

Safe use of ballast brushes

Issued to: **All Network Rail line managers, safety professionals and accredited contractors**

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Location: Warminster, Wessex Route

Contact: [Malcolm Miles](#), Network Technical Head - Plant



Overview

On 26th February 2021 at 01:21hrs, a member of staff was acting as a Machine Controller (MC) for a Road Rail Vehicle with a ballast brush attachment.

The individual was struck by a ballast stone that was ejected by the ballast brush. It caused a significant, life-changing injury to the left eye and cheek bone.

The MC was standing ahead of the machine and outside the exclusion zone at the time of the incident. He was not wearing eye protection.

The ballast brush had been maintained by the supplier before delivery to this site, replacing some missing/damaged tines but not the damaged and shortened rubber skirts that are intended to contain ballast during operation.

The ballast brush was being used in deeper ballast and with faster forward speed than designed.

While the investigation is concluded and we agree design improvements, all operators and machine controllers must implement the following control measures.

Immediate action required

- Pre-delivery and pre-use inspections must be undertaken to ensure that there is no damage to the skirt. Any brushes found to have defective skirts shall be quarantined.
- Ballast brush skirts must provide maximum coverage. Only brushes with a single 3rd rail cut-out can be used in 3rd rail areas. Cut-outs are not allowed for other areas.
- Shift plans for using ballast brushes in 3rd rail areas must allow sufficient time for an additional pass through the site: one in each direction.
- Machine controllers shall maintain a 30m exclusion zone around the machine whilst the ballast brush is in operation. If the machine controller needs to inspect the track in advance of the machine due to obstacles or deep ballast, then the ballast brush shall be stopped whilst this is completed.
- Thorough site walk outs must be completed before any ballast brush operations are undertaken to identify any deep ballast areas that may cause the brush to dig in and any other obstacles/hazards that the MC needs to know.
- Assurance checks need to be completed to ensure the requirements of this safety advice are being complied with.
- Eye protection must be worn by all staff.