

**California Department of Public Health
Occupational Health Branch**

**FATALITY ASSESSMENT AND CONTROL EVALUATION
PROGRAM (CA/FACE)**

**A Laborer is Crushed Between a
Trash Compactor and Receiving Container
Case Report: 16CA004**

SUMMARY

A laborer working at a charitable donation warehouse died when he was crushed between a stationary trash compactor and a roll-off receiving container being off-loaded by truck. The empty receiving container was to be docked to the trash compactor. The roll-off truck bed was elevated, and the driver had winched the container down so that its rear end was on the ground approximately ten feet from the trash compactor. The victim stepped between the trash compactor and the back of the receiving container to check their alignment. At the same time, the truck driver released the container which slid rapidly down the inclined truck bed, crushing the victim against the trash compactor. The California Fatality Assessment Control Evaluation (CA/FACE) program concluded that employers who deliver or receive roll-off compactor receiving containers take the following steps to prevent similar incidents:

- Establish formal written rules for the safe off-loading of roll-off receiving containers. These rules should minimize and, where possible, eliminate the involvement of ground personnel. Where ground personnel are involved they should be formally designated, have a clearly delineated role, and have adequate training in hazard recognition, experience, and authority to conduct the job safely.
- There should be sufficient employee supervision and enforcement to ensure that new employees conduct assigned duties in a safe manner.
- Put safeguards in place to reduce the risk of someone entering the 'danger zone' between the trash compactor and the receiving container when it is being off-loaded.

INTRODUCTION

On September 30, 2016, at approximately 1:30 pm, a 26-year-old Hispanic male laborer working at a charitable donation warehouse died when he was crushed between a trash compactor and an empty roll-off receiving container being off-loaded by truck. On October 14, 2016, CA/FACE learned of the fatality from the Cal/OSHA Headquarters' Weekly Bulletin. The CA/FACE investigator conducted an onsite investigation on November 2, 2016. During the site visit the investigator met with management representatives of the organization, visited the location of the fatality, and took photographs. In addition, the investigator conducted a follow-

up phone interview with the management safety representative. The county sheriff's and coroner's reports were also obtained.

EMPLOYER

The victim's employer was a nationwide nonprofit organization, founded in 1902, which provides job training, employment placement services, and related community-based programs. It operates a large network of thrift stores which provide clients with employment opportunities. The location where the incident occurred was a warehouse receiving unsold items from regional thrift stores. It employed approximately 51 employees at the time of the incident; there were 20 employees at the warehouse on the day of the incident.

WRITTEN SAFETY PROGRAMS AND TRAINING

Prior to his assignment at the loading dock, the victim was oriented to the work process and environment by his supervisor. The supervisor was not present at the scene at the time of the incident. The victim's duties did not include directing the truck driver. He was instructed to stand to the side of the compactor until the receiving container was off-loaded, and then to connect the compactor to the receiving container. Beyond this, the extent of the victim's training could not be ascertained. There were no written rules on the safe off-loading of the compactor receiving containers. It is not known whether the supervisor observed the victim to ensure that the procedures for loading and off-loading receiving containers were followed.

WORKER INFORMATION

The victim was a 26-year-old Hispanic male laborer who was fluent in English. He had been working at the warehouse for a month, and had been assigned to work at the loading dock two weeks prior to the incident. He had recently been hired by the nonprofit consistent with its mission to provide job experience to those who might otherwise face difficulties finding employment.

INCIDENT SCENE

The incident scene was a truck loading dock at a warehouse. A stationary trash compactor permanently occupied one of the loading bays. Employees tipped cart loads of items to be discarded from the edge of the dock down into the compactor from above. The trash compactor pushed the trash horizontally through an approximately three by four foot opening in the end wall of the receiving container (Figure 1 illustration). The container was secured to the compactor by two hooked arms, each tightened by means of a ratcheting mechanism. The receiving containers were filled and replaced approximately three to four times a day.

