

A **26 year old male** was **electrocuted** when he contacted a conveyor while attempting to remove a broken band saw blade at a sawmill that manufactured pallets.

To manufacture the wooden pallets, using both hard and soft woods, the employees would use a Newman KM-16 trimming saw to cut the boards to measurement. After the boards were cut, they were conveyed onto a spinning circular table by a Hytrol conveyor. The Hytrol conveyor was installed by the company as an intermediate conveyor to get the boards from the Newman KM-16 trimming saw to the spinning circular table. The employees operating the Wood-Mizer band saw would then pull the boards off the spinning circular table and feed them through the band saw. Once cut by the band saw, an ancillary worker would stack the boards onto a pallet.

On the day of the incident, the victim and his coworker were operating the Wood-Mizer band saw. The blade on the band saw broke and was stuck on the east side of the band saw. The victim walked to the east side of the machine to dislodge the blade while his coworker went to another part of the sawmill to retrieve a new blade. The victim walked between a wooden support beam and the Hytrol conveyor that was used on the Newman KM-16 trimming saw. The coworker had returned at this point and was standing on the west side of the band saw, on opposite side from the victim. As the victim was moving the blade, he stepped back where his lower back contacted the southwest side of the Hytrol conveyor. The Hytrol conveyor was energized and began shocking the employee. The victim was stuck between the wooden support beam and the conveyor for approximately 20 seconds as he was being shocked by 480 volts. The victim was initially hospitalized after receiving the electrical shock injuries; however, he passed away at the hospital the next day.

During the inspection, several electrical hazards were identified on the Newman KM-16 trimming saw. The Plant Manager stated that the incident occurred because the Hytrol conveyor was a stand-alone machine and the green ground wire became disconnected. He stated that the ground screw came undone and would not allow the circuit breaker to trip, therefore, energizing the frame of the Hytrol conveyor. During the inspection, there were multiple electrical hazards identified on the Newman KM-16 that could have contributed to the energized equipment which resulted in a fatality. It was determined that the operator of the Newman KM-16 trimming saw and the acting supervisor on the second shift was shocked by the Hytrol conveyor earlier in the shift but did not report it or fix it.

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** **\$1600**

29 CFR 1910.147(c)(4)(ii): The energy control procedures did not clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy, including, but not limited to Items of this section.

In that a machine specific procedure was not developed for the Wood-Mizer band saw for the employees to use when changing the saw blades.

Citation 1 Item 2 **Type of Violation: Serious** **\$1600**

29 CFR 1910.147(c)(7)(i): The employer did not provide adequate training to ensure that the purpose and function of the energy control program was understood by employees.

In that the employees were not trained to recognize the hazards associated with changing the saw blades on the Wood-Mizer band saw without locking out the energy sources.

Citation 1 Item 3 **Type of Violation: Serious** **\$1400**

29 CFR 1910.178(p)(1): Powered industrial truck(s) found to be in need of repair, defective, or in any way unsafe had not been taken out of service until restored to safe operating condition(s).

In that the following three propane-powered forklifts had damaged brackets that were securing the propane tanks onto the back of the forklifts and had not been taken out of service to repair:

- a.) Orange Doosan #2
- b.) Orange Doosan #3
- c.) Orange Doosan #6

Citation 1 Item 4 **Type of Violation: Serious** **\$1600**

29 CFR 1910.178(q)(7): Powered industrial truck(s) which were used on a round-the-clock basis were not examined for defects after each shift.

In that pre-shift inspections were not conducted on the propane and diesel-powered forklifts that were operated inside the facility daily.

Citation 1 Item 5 **Type of Violation: Serious** **\$1600**

29 CFR 1910.219(e)(1)(i): Horizontal belts which had both runs seven feet or less from the floor level were not guarded with a guard that extended to at least fifteen inches above the belt.

In that a horizontal belt located on the south side of the Newman KM-16 trimming saw was not guarded, exposing the employees to caught-in and amputation hazards.

Citation 1 Item 6 **Type of Violation: Serious** **\$1400**

29 CFR 1910.219(f)(3): Sprocket wheels and chains which were seven (7) feet or less above floors or platforms were not enclosed.

In that chains and sprockets were not guarded in the following two instances:

- a.) Three chains and sprockets on the load table of the Newman KM-16 trimming saw
- b.) One chain and sprocket on the conveyor located outside the sawmill

Citation 1 Item 7 **Type of Violation: Serious** **\$4000**

29 CFR 1910.303(b)(1): Electrical equipment was not free from recognized hazards that were likely to cause death or serious physical harm to employees.

In that there were breaks in the flexible conduit provided for the conductors in the following instances:

- a.) Gray flexible conduit in the floor on the west side of the Newman KM-16 trimming saw
- b.) Flexible conduit on the southeast side of the Wood-Mizer band saw connected to the pressure switch

Citation 1 Item 8 **Type of Violation: Serious** **\$1400**

29 CFR 1910.303(c)(3)(i): All splices and joints and the free ends of the conductors were not covered with an insulation equivalent to that of the conductors or with an insulating device identified for the purpose.

In that a flexible cable on the spinning circular table was spliced and not repaired to provide protection that was equal to or better than the original insulation.

Citation 1 Item 9 **Type of Violation: Serious** **\$4000**

29 CFR 1910.303(g)(2)(i): Except as elsewhere required or permitted by Subpart S of Part 1910, live parts of electric equipment operating at 50 volts or more were not guarded against accidental contact by use of approved cabinets or other forms of approved enclosures or by any of the means identified in paragraphs (A), (B), (C), and (D) of 29 CFR 1910.303(g)(2)(i).

