

BULLETIN

SAFETY WHEN MOVING BITUMEN PRODUCT BETWEEN TANKS

THE INCIDENT

A worker was transferring a bitumen emulsion product from a trailer tank, also known as an emulsion pig, into a spreader truck when the tank catastrophically failed. One end of the tank has peeled away under pressure and struck a worker causing injuries that resulted in his death.

WHAT WE KNOW

A WorkSafe investigation has identified that the company was using the workshop compressed airline to blow the product from the trailer tank/pig to the truck. This had the effect of creating a pressure build-up in the trailer tank/pig when a blockage occurred in the transfer line. The company changed its transfer process from a pump to compressed air and it failed to identify pressure build-up as a risk.

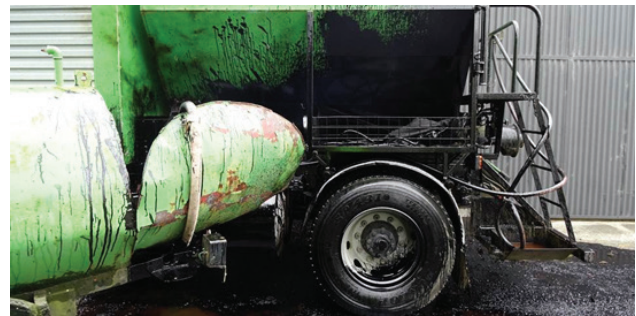
PRECAUTIONS

The majority of operators use a low pressure suction pump to transfer product between tanks and this is the preferred method if possible.

Using pressure to transfer materials between containers has inherent risks and under no circumstances should containers which are not pressure-rated vessels be used.

It is important if using compressed air to blow product between tanks, to ensure that the entire system has been designed, constructed and maintained to be fit for such a purpose.

Tanks holding product which is being blown out are pressure vessels while that process is being carried out, and must be designed, manufactured and



inspected in accordance with the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999 (PECPR Regulations 1999).

Pressure relief systems must be installed wherever pressure may build up and they must be regularly inspected and re-calibrated by a competent person.

Using pressure to move product through an unrated system is potentially hazardous and the consequences far-reaching, as this tragic incident proves.

INDUSTRY ACTION

Note the regulatory requirements for under pressure transfer activities.

Ensure your operational processes meet these requirements and advise staff accordingly.

MORE INFORMATION

- > *The Safe Handling of Bituminous materials used in Roading*, Code of Practice RNZ9904 – Roading New Zealand: <http://nzcontractors.co.nz/Publications>
- > The Approved Code of Practice *Pressure equipment (excluding boilers)*

- > *The PECPR Regulations 1999*
- > Bodies authorised to inspect and certify pressure equipment (list of Recognised Inspection Bodies) can be found here: www.worksafe.govt.nz/worksafe/about/what-we-do/engineering-plant-equipment/inspection-bodies

Note: The company involved in this incident was prosecuted, convicted and ordered to pay reparations of \$140,319.80 to the victim's family. The company is in liquidation so no fine was imposed by the Judge, but she noted that an appropriate fine would have been \$73,800.