TRANSPORT – Fatal 6 - Tipper lorry roll over during the unloading of a bulk fuel material

WHAT HAPPENED

The lorry overturned during the start of its off-loading procedure. The incident was captured on video. Fortunately, nobody was injured in this high potential incident.

Please view the 30 second video clip of the incident that was captured by the site camera.

Damage was sustained to the trailer unit, plus some spillage of the load – the area was cleaned and returned to site standards.

Main Root Causes

- Failure of tipping valve lever to return to the neutral position after operation.
- The lever was found to be defective ('wobbly') and the rubber boot around the lever handle had split allowing dirt to enter the mechanism.

Please see below an image of the faulty lever mechanism

LEARNING POINTS / ACTIONS TAKEN

Recommended Actions / Learning Points

- An exclusion zone to be established around the designated tipping location to prevent personnel and vehicle access within the 'danger area'.
- Ground at designated tipping area checked (confirmed) to ensure level and solid.
- Inspect tipping valves on all hauliers' trailers with similar mechanism.
- Communicate this incident to all tipping vehicle delivery drivers and site personnel to ensure they understand the root cause and are extra vigilant (Haulier)
- In the short term, a company representative to assist the tipping of all fuel tipping trailers.
- All other tipping activities reviewed.
- Ensure check of tipping valve operation is included in driver daily checks from now on and add a more thorough check by a mechanic to trailer annual maintenance check or similar (Haulier)
- Modern controls only operate when the lever is pushed to raise or lower and should return to neutral automatically as soon as hand is taken off the control.
- Checks should also include the safe and effective operation of the tailgate mechanism.

Additional considerations beyond the scope of this specific incident but reflecting engineering solutions that can mitigate risks whilst tipping.

1.Use of vehicles with the tipping gear control in the cab.

The driver can remain located in the cab with a seat belt on and the cab door closed. The driver can observe the discharge via mirrors or cameras. One advantage of the rear camera on tippers – it that if configured correctly you can observe the discharge. Some companies specify the tipping gear controls to be fitted on the left side of the driver's seat – so the driver must be physically in the driver seat to operate.

In many vehicles the control leaver is located on the left side of the driver's seat, but the driver is still able to operate from ground with driver stood outside with the door open.

Situations where a driver is able to operate the tipping gear controls whilst outside the vehicle means that he is located within the exclusion zone and cannot observe as much as when located in the cab, increasing the risk for the driver and others.

2. Use of inclinometers

Many vehicles are now fitted with inclinometers that provide warnings and/or automatically stop or prevent the tipping process if outside safe parameters.

3. Use of structures that prevent overturns see image below typical structure

Additional resources support training and reinforcement of good practice

- CEMEX Toolbox Talk on the use of inclinometers – available via Safequarry.
- MPA's Drivers Guide section on Tipping – see image below. Available via Safequarry

LOCATION:	**LIME & SLAG PLANTS**	**ALERT STATUS:**	**Normal**
ACTIVITY:	**TRANSPORT & LOGISTICS / DELIVERY**	**DATE ISSUED:**	**30/11/2023 17:24:43**
SUB ACTIVITY:	**DELIVERING FUELS & LUBRICANTS**	**INCIDENT No:**	**03680**