Colorado Face Investigation 90CO04501

SUBJECT:

An asphalt plant loader/operator died when crushed in the machinery he was attempting to clean.

SUMMARY:

The 30-year-old operator was fatally injured when the conveyor system of an asphalt mixing plant was activated while the operator was standing on the slatted conveyor belt. During a pause in the process of loading asphalt trucks, the employee climbed onto one of two conveyors to clean old asphalt from the belt and slats. The two conveyors carry asphalt components and interlace to mix the components prior to discharge into trucks. Although the plant machinery had been turned off, the power generator was operating. A coworker arrived at the plant and saw trucks waiting to be loaded. The coworker entered the control booth and activated all the plant machinery. As the plant started operating, the coworker heard an unusual noise and again turned off the plant machinery. The operator was found entangled in the conveyor. The interlacing conveyors had pulled the employee into the nip points of the conveyors and had shredded his body from the waist down. The operator was pronounced dead at the scene. The Colorado Department of Health (CDH) investigator concluded that to prevent future similar occurrences, employers should:

- Ensure that all power sources are deactivated before operators make adjustments or clean machinery.

- Develop, implement, and enforce a comprehensive written safety program that includes a lock-out/tag out policy.

- Install an equipment startup warning horn that incorporates a time delay on equipment activation.

- Conduct a job-site survey on a regular basis to identify potential hazards, implement appropriate control measures, and provide subsequent training to employees that specifically addresses all identified hazards.

INVESTIGATIVE AUTHORITY:

The Colorado Department of Health (CDH) performs investigations of occupational fatalities under the authority of the Colorado Revised Statutes and Board of Health Regulations. CDH is required to establish and operate a program to monitor and investigate those conditions which affect public health and are preventable. The goal of the workplace investigation is to prevent work-related injuries in the future by study of the working environment, the worker, the task the worker was performing, the tools the worker was using, and the role of management in controlling how these factors interact.

This report is generated and distributed to fulfill the Department's duty to provide relevant education to the community on methods to prevent severe occupational injuries.

INVESTIGATION:

The investigation of this work-related fatality was prompted by a report of the incident from Occupational Safety and Health Administration (OSHA) Area Office. The CDH investigator conducted an investigation that included obtaining the report and photographs of the incident from the local law enforcement agency, interviewing the county coroner and the investigating OSHA compliance officer.

The company in this case employs twelve people, three of which worked at the site of the incident. The company does not have a designated safety officer and there were no written safety programs or policies. Safety training was not conducted by the company.

CAUSE OF DEATH:

The cause of death as determined by autopsy and listed on the death certificate was exsanguination due to or as a consequence of a crushed pelvis and blunt trauma.

RECOMMENDATIONS/DISCUSSION:

Recommendation #1: Ensure that all power sources are shut off prior to making adjustments or cleaning machinery.

Recommendation #2: Implement and enforce a lock-out/tag-out policy.

Discussion: In this incident, locking-out the power supply to the conveyor system would have prevented the coworker from activating the equipment.

Recommendation #3: Install a warning system to alert workers that equipment is being activated. This system should include a startup warning horn that sounds for a period of time prior to equipment activation.

Discussion: In this incident, the sounding of a startup warning horn for a time period prior to equipment activation could have provided the employee with adequate warning to allow him to get off of the conveyor before it began to move.

Recommendation #4: Install a guard to cover the nip point where the two conveyors converge.

Discussion: In this incident, the presence of a guard could have prevented the employee from being pulled into the nip point.

Recommendation #5: Develop, implement, and enforce a comprehensive written safety program.

Discussion: This employer did not have a written comprehensive safety program. All employers should evaluate work tasks to identify potential hazards. The employer should then develop and implement a safety program addressing these hazards, provide worker training in safe work procedures, and implement appropriate control measures.

Recommendation #6: Employers should conduct a job-site survey on a regular basis to identify potential hazards, implement appropriate control measures, and provide subsequent training to employees that specifically addresses all identified hazards.

Discussion: A thorough inspection of the equipment would have revealed the hazards and potential corrections discussed above.

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