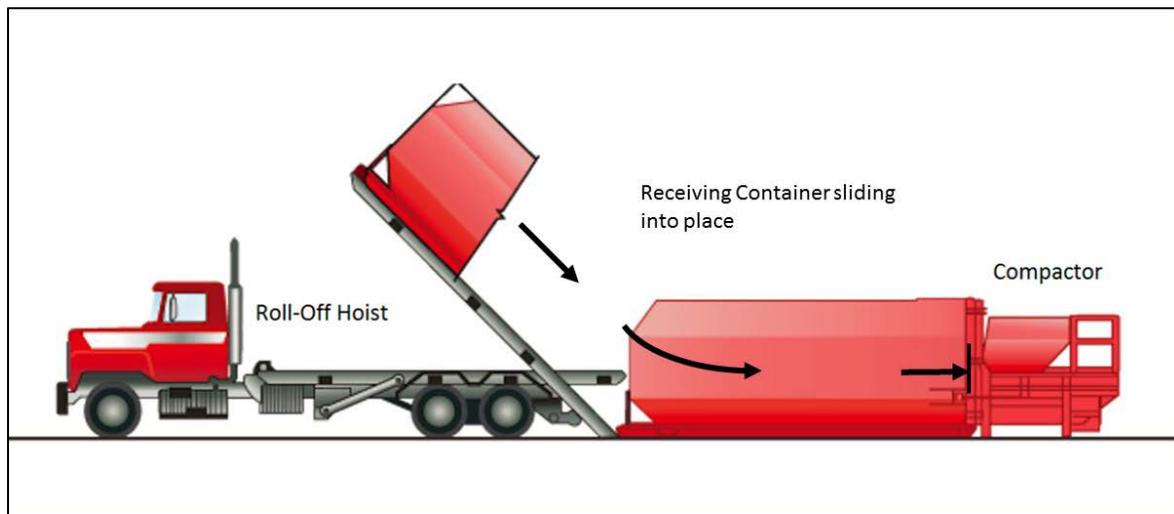


Figure 1. Receiving container being off-loaded by truck; sliding into place against trash compactor. *Diagram courtesy of AO Compactors, Sugar Land, TX.*

INVESTIGATION

The usual procedure for off-loading a receiving container was for the truck driver to back in towards the compactor, using the truck's side view mirrors to squarely align the rear of the container with the compactor. When the driver was satisfied with the alignment, the roll-off truck bed was raised to an incline and the container was lowered so that its rear end contacted the ground approximately ten to fifteen feet from the compactor. At this point the driver would allow the cable hooked to the upper end of the container to unspool, allowing the container to slide down the rails of the inclined truck bed and into place up against the compactor. After the container was in place, it was the dock worker's job to connect the receiving container to the trash compactor by means of the two hooked arms. The truck driver remained in the cab operating the controls to load and unload the container.

At approximately 1:30 pm, a truck driver had backed the truck into position in front of the compactor. The roll-off truck bed was elevated, and the driver had winched the container down the inclined bed rails so that its rear end was on the ground about ten feet from the trash compactor. In his right-hand side view mirror the truck driver could see the victim standing off to the side. At this point a co-worker appeared at the dock and instructed the victim to check that the incoming receiving container was properly aligned with the trash compactor. The victim moved forward and leaned over to assess the alignment. At that moment, the truck driver, having just checked his mirrors to ensure that the victim was off to the side, released the container. Sliding down the inclined truck bed rails, the container rapidly closed the gap, pinning the victim's head against the trash compactor. Emergency services were called and the victim was transported to a local hospital where he expired despite resuscitative efforts.

CONTRIBUTING FACTORS

Occupational injuries and fatalities are often the result of one or more contributing factors or key events in a larger sequence of events that ultimately result in an injury or fatality. The CA/FACE team identified the following contributing factors in this incident that ultimately led to the fatality:

- There were no formal, written rules for the safe off-loading of receiving containers at the trash compactor.
- There may not have been sufficient employee supervision and enforcement to ensure that the victim, a new employee, was conducting assigned duties in a safe manner.
- There were no safeguards in place to reduce the risk of someone entering the 'danger zone' in front of the trash compactor during the off-loading of a receiving container.

CAUSE OF DEATH

The cause of death, according to the death certificate, was due to blunt force head injuries.

