# Collapsed Railway Car

EPSC Learning Sheet , December 2018

EPSC

## What Happened:

A railway car collapsed during unloading. A new railcar was purchased that did not have the low pressure specification that operation was used to.

Photo from demonstration video

## Aspects:

- Emptying without a vapour line results in under-pressure. Railcars (and trucks) often do not have vacuum relief devices. Tanks that are not designed for vacuum will collapse
- When purchasing new equipment, the specifications (like pressure rating) need to be carefully checked
- A connected railcar is part of the process that has to be reviewed in a PHA: include this in the HAZOP
- Use gas displacement procedure, e.g. a vapour line for pressure equalization, when a railcar is unloaded, to avoid low pressure
- Blocked lines (freezing / fouling) may prevent addition of air, nitrogen or vapours and generate unexpected vacuum
- Upon arrival of new equipment, validate specifications before putting it in use, or connecting it to the plant

**Assure good specifications for new equipment**