

INCIDENT TYPE:

Serious “Near Miss” 2.5t TANK FALLS OFF DELIVERY TRUCK



What happened?

During the off-loading of three 2.5T water filtration tanks one of them rolled off the “bed” of its transportation wagon as its final transit strap was removed. (See picture above)

Luckily no one was injured as a result of the incident however this was deemed to be out of luck as opposed to the presence of safe system of work being applied by the driver.

The investigation which followed discovered that the direct cause of the incident was the loss of a temporary support leg which had become detached from the tank itself at some point during transit. These legs had been purposely designed to allow the tanks to be laid at 90 degrees to their normal position. This orientation was required to avoid any restricted height issues that may have arisen during transportation. The tanks were also “naturally” top heavy and therefore warranted being inverted during transportation. The picture opposite shows the temporary legs and how they are configured on a tank. It was one of these legs that had fell off thus causing the tank to become unstable once the transit straps were removed.

It is not known what caused the suspect leg to fall off however it has been suggested that the leg was secured with non locking bolts which had the potential to loosen when subject to vibration similar to that incurred during transportation. It should be noted that this is a hypothesis and not proven. It should also be noted that upon inspection a further two legs were found to be loose. This would suggest that the wrong bolts were used.

The loss of the support leg had immediate impact stability as this was being maintained by the transit straps.

At this point the tank was only being supported by the transit straps and when they were released the tank continued its rolling motion and rolled off the vehicle.

At the time of the incident a lifting operation had been initiated and a team had been assigned to undertake the operation. However this did not impact on the stability of the load.

It was also noted that the delivery of the three tanks began in France where they were manufactured and involved two haulage companies. This logistic required the equipment to be off-loaded and re-loaded onto another delivery wagon.

Conclusion

The delivery and control of materials is as much part of construction as their installation. The CDM Construction Plan (inclusive of Lifting Plan) must detail the arrangements that have been made for the delivery of materials/plant.

This should include personnel, equipment and risk management arrangements.

Where several parties are involved in an activity the identification, development and conveyance of key safety information must be achieved at the earliest possible point in time.

All key roles and responsibilities must be understood by those fulfilling those roles.

What has this incident highlighted

During a number of incident reviews it was concluded that there was insufficient information available for either the Delivery Driver or the Site Team undertaking the lifting activity to make an assessment of the load prior to the release of the transit straps. The availability of information pertaining to the significance of the support legs may have caused both the Site Team and Driver to recognise the missing leg and its impact on the stability.

The Lifting Plan for the project did not delineate identify roles and responsibilities for deliveries therefore there was no information on who was responsible for assessing the tanks (load) prior to the release of the transit straps or when undertaking the lift.

There was no temporary works design information available from the Designer. This information would have been key in identifying the importance of the legs and identify the need to ensure that they were in place prior to transit straps being removed.

There was no clear delineation between temporary works.

The Lifting Plan did not identify the need for such information or any form of Delivery Plan however a Materials Checklist had been completed and it stated that the load was stable and safe to move – This was confirmed by the Driver in writing. This statement would be true only when the transit straps were still in place.

The person who planned the lift was not the person in charge of the lift on the day. The Lifting Supervisor was not trained to the same level as the person planning the lift.



Preventing a re-occurrence

The control of such risks can only be successfully achieved through a collaborative approach beginning with the Designer, moving on to the Delivery Driver (and his/her company) and concluding with those undertaking the off-loading activity. In all cases the Principal Contractor must ensure all such control points are functioning.

The following points highlight the key safety controls to be applied for similar activities:

- Ensure all temporary works designs (TWD) are appropriate for the circumstances of their use. They should be clearly visible from the permanent works.
- The Designer makes all TWD information available. Any specific information which is critical when lifting should be made available by the Designer. This should form the initial stage of a Written Delivery Plan.
- The Driver should be informed or make him/her informed of any TWD that have a bearing on the safety of his/her load.
- The Driver should ensure that the temporary measures remain functioning during transportation. This should form part of a formal inspection regime. This would form the second stage of the Written Delivery Plan.
- Principal Contractors must have appropriate arrangements in place to manage the hazards/risks with deliveries to their projects.
- Prior to any off-loading those appointed to undertake the delivery off-loading activity should appraise themselves of the initial Written Delivery Plan and identify any unsafe situations that may have arisen during transit or that may arise during the off-loading activity (e.g. loss of stability). This should form the third part of the Written Delivery Plan.
- If the “Delivery Team” are unhappy or not satisfied that the load will not remain stable following the release of any transit straps then the load **MUST** be returned to the supplier. Information should be returned to the supplier noting the safety concerns. This would form the last part of the Written Delivery Plan.

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