RECOMMENDATIONS

Employers who deliver or receive roll-off compactor receiving containers should take the following steps to prevent similar incidents:

Recommendation #1: Establish formal written rules for the safe off-loading of roll-off receiving containers. These rules should minimize and, where possible, eliminate the involvement of ground personnel. Where ground personnel are involved they should be formally designated, have a clearly delineated role, and have adequate training in hazard recognition, experience, and authority to conduct the job safely.

Discussion: In this incident, there were no formal written rules governing the safe off-loading of receiving containers at the trash compactor. Another employee instructed the victim to check the alignment of the debris box. In so doing, the victim placed himself between the roll-off container and the trash compactor. The lack of formal task-specific work rules may have contributed to an inadequate understanding of the hazard and the importance of following safe work practices. The victim had performed this task for only two weeks, and his lack of experience may also have contributed to this incident. If there had been formal written rules, the victim may have stayed to the side of the trash compactor -- even if instructed by a co-worker to do otherwise -- thereby preventing this fatality.

After the incident, the company did institute formal written work rules governing the safe off-loading of receiving containers at the trash compactor. The rules stipulate that no one other than the truck driver be present at the dock during the off-loading of containers. Truck drivers,

both in-house and contract drivers, are solely responsible for properly aligning and off-loading the receiving container, and then attaching it to the trash compactor. If anyone is in the dock area, the truck driver is instructed to wait until the area is cleared.

In some locations where a receiving container is being off-loaded, it may not be practicable to clear the area of all personnel. In this case, designating someone to ensure that all foot traffic is well clear of the immediate area is important. If directing the truck driver is not necessary to safe off-loading, then it should be company policy not to provide such a person, and this should be made clear to the driver. Where someone is needed to actively direct the driver, this should be a designated person with adequate training, experience, and authority. It may be necessary in some circumstances to have a second, similarly qualified person whose coordinated role is solely to keep the immediate area clear of foot traffic.

Recommendation #2: There should be sufficient employee supervision and enforcement to ensure that new employees conduct assigned duties in a safe manner.

Discussion: It is possible that the victim had on prior occasion assisted drivers in ensuring alignment of the receiving container with the trash compactor, despite having been instructed not to do so. At least one in-house driver was known to have difficulty with proper alignment. More intensive supervision may have uncovered this fact and led to timely reinforcement of the proper procedure. It is widely recognized that new and young employees require more supervision, and more ‘coach and correct,’ to ensure consistent compliance with safety rules.

Recommendation #3: Put safeguards in place to reduce the risk of someone entering the ‘danger zone’ between the trash compactor and the receiving container when it is being off-loaded.

- **Guiding ‘alignment marks’ should be painted on the ground to assist the driver.**

Discussion: Because some truck drivers may, at least initially, have difficulty off-loading receiving containers with the required precision, the use of guiding ‘alignment marks’ would provide useful assistance. This would alleviate the need for direction from ground personnel.

- **Visual demarcation of the ‘danger zone,’ or guardrails, should be used to reinforce company policy prohibiting entry during the off-loading of the receiving container.**

Discussion: The area immediately to the rear of the trash compactor was a predictable ‘danger-zone’ during the off-loading of the receiving container. Demarcating the area on the ground, for example with paint, would reinforce the message that this area should not be entered during off-loading. Likewise, guardrails are often used as ‘machine guarding’ to prevent anyone from entering the ‘danger zone’ around large, dangerous equipment. In this case guardrails, extending on both sides from the rear of the trash

compactor, would help prevent anyone from getting between the rear of the receiving container and the trash compactor.

REFERENCES

California Code of Regulations, Title 8, §4002, Moving Parts of Machinery or Equipment.
(www.dir.ca.gov/title8/4002.html)

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April 7, 2017

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FATALITY ASSESSMENT AND CONTROL EVALUATION PROGRAM

The California Department of Public Health, in cooperation with the Public Health Institute and the National Institute for Occupational Safety and Health (NIOSH), conducts investigations of work-related fatalities. The goal of the CA/FACE program is to prevent fatal work injuries. CA/FACE aims to achieve this goal by studying the work environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact. NIOSH-funded, state-based FACE programs include: California, Iowa, Kentucky, Massachusetts, Michigan, New Jersey, New York, Oregon, and Washington.

Additional information regarding the CA/FACE program is available from:

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