



Safety Alert

M4 Lantern Incident

29 February 2024

The following pages of this safety alert were issued by:

Balfour Beatty

NHa347

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and **well**

Safety Alert

What happened?

It was reported that on 02/01/2024, a street lighting lantern in the central reserve (lighting column No. 392/008 at M4 J5) became loose from the bracket and was suspended by the lanyard during Storm Henk. The Storm blew the swinging lantern which caused it to strike the column. The highest wind speed was recorded to be 88.9km/h at nearby Heathrow Airport.

The Area 5 maintainer was called to attend the site. While the Area 5 maintainer (CPS) were waiting for the lane closure to collect the swinging lantern, the lanyard broke, and the lantern fell to the ground at approx. 16:30. No members of the public were affected because of the falling lantern. The lantern was recovered safely.



Lantern detached and hung by lanyard
During Storm Henk



Fallen Lantern and Spigot



Snapped Lanyard



D-Shackle fixing detail

Balfour Beatty Vinci (column and lantern installer) was informed of the incident on 04/01/24. Balfour Beatty Vinci carried out a drive-through immediately and reported another 2no loose lanterns and 4no rotated lanterns after the Storm. Area Maintainers have removed 2no loose lanterns to make safe.

Initial findings summary: -

- Two National Highways CHE Memos, CHE Memo 421/18 and CHE Memo 431/18, were produced in year 2018 specifying an additional safety measure of using banding and a lanyard when installing Philips Luma lanterns because spigot fixing bolts could become loose. This solution was specified and applied in M4 scheme. The fallen lantern and spigot were installed following these two CHE Memo's.
- In total, 822no lanterns have been installed on side entry steel columns (Area 3) or aluminium columns (Area 5)
- The installed lanyard has been procured from the NH's approved supplier for retrofit lanyards after the loose lantern issue identified in CHE memo 421/18.
- Specialist lighting installer confirmed that the checklist was attached to the Works Package Plan which was issued and briefed to the crews. There was no check sheet to fill in.
- After the incident on 02/01/2024, maintainers conducted a sample inspection (40no in Area 3 and 46no in Area 5) and below are initial findings (Full inspection is being conducted by the scheme):
 - At some locations (37no in Area 3, 2no in Area 5), grub screws on the lantern bracket require to be tightened from 15Nm to the specified 20Nm
 - At one location, it is noticed that the post top spigots have been used on side entry brackets.
 - It is noticed that the locking wires are missing on the D-shackles at all locations.
 - 1no lantern was found to have 1 grub screw spinning in place and the other grub screw torqued to 20Nm

Further Actions

Below is a summary of the immediate actions:

- When observed that a lantern is detached from the bracket, this should be reported to ROCs to implement emergency TM and speed restriction to establish a safety zone immediately in case the lanyard breaks.
- Once it is safe to access, maintainers should remove or reinstate the lantern immediately.
- Installer shall install in accordance with manufacturers' specification and installation requirements such that the system will meet its declared performance.
- Installers shall follow installation manuals to use appropriate tools and materials (including correct spigots) and keep all detailed installation records.
- Toolbox Talk and quality assurance documentations shall be reviewed to ensure they are up to date.
- BBV is undertaking a quality review on the specialist subcontractor.

The scheme was handed over to maintenance in December 2022. It has been agreed that the below actions are undertaken:

- National Highways SES team is leading an investigation to find the root causes and provide any possible further rectification advice, this is currently ongoing.
- Balfour Beatty Vinci and the specialist lighting installers to inspect all installed lanterns to rectify any identified defects on spigots and lockwires.