In that a cover was not used on a box to guard six wire connections on the west side of the southernmost saw head of the Newman KM-16 trimming saw.

Citation 1 Item 10 **Type of Violation: Serious** **\$5400**

29 CFR 1910.304(g)(5): The path to ground from circuits, equipment, and enclosures was not permanent, continuous, and effective.

In that the ground wire powering the Hytrol conveyor was not connected which resulted in the frame of the conveyor to be energized.

Citation 1 Item 11 **Type of Violation: Serious** **\$4000**

29 CFR 1910.305(b)(1)(i): Conductors entering cutout boxes, cabinets, or fittings were not protected from abrasions.

In that two fittings were not connected in the following instances:

- a.) On the southeast side of the Wood-Mizer band saw
- b.) On the west side of the Newman KM-16 trimming saw

Citation 1 Item 12 **Type of Violation: Serious** **\$4000**

29 CFR 1910.305(b)(2)(i): All pull boxes, junction boxes, and fittings were not provided with covers identified for the purpose. Covers of outlet boxes having holes through which flexible cord pendants passed were not provided with bushings designed for the purpose nor did the holes have smooth, well-rounded surfaces on which the cords could bear.

In that an electrical box attached to the Baldor Super-E Premium Efficient Industrial motor of the Hytrol conveyor did not have a bushing or proper cover as follows:

- a.) The bushing was missing on the top of the electrical box where the electrical cord entered the box
- b.) Only one screw was used to hold the cover on the electrical box

Citation 1 Item 13 **Type of Violation: Serious** **\$1600**

29 CFR 1910.305(g)(2)(iii): Flexible cords were not connected to devices and fittings so that tension would not be transmitted to joints or terminal screws.

In that electrical cords were not connected in a way to prevent tension in the following instances:

- a.) On the second southernmost saw head of the Newman KM-16 trimming saw
- b.) The electrical cord powering the conveyor outside
- c.) The electrical cord on the floor north of the Newman KM-16 trimming saw

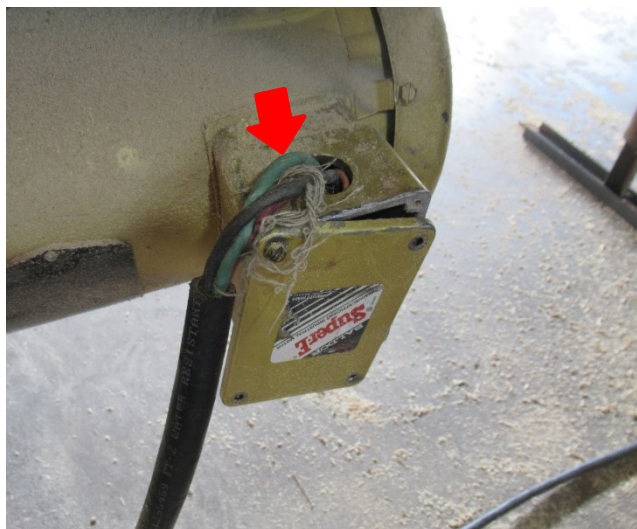
Citation 2 Item 1 **Type of Violation: Other-than-Serious** **\$400**

TDLWD Rule 0800-01-03-.03(27)(b)3: Each recordable injury or illness was not entered on the OSHA 300 Log and/or an incident report (OSHA Form 301 or equivalent) within seven (7) calendar days of receiving information that a recordable injury or illness has occurred.

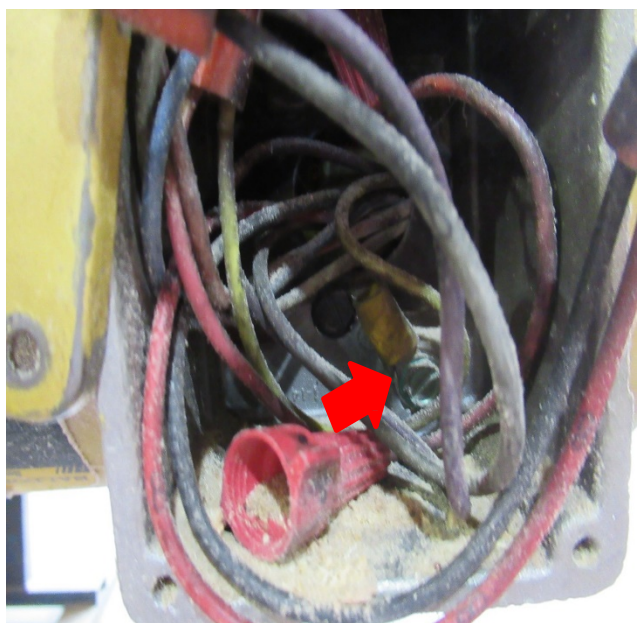
In that the employer failed to record a laceration that resulted in an amputation on the 2018 OSHA 300 Log within seven calendar days.



Photograph shows: The area where the incident occurred. The red arrow indicates where the blade was lodged, and the victim was trying to dislodge it. The green arrow indicates where the victim contacted the Hytrol conveyor that was energized. The blue arrow indicates the electrical box on the Baldor Super-E Premium Efficient Industrial motor that powered the Hytrol conveyor. The electrical box cover was only secured with one screw, did not have a bushing, and the ground wire was not connected inside the box. The plant manager stated that he believed the conveyor lost ground which energized the conveyor.



Photograph shows: The red arrow indicates the green ground wire that was not connected inside the box. The plant manager pulled the wire out during the inspection, and the wire was only inside the box approximately ½ an inch.



Photograph shows: The red arrow indicates where the green wire was supposed to be connected according to the plant manager.