

HSEQ Lessons Learned #23

Skip Bin Loading Incident

Background:

A 40m³ 'roll on – roll off' skip bin was being picked up by a truck and removed from a Kennett project. The bin had been filled with 'light weight demolition' waste. The weight of the bin was within the Safe Working Load of the trucks loading mechanism (this was not a contributing factor to the incident cause).

The general process for loading a bin onto a truck is:

- The truck reverses up to the bin;
- The driver ensures the truck it is lined up in a straight line with the bin;
- The driver engages the bin with a hook/ram loading system on the truck;
- The driver checks that two support rails on the bottom of the bin are in alignment with two guide rollers positioned on the truck. These rollers are the mechanism for guiding the bin onto the truck;
- The driver pulls the bin onto the back of the truck using the hook/ram loading system.

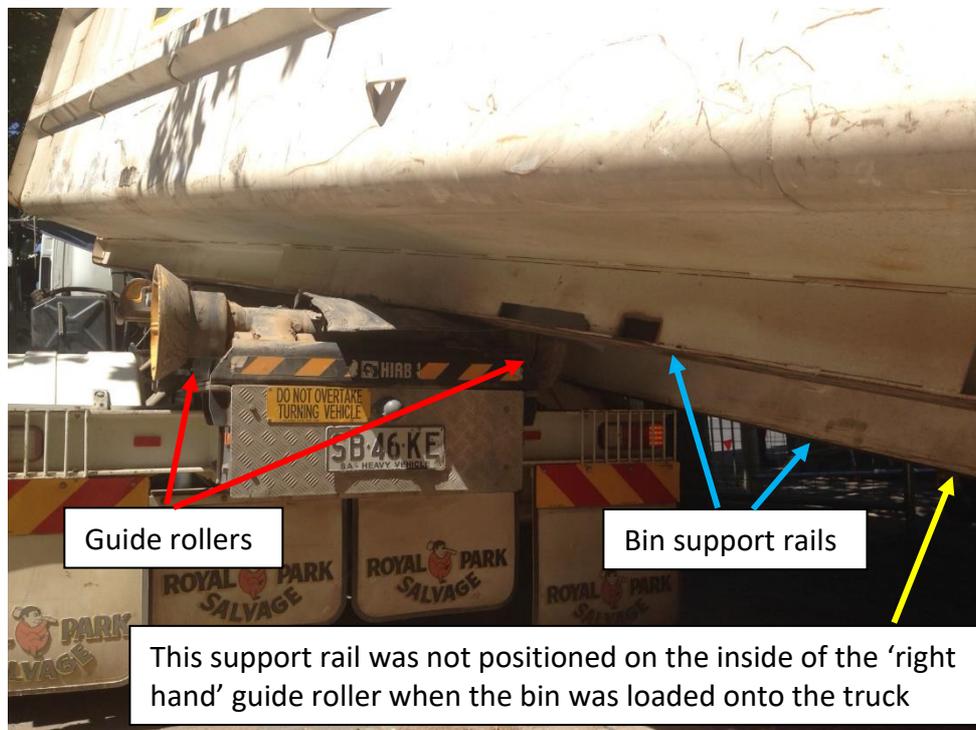
In this instance, when the truck was backed up to the bin, the truck was not in direct alignment with the bin (the truck was on an angle to the bin). This meant that when the driver began to pull the bin onto the truck, one of the support rails on the bottom of the bin was not positioned on the inside of guide roller (see picture below). The driver did not confirm the support rails were correctly aligned with the guide rollers prior to loading the bin.

The ground was also on a slight angle which meant the truck was sloping slightly to one side. Consequently, as the bin was pulled further onto the truck, the bin got to a point where it began to tip to one side and slide off the back of the truck.

The bin came to rest on a tree (which was next to the bin). It also struck an electrical board that was positioned near the rear of the truck.

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Guide rollers

Bin support rails

This support rail was not positioned on the inside of the 'right hand' guide roller when the bin was loaded onto the truck

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Contributing Factors:

- The design of the bin loading system is such that there is no mechanism in place to stop the loading process if support rails are not aligned with the guide rollers (e.g. a limit switch or alarm system to notify drivers of misalignment);
- The subcontractor had no formal procedure in place for loading/unloading bins;
- There was no requirement for Kennett to confirm a formal procedure was in place for loading/unloading bins;
- There was no formal training program in place that instructs drivers of the steps needed to load and unload bins;
- A raised garden bed was in front and to the left of where the bin was positioned. This meant the driver could not easily position the truck in a straight line with the bin;
- The ground was not flat, it was sloping. This meant the bin was also sloping to one side;
- The bin was tall making it top heavy;
- The bin and the support rails on the truck are both made of steel. When steel is positioned on steel it slips easily. This meant that when the bin began to slip from the truck, there was no resistance between the two surfaces;
- The truck was not aligned in a straight line with the bin (it was on an angle);
- The driver did not identify that one of the support rails at the bottom of the bin was not positioned on the inside of the guide roller on the truck, prior to the bin being loaded onto the truck.

Corrective Actions:

- Kennett Site Management is to be instructed to ensure:
 - Clear access (where practicable) is given for drivers to gain straight line access to bins when dropping off/picking up bins;
 - Ground conditions are flat (where practicable);
 - Electrical installations (or other hazards) are not near bin lay down areas (where practicable);
 - An exclusion zone is to be established in the bin drop off/pick up area so foot traffic cannot enter this area when bins are being loaded/unloaded. If this is not practicable, a spotter must be used to prevent access by foot traffic to this area;
- Kennett to advise the demolition subcontractor to review their bin delivery driver training program, and to consider implementing a formal program that clearly describes the steps needed to safely load and unload roll on/roll off bins. It is recommended that



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the program should include a practical and theoretical component, and describe what can go wrong if bins and trucks are not aligned properly.

- Kennett to advise the demolition subcontractor to consider contacting the manufacturer of the bin loading mechanism, and discuss the prospect of fitting a mechanism that prevents bins from being loaded if they are not properly aligned with guide rollers (e.g. a limit switch or alarm system to notify drivers of bin/truck misalignment).
- Kennett to ensure the demolition subcontractor confirms that the truck involved with the incident on site is safe to use for future deliveries to site.
- Kennett to develop a Lessons Learned detailing the findings from this incident and to communicate these findings to relevant stakeholders.

Lessons Learned:

The importance of:

- Ensuring clear procedures are in place for activities that involve the use of powered mobile plant (including bin deliveries to and from site).
- Assessing the location of bin laydown areas and where practicable, positioning bins away from hazards such as electrical boards, sloping ground and foot traffic.
- Placing bins (where practicable) in areas where drivers can easily align the truck in a straight line with the bin.
- Ensuring foot traffic is excluded from 'the line of fire' of powered mobile plant and equipment and where practicable from areas where powered mobile plant is operating.

