

## SAFETY ALERT - #01- 2010

### WORKER CRUSHED WHILE UNLOADING HYDROVAC TRUCK

RELEASE DATE: JANUARY 26, 2010

<b>Function:</b> Trucking Operations	<b>Incident Date:</b> October 17, 2008
<b>Incident Type:</b> Crushed by Equipment	<b>Country and Region:</b> NE Alberta, Canada

#### Summary

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

#### Description of Incident

The truck operator and swamper were offloading the contents of the hydrovac truck at a designated area. The hydrovac 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 hydrovac truck. Note crush point.

#### Recommendations for Preventing Future Incidents:

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

#### Equipment Modifications (Engineering Controls)

The hydrovac truck supplier has altered the hydrovac 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 hydrovac tank, which allows the operator to maintain a clear line of sight of the door during opening and closing operations.



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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 hydrovac truck 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.

**The employer and hydrovac 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. They are urging other companies 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](mailto:safety@enform.ca)

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