



Crushing Hazards Associated with Dumpsters and Rear-loading Trash Trucks

Safety and Health Information Bulletin

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Purpose

The purpose of this Safety and Health Information Bulletin is to inform employers and employees, who use rear-loading trash trucks to empty dumpsters, of the hazards associated with not properly securing the dumpster's trunnion bars and failing to take other safety precautions during the emptying process.



Figure 1 - Rear-loading Trash Truck

Background

Refuse collection workers face a variety of occupational hazards. In fact, refuse collection was identified as one of the most dangerous jobs in the United States during the 1992-1997 period. Refuse collecting and recycling accounted for over 1% of all occupational fatalities nationally between 1992 and 1997. While occupational workers "struck by" vehicles account for a major portion of these fatalities, other workers are killed by contact with objects and equipment according to Bureau of Labor Statistics 2001 data. Between 1999 and 2003, OSHA investigated at least six fatalities involving workers who were crushed when the dumpster became dislodged.

Description of Hazard

In January of 2003 the Concord Area office investigated a fatality that demonstrates the potential hazards of being struck by and/or crushed by a dumpster while the dumpster is being emptied into the back of a rear-loading

This Safety and Health Information Bulletin is **not** a standard or regulation, and it creates no new legal obligations. The Bulletin is advisory in nature, informational in content, and is intended to assist employers in providing a safe and healthful workplace. The Occupational Safety and Health Act requires employers to comply with hazard-specific safety and health standards. In addition, pursuant to Section 5(a)(1), the General Duty Clause of the Act, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Employers can be cited for violating the General Duty Clause if there is a recognized hazard and they do not take reasonable steps to prevent or abate the hazard. However, failure to implement any recommendations in this Safety and Health Information Bulletin is not, in itself, a violation of the General Duty Clause. Citations can only be based on standards, regulations, and the General Duty Clause.

trash truck. The hazard can materialize in several ways. First, the dumpster can be dislodged during the emptying cycle if the locking bars are not engaged, allowing the dumpster to swing around to the side of the truck. Second, the dumpster can fall if the wire rope fails or if the hook becomes dislodged from the dumpster's lifting eye.

OSHA's investigation revealed that an employee of a waste handling company was fatally injured when operating a rear-loading trash truck. The employee was emptying a dumpster into the back of a rear-loading trash truck (see Figure 1). The process involved backing up to the dumpster such that the trunnion bar of the dumpster contacted the rear of the truck. A wire rope cable was attached to the lifting eye on the dumpster. Then, the dumpster was winched up to a point where the trash

began to fall from the dumpster into the truck. While the dumpster was in the elevated position, the employee apparently operated the packer slide and sweep of the truck. When this was done, the load apparently shifted, pushing the bottom of the dumpster away from the truck. When this occurred, the dumpster rotated toward the passenger side of the vehicle, where the employee was standing and operating the controls. The employee was killed when he was caught between the dumpster and the side of the truck. In this case, the locking bars (also called “latch-up mechanisms”) had not been utilized to secure the dumpster’s trunnion bar.



Figure 2 - Rotated Dumpster

Recommendations

Employers and employees should be aware of the potential hazards posed by rear-loading trash trucks, including those related to the dumping cycle. Recommended preventative measures include:

1. Inspect that all devices used to tip up and empty dumpsters into rear-loading trucks, including the trunnion bar locking mechanism, wire rope and hooks with safety latches, to assure that the devices are present, appropriately connected, and in full-working order.
2. Develop a training program and procedures regarding the use of securing devices when emptying dumpsters into rear-loading trash trucks. Train all employees to cycle the compactor only when the dumpster is on the ground.

3. Review and follow recommendations found in “ANSI Standard Z245.1-1999 American National Standard for Equipment Technology and Operations for Wastes and Recyclable Materials-Mobile Wastes and Recyclable Materials Collection, Transportation, and Compaction Equipment Safety Requirements.”

Among the relevant ANSI provisions:

- Ensure that no person removes or disables any safety device
- Monitor the employee’s activities and take appropriate action to ensure adherence to safe practices.
- Implement a program for the maintenance of the equipment which will incorporate the following elements:
 - a) Requirements for trained, competent maintenance employees or contractors to perform inspection and repair work.
 - b) Providing for the cleaning, inspection, and repair of equipment in accordance with the manufacturer’s recommendations and in compliance with this ANSI standard, including regular periodic inspections.
 - c) Ensuring that all required safety features are operational and functioning and repairing, prior to placing equipment into service, any reported malfunction or defect that affects the safe operation of the equipment.

References

1. Drudi, D.; Job hazards in the waste industries. *Compensation and Working Conditions*. Summer 1999, 19-23.
2. ANSI standard Z245.1-1999; American National Standard for Equipment Technology and Operations for Wastes and Recyclable Materials- Mobile Wastes and Recyclable Materials Collection, Transportation, and Compaction Equipment Safety Requirements.
3. Dorevitch S., Marder D.; Occupational hazards of municipal solid waste workers. *Occupational Medicine*. 2001, 16(1): 125-133.

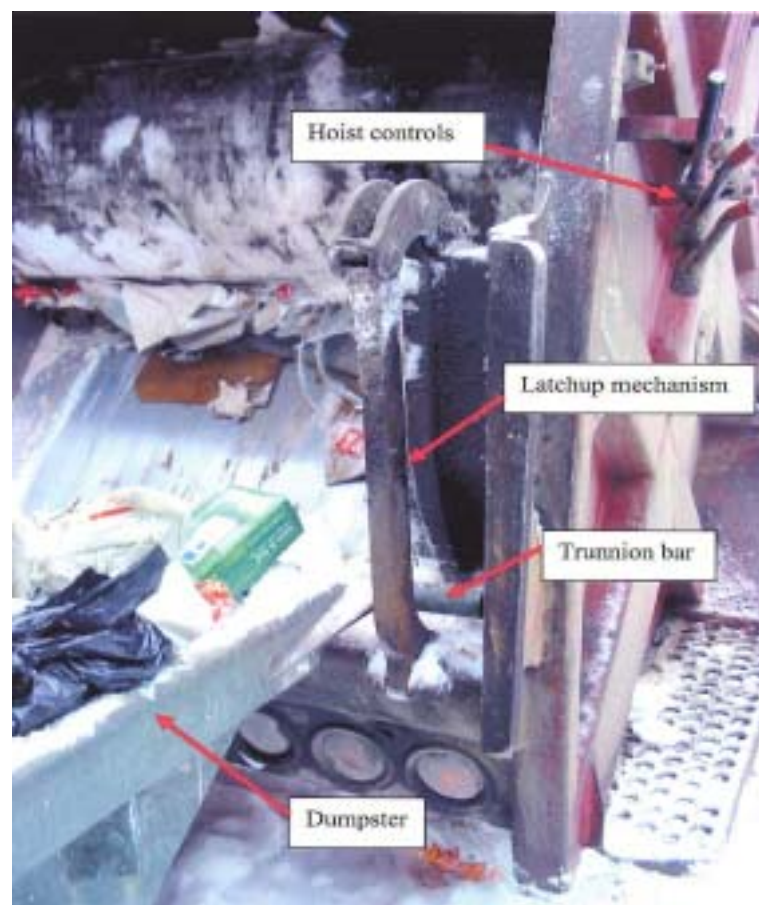


Figure 3 - Latchup mechanism and trunnion bar.