



MINES INSPECTORATE

SAFETY NEWSFLASH

PURPOSE: *To provide organisations an early opportunity to examine their exposure to an actual, perceived or potential safety issue.*

NOTE: *A formal Safety Alert may well be issued once all the facts are known and understood.*

ISSUE INFORMATION:

Failure of electrical protection circuit

Overview of Incident

During a routine regulatory detailed internal electrical inspection on an underground loader, it was found that the short circuit protection would not trip the alternator when the positive and negative supply cables were shorted together. Further testing on other diesel vehicles revealed the same condition. Preliminary investigation has found there to be an issue with the cable cross sectional area and length affecting the fault loop impedance of the circuits on the machine.

Things to Consider

- Do your site maintenance procedures for alternator protection devices include testing at the furthest point (worst case scenario) in the circuit?
- Has the fault loop impedance been considered in the installation of cables on underground mining equipment?
- Refer to original equipment suppliers for guidance on installation, maintenance and usage, including cable sizing and maximum cable lengths.

Issued by: Neville Atkinson

Date: 17/04/2019

Distribution: Coal u/g