



Electrical Engineering Safety

Decision Sheet 9.2

Failure of Electrical Ex Equipment in a Hazardous Zone

A basis for consistent application of Electrical Engineering Safety issues at NSW mines

Decision Sheets are developed by the Inspectors of Electrical Engineering in response to issues raised or questions asked by others in the DPI, in