14. Caught in auger

A **54-year-old** employee died after falling into an auger at his workplace. The victim operated a wheel-blast machine that sends large quantities of steel abrasive shot at high velocity into a blast chamber. The purpose of this is to remove rust and scale from the large construction equipment attachments built by the company. A large skidder arm attachment weighting 1500 pounds was run through the machine and exited into the blow-off area. Soon after the part arrived in the blow-off area, the victim walked out onto the metal-bar-grating floor of the blow-off area to attach a lifting strap to the skidder arm. The bar-grating covers three hoppers each equipped with a nine-inch screw auger. This hopper system reclaims the shot media that accumulates on the part as it passes through the blast machine. As the victim walked onto the bar-grating floor, the bar grating that he was walking on fell from its support bracket and dropped into the reclaim hopper. The victim fell into the 42-inch deep hopper and his legs became caught in the auger as it turned approximately 25 rotations per minute. Sometime later two co-workers began looking for the victim and someone reported he was last seen over by the blast machine. The co-workers found the victim's shirt and hat on the concrete floor beside the blow-off area and then noticed that one of the bar-grating-panels was missing. They then looked into the hopper and found the victim's body.

Citations as Originally Issued

Citation 1

Item 1 T.C.A. 50-3-105(1)	The employer did not furnish employment and a place of employment which were free from recognized hazards that were causing or likely to cause death or serious physical harm to employees in that the metal-bar-grating floor panels were not secured by anchoring them to their supports by positive mean or were not of adequate size to prevent them from being accidentally dislodged into the reclaim hopper.
Item 2 1910.23(c)(3)	Regardless of height, open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment were not guarded with a standard railing or toe board.
Item 3a 1910.147(c)(4)(ii)(B)	Specific procedural steps for shutting down, isolating, blocking, and securing machines or equipment to control hazardous energy were not developed by the employer.
Item 3b 1910.147(c)(6)(i)	The employer failed to conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedure was being followed.
Item 4a 1910.303(g)(2)(i)	Live parts of electrical equipment operating at 50 volts or more were not guarded against accidental contact by use of approved cabinets or other forms of approved enclosures.
Item 4b 1910.305(b)(1)(ii)	Unused openings in cabinets, boxes, and fittings were not effectively closes.

Citation 2

Item 1 1910.107(b)(5)(i)	The spraying operation was not designed with visible gauges installed to insure that the required air velocity was maintained.
Item 2 1910.178(a)(6)	The user failed to see that all nameplates and markings were in place and maintained in a legible condition on all forklifts.
Item 3 1910.179(g)(1)(v)	Pendant control boxes were not clearly marked for identification of functions on wireless crane remote control devices.
Item 4 1910.179(m)(1)	A thorough inspection of all ropes was not made at least once a month and a certification record which includes the date of the inspection, the signature of the person who performed the inspection, and an identifier for the ropes which were inspected was not kept on file where readily available to appointed personnel.
Item 5 1910.212(a)(1)	One or more methods of machine guarding were not provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips, and sparks.
Item 6 1910.253(b)(2)(iv)	Valve protection caps, where cylinders were designed to accept caps, were not always in place, hand tight, except when cylinders were in use or connected for use.
Item 7 1910.253(b)(4)(iii)	Oxygen cylinders in storage were not separated from fuel-gas cylinders or combustible materials (especially oil or grease) a minimum distance of 20 feet (6.1 m) or by a non-combustible barrier at least 5 feet (1.5 m) high having a fire-resistance rating of at least one-half hour.
Item 8 1910.304(g)(5)	The path to ground from circuits, equipment, and enclosures was not permanent, continuous, and effective.
Item 9 1910.1200(f)(5)(i)	The employer did not ensure that each container of hazardous chemicals in the workplace was labeled, tagged or marked with the identity of the hazardous chemical(s) contained therein.

See Photos On Next Page

Where the victim fell through the grating

Opening that the victim fell through and auger he fell onto