

July 2014

TT-LO-105

Manhole lid ejected during unloading

Description of the incident/accident

During an unloading operation of Polyethylene, one of the lids of the manhole on the top of road tank ejected (see picture on the left)

The lid was found on top on the roof of the building next to the unloading station.

Nobody was injured.

The tank truck had passed the annual revision

Root cause(s):

One of the 3 double hand nuts to close the lid failed and the lid was ejected.

The failure was not due to any overpressure in the tank during the unloading.

The most likely root cause of the failure is due to an inaccurate integrity check of the thread of the double hand nut.

The man lid system was one of the older systems. The lid is fixed on the silo with three bolts.

The newer systems are equipped with 4 fixing bolts and a hinge, which is connected at the silo. Most of these newer systems have also a safety head (see picture on the right) on the screws which will prevent that the female lid of the screw can be

expelled from the lid. This system is reducing the risk of expelled lids as happened during this incident.

Learning Points:

- Immediate information of management when near miss/ deficiency occurs can avoid an accident
- Checking all equipment on a regular basis (even the most simple like a double hand nuts) is critical to avoid incidents.

Corrective action:

- Carrier will not send trucks with only 3 double hand nuts to close the lid. All trucks will be 4 double hand nuts to close the lid to avoid this happen again
- The carrier, who is responsible for the maintenance, need to check carefully the integrity of all equipment on a periodic basis

