

Colorado Fatality Assessment and Control Evaluation (FACE) Program

SUBJECT:

Colorado FACE Investigation 94C0029

A 38-year-old recycle technician died as a result of injuries sustained when he fell into a cardboard compactor.

SUMMARY:

On June 29, 1994 a 38-year-old recycling technician at a county-owned sanitary landfill died was fatally injured after falling into a large trash compactor. The compactor was used to bale cardboard for the purpose of recycling. Cardboard is fed onto a subfloor forty-eight inch wide conveyor belt that moves the material to a height of approximately twenty feet. The cardboard then falls through a 20 x 44 inch opening into a hopper chute which is at a ninety-degree angle to the conveyor. On the day of the incident, the cardboard jammed at the constriction, and would not fall into the chute. Based upon evidence gathered in the workplace investigation, it appeared that the technician rode the conveyor belt to the hopper chute opening to remove the jammed cardboard. He fell into the hopper chute and was entrapped. The feed hopper is equipped with an electric eye that measures the amount of material in the hopper and automatically activates the baler when sufficient material has accumulated. When the baler is activated by the electric eye, material in the baling chamber is compressed by a piston-type ram that enters the chamber from the side. Excess material above the baler chamber is cut by a shear blade as the material is compressed. This cycle was activated while the technician was in the baler chamber. His legs were amputated. He bled to death before he could be extracted from the machine.

The Colorado Department of Public Health and Environment (CDPHE) 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.
- Modify the housing at the top of the chute so that cardboard jams can be cleared from the exterior of the equipment.
- Develop, implement, and enforce a comprehensive written safety program.
- Conduct a work-site survey to assess the potential safety hazards. Once an assessment has been completed, written safety rules and procedures should be developed, implemented, and enforced.

#### INVESTIGATIVE AUTHORITY:

The Colorado Department of Public Health and Environment (CDPHE) performs investigations of occupational fatalities under the authority of the Colorado Revised Statutes and Board of Health Regulations. CDPHE is authorized 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 from the local county coroner. The investigation included interviews with the employer, coworkers present at the time of the incident and the investigating officers of the county sheriff's office. The incident site was photographed. The operations manual for the equipment and related documents were obtained in addition to the autopsy and police reports.

The county had recently hired a risk manager/safety professional and a written comprehensive safety program was in the process of being prepared at the time of the incident. The compactor manufacturer had provided operational and safety training for county employees, including the deceased, on the use of this equipment.

#### CAUSE OF DEATH:

The cause of death as listed on the death certificate was exsanguination.

## 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 compactor system prior to the attempt to clear the jam would have prevented the electric eye from activating the compaction sequence.

Recommendation #3: Modify the housing at the top of the chute so that cardboard jams can be cleared from the exterior of the equipment.

Discussion: In this incident, the only way to clear a cardboard jam is to climb up the conveyor belt and pull the jammed materials free. The addition of an access panel on the back side of the housing would enable the operator to remove the jam without entering the equipment.

Recommendation #4: Develop, implement, and enforce a comprehensive written safety program that includes, but is not limited to, training in proper procedures to clear jams in automated equipment.

Discussion: Employers should emphasize safety of their employees by designing, developing, implementing and enforcing a comprehensive safety program to prevent incidents such as this. Employers should also provide a training program for all employees that work from elevated platforms or floors so that they are able to recognize and deal with the associated hazards. Employees should also be trained in safety procedures, such as the proper methods to clear a jam on automated equipment.

Recommendation #5: The employer should conduct a work-site survey to assess the potential safety hazards. Once an assessment has been completed, written safety rules and procedures should be developed, implemented, and enforced.

Discussion: According to the General Duty Clause of the Occupational Safety and Health Act (Section 5 (a) 1), employers are required to provide a safe and healthy workplace for employees. To do so, employers must regularly survey the workplace to identify hazards. All identified hazards must be adequately abated through engineering control measures or changes

in work-practices.

FACE Investigation 94CO029

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