous energy in the following instances:

- a. One employee attempted to repair a cylinder on the conveyors of EDL#2 without utilizing procedures for the control of hazardous energy, when another machine integral to the operation (Elevator) unexpectedly started, trapping the employee and resulting in his death.
- b. Two employees tasked with changing router bits on machines SSD3, SSD4, and SSD11 did not utilize procedures for the control of hazardous energy.

Citation 1 Item 2 Type of Violation: Serious \$3200

29 CFR 1910.147(c)(6)(i): The employer did not conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedure and the requirement of this standard were being followed.

In that the employer did not complete annual periodic inspections of their energy control procedures.

Citation 1 Item 3 Type of Violation: Serious \$3200

29 CFR 1910.147(c)(7)(i)(A): Authorized employee(s) did not receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation:

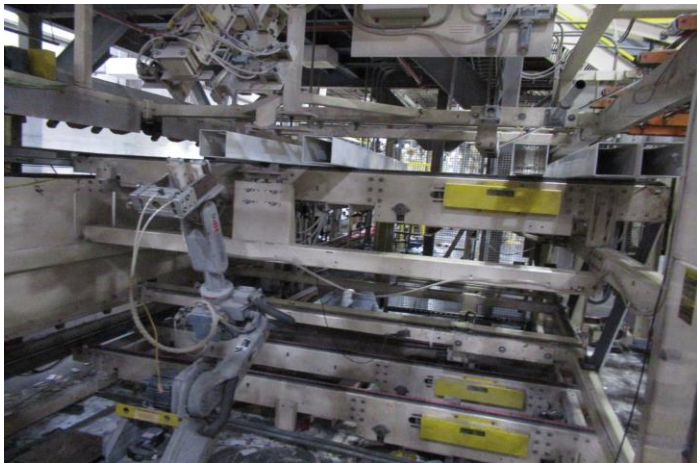
In that the employer did not provide training to authorized employees on the procedures required to deenergize, and subsequently control the hazardous energy of the machine referred to as the Elevator (located at area EDL #2), which exposed employees to caught-in hazards created when employees placed all or parts of their body inside the operational area of the machine.

Citation 1 Item 4 Type of Violation: Serious \$4500

Crushed by elevator mechanism—Insp # 1657666 Barrette Outdoor Living, Inc.

29 CFR 1910.212(a)(1): Machine guarding was not provided to protect operator(s) and other employees from hazard(s).

In that one employee entered the operational area of the "Elevator," a component piece of machinery of the EDL#2 operation and for which there was no guarding in place to prevent entry, and was crushed between the Elevator and the floor, resulting in his death.



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