SAFETY ALERT - #01A - 2010 REVISED
WORKER CRUSHED WHILE UNLOADING VACUUM TRUCK

Incident Type: Crushed by Equipment	**Re-Release Date:** February 05, 2010
Operation: Trucking	**Country of Origin:** Canada

Summary

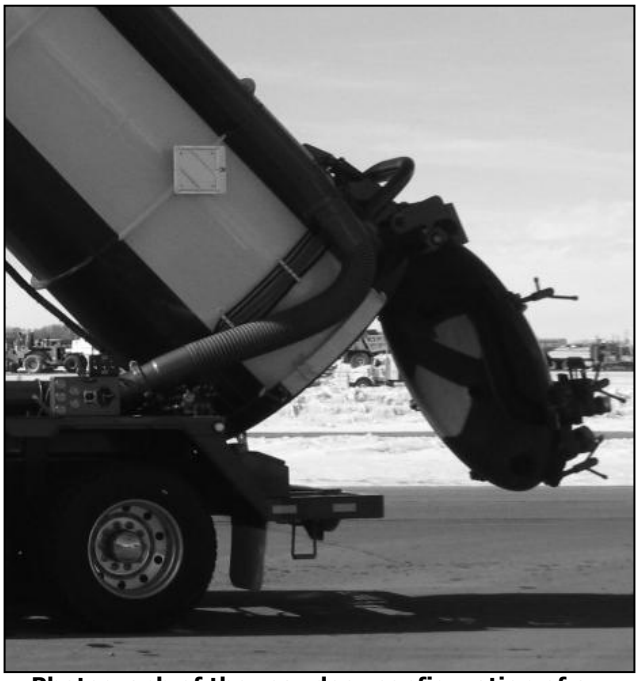
While dumping of the contents of a vacuum truck unit, a swamper was killed when he was caught in the closing vacuum truck tank door.

Description of Incident

The truck operator and swamper were offloading the contents of the vacuum truck at a designated area. The vacuum truck tank had been elevated and the rear door was opened to allow the crew to clean out the tank.

Other relevant incident information:

- The workers had cleaned the tank and had both stepped down from the rear tank access platforms (also known as, beavertails).
- The operator walked around to the driver's side of the truck to access the hydraulic control levers located directly behind the cab of the truck.
- Unknown to the truck operator, the swamper had climbed back up onto the right, rear beavertail and became caught in the swing radius of the rear tank door, as it was closing.



Photograph of the rear door configuration of a typical vacuum truck. Note crush point.

Recommendations for Preventing Future Incidents:

To prevent future incidents, the employer and the vacuum truck supplier have worked together to implement a number of corrective actions.

Equipment Modifications (Engineering Controls)

The truck supplier has altered the vacuum truck involved in the incident including:

1. The bank of four control levers for the vacuum tank operation were changed;
   - Two control levers have been routed to other locations. The removal of these levers may allow for additional room between the remaining control levers to minimize an inadvertent activation due to their proximity; and
   - The control lever that operates the rear tank door was moved to the rear of the vacuum truck, which allows the operator to maintain a clear line of sight of the door during opening and closing operations.

2. Flow restrictors have been installed on the hydraulic lines to the cylinder for the opening and closing of the rear tank door. This alteration slows down and controls the door's rate of travel;
3. Hydraulic controls have been tagged with permanent markings to provide clearer identification of the function of the control; and,
4. Signs warning of the hazardous pinch point have been installed on both sides of the rear of the vacuum tank.

The supplier intends to make similar alterations to all new vacuum/hydrovac truck assemblies and all vacuum/hydrovac trucks, which are returned for service and recertification.

Revisions to Operating Procedures (Administrative Controls)

The employer has modified its operating procedures to include:

1. An enhancement and ordering of the steps that will be followed for closing the tank door and lowering of the tank;
2. Added a requirement that the hydraulic rear door operator visually identifies any workers for whom the closing tank door may be a hazard, before the operator activates the controls; and
3. Added a provision for the engagement of the tank safety bar when the tank door is open. This provision would include a requirement that, when the tank is clean, the swamper should remove the bar while remaining in the operator's line of sight and then **instruct the truck operator** to close the door.

REMINDER: This incident highlights the importance of completing and documenting a field-level hazard assessment. Considerations for safe execution of the dumping task are:

- Overhead power lines
- Pinch points / crush points
- Soft or unstable ground
- Lack of timely communication
- Overhead structures
- Other personnel in the area
- Uneven ground
- Inclement weather such as rain or snow

The employer and truck supplier involved in this incident believe that the actions summarized above are relevant to the manufacture, supply and associated procedures of similar equipment used at energy and construction work sites. Other companies are urged to reassess their operations in light of the measures identified above and identify if there is a need for similar preventive actions in their operations.

Contact:

safety@enform.ca