

**REGULATION 28: PREVENTION OF FUTURE DEATHS
REPORT MADE ON 22 APRIL 2024 (REF: 2024-0213)**

DENNIS EAGLE'S RESPONSE

14 June 2024



Introduction

Dennis Eagle takes the safety of its customers, their communities and the wider public, very seriously. We remain steadfast in our commitment to continue to provide compliant, safe and high-quality products and services that not only meet but exceed industry standards, and we will continue to work closely and collaboratively with our waste/automotive industry partners and the relevant regulators/standards authorities, to highlight the importance of (and influence) safety in waste collection operations.

Dennis Eagle has been diligently and expeditiously working towards developing additional safety features which comprehensively comply with the legislative requirements outlined in the Supply of Machinery Safety Regulations 2008, and listening to the experience of the large base of customers that use our products.

Dennis Eagle are confident that all products have met the regulatory requirements in place at the time of delivery, but recognise that our approach to reviewing safety related issues is a continuous process which evolves based on real world experience and we therefore need to consider the Concern's raised by Coventry Coroner's Office (as detailed below).

The improvements we have made to date ensure that Dennis Eagle products remain compliant and safe, but also lead the way in setting the standard for safety in waste collection operations.

Coroner's Concerns

The Coroner's concerns contained in PFD Report (2024-0213) were focussed across four (4) main areas, which included:

1. Warning signs about the operating zone at the rear of the vehicle, easily visible to the public and reminding bin operatives.
2. Transparent screens between the rear bin-lift control panel and operating zone, impacting the accessibility of the emergency stop when an emergency arose with a person located within the operating zone.
3. Sun glare on monitors in the driver's cab, impacting upon the driver's ability to clearly see the rear of the bin lorry and observe refuse collectors.
4. Availability of "modification software", to disengage the automatic compaction cycle when certain sensors are disengaged (i.e., when a bin container becomes detached).

Dennis Eagle welcomes these general observations and in this document, we address each of the Coroner's areas of concern by describing the steps already taken, measures being introduced now and/or any considerations for the future.

In writing this response, we would like to again express our deepest condolences to David Carpenter's family, friends and colleagues.



Coroner’s Concern: One (1)

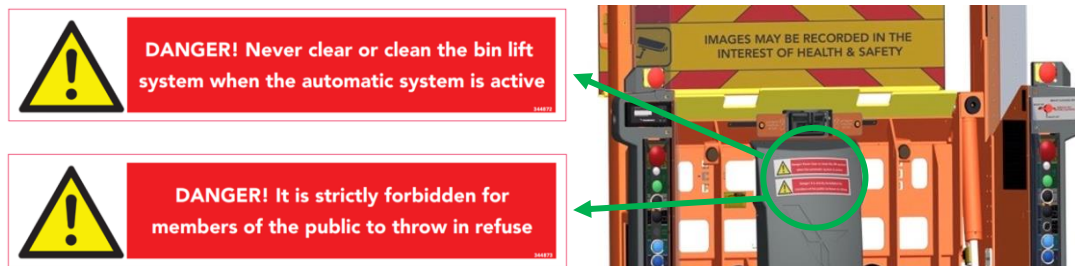
Warning signs about the operating zone, easily visible to the public and reminding bin operatives.

The purpose of the dust curtain is to reduce the likelihood of loose debris escaping from the rear of the bin hopper. Since January 2024, “warning” varieties of the dust curtain (as pictured below) have been readily available as a customisable option to all customers, which provide clear and distinct warning text and visuals about the area being approached.



The “warning” variety dust curtain shall be offered for retrospective fitment on a free of charge basis to all customers with existing products in service.

As of January 2024, all new “OmniDEKA” bin-lift mechanisms have additional safety features, including: (i) a clearly-audible warning sound if an object is detected in the bin-lift operating zone that is not a bin (i.e., a person); and (ii) a number of additional safety decals (pictured below) around the bin-lift which warns against hazardous and unauthorised use.



The additional safety decals shall be offered on a free of charge basis to all customers with existing products in service.

These measures are designed to increase awareness of the bin-lift operating zones, and to warn against improper or untrained use.

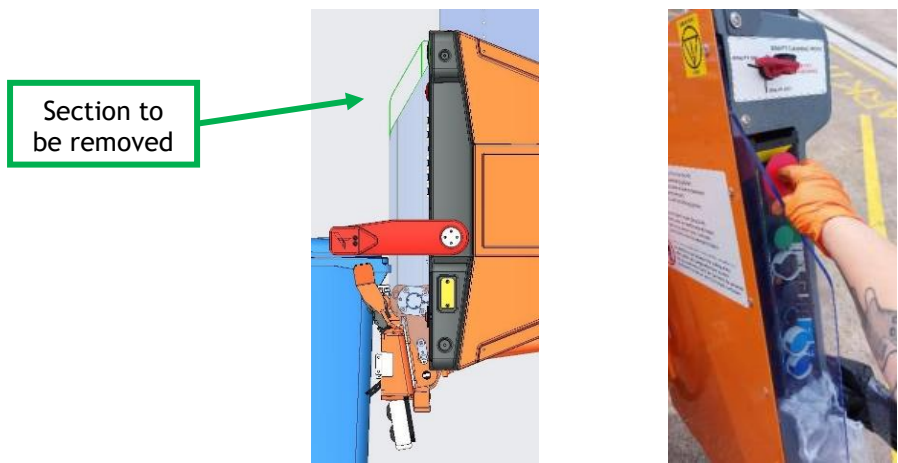


Coroner's Concern: Two (2)

Transparent screens between the rear bin-lift control panel and operating zone, impacting the accessibility of the emergency stop when an emergency arose with a person located within the operating zone.

The transparent screens located between the rear bin-lift control panel and bin-lift operating zone perform a valuable function in protecting the rear bin-lift control panel from unintended activation and accidental damage which can be commonly caused by loose, falling or large debris.

To aid the accessibility and use of the emergency stop in certain situations, we have developed a solution to have the relevant, potentially obstructing, section of the transparent screen cut away or replaced (as pictured below).



The transparent screen alteration or replacement shall be offered for retrospective fitment on a free of charge basis to all customers with existing products in service.

On newer bin-lift mechanisms, additional emergency stops (as pictured below, in green) have been inserted on top of the existing rear bin-lift control panel which are easily accessed or used in the event of an emergency arising within the bin-lift operating zone or during the automatic bin-lift cycle. Note, these additional emergency stops are not guarded by any transparent screen and are angled towards the bin-lift operating zone.



These measures are designed to increase accessibility and to reduce the likelihood of unintended/accidental damage and/or activation.



Coroner's Concern: Three (3)

Sun glare on monitors in the drivers cab, impacting upon the driver's ability to clearly see the rear of the bin lorry and observe refuse collectors.

As standard, all monitors inside the vehicle's cab are now fitted with: (i) an adjustable arm/podium, which allows for the monitor to be positioned away from sun glare; and (ii) a matt-finish screen, to decrease the likelihood and impact of sun glare (where unavoidable).

To further increase visibility and provide additional protection against sun glare, we have developed a solution (a shroud) to extend the cover provided to in-cab monitors (as pictured below).



The in-cab monitor shroud shall be offered for retrospective fitment on a free of charge basis to all customers with existing products in service.



Coroner’s Concern: Four (4)

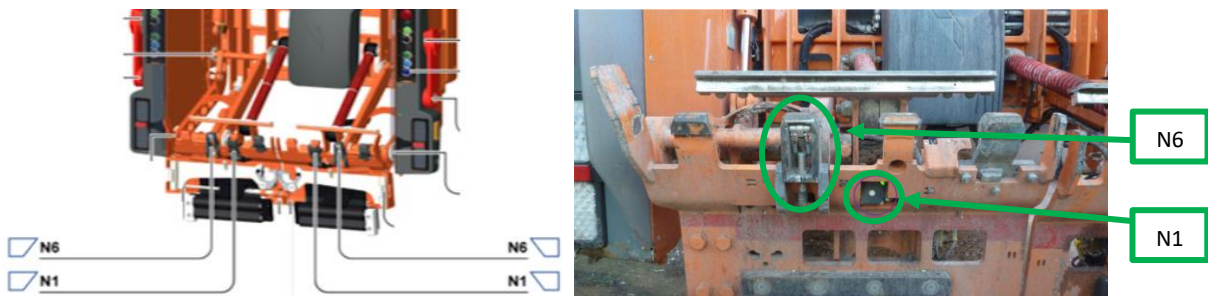
Availability of “modification software”, to disengage the automatic compaction cycle when certain sensors are disengaged (i.e., when a bin container becomes detached).

The “modification software” refers to a solution called “bin-lift compaction control upgrade” (BCCU), which uses software to verify that a bin container remains present on the bin-lift chair during an emptying cycle. This is completed by monitoring signals from: (i) the N1 (start) sensor, which detects the presence of a bin container as it approaches the rear bin-lift mechanism and begins the automatic bin-lift cycle; and (ii) the N6 (security) sensor detects when a bin container is engaged by the bin-lift comb/teeth (each, as pictured below).

When a signal is lost from either the N1 or N6, a clear message is displayed on the diagnostic display system located next to the bin-lift control panel and a new “container lost” function is activated, which: (i) stops any active lifting cycle; (ii) turns off automatic mode; and (iii) interrupts the compaction request and places the mechanism in manual mode until the system is reset.

In addition:

- (1) when an operator switches from automatic mode to manual mode on either control panel (at either side of the vehicle), both nearside and offside lifting chairs are placed into manual mode; and
- (2) an additional timer has been introduced for deactivating the automatic mode if the bin-lift system or vehicle has not been operated for a period of two (2) minutes (i.e., when the bin-lift has been left unattended).



The BCCU solution shall be offered for retrospective fitment on a free of charge basis to all customers with existing products in service.

This measure is designed to significantly reduce the likelihood of an unintended object (i.e., a person) from being lifted by the rear bin-lift mechanism and subject to the compaction mechanism.



ADDITIONAL ACTIVITIES

Customer Communication

In addition to fitting all above items as standard features on new refuse bodies and bin-lifts where applicable, Dennis Eagle can confirm that the “warning” variety of the dust curtain, transparent screen alteration or replacement, monitor shroud and BCCU software items shall be offered for retrospective fitment on a free of charge basis to all customers with existing products in service.

This campaign will be communicated to all customers using the same process as established for other “product campaign” activities previously completed by Dennis Eagle, i.e. contact with customer will be repeatedly attempted in writing (up to three (3) times, on an escalating basis) with follow up telephone calls being made to those customers who have not responded to earlier written recommendations, and proactively targeting customers with larger fleets in order to expedite campaign completion.

We expect that this approach will help us to complete the rework activity as efficiently (and as practicably) as possible, without undue delay or complication.

Dennis Eagle expect to start the customer communication process by the beginning of August 2024, once the additional resources have been put in place to manage a campaign on this scale and conduct the rework activities, together with procurement of all necessary components, as is standard with any large-scale national product update campaign from a manufacturer.

Training and Manuals

Operator handbooks and associated training materials have been updated in line with the product updates detailed within this document and shall be offered on a free of charge basis to all customers with existing products in service.

Industry Developments

In addition to the product updates, Dennis Eagle are actively working with other waste/automotive industry partners. This work includes:

- the top three (3) manufacturers of refuse collection vehicles supplying the UK market (namely, Faun Zoeller, Hillend and Terberg/Dennis Eagle) agreeing to share knowledge relating to industry practices and the identification of risks associated with the operation of refuse collection vehicles. This is a major development within the industry and will ensure that any new or unforeseen risks, which had not previously been identified will be shared across the industry as soon as they become known, ensuring that the key manufacturers can take appropriate action to mitigate the impact of these previously unforeseen risks at the earliest opportunity. However, the case remains that all manufacturers are reliant on proper near miss and incident reporting programmes at an operational level being communicated to them to better, and in a timely manner, identify trends and concerns; and
- Dennis Eagle has direct representation on the British Standards Institution (BSi) working group to develop UK standards for refuse collection equipment, in particular automatic bin-lift mechanisms. This group is actively working on the introduction of standards aimed at improving operational safety, and one of the key objectives for this standard is to introduce technology which is reliably able to distinguish between a person and a refuse bin container, with the aim of preventing bin-lift operation when a person is present within the operating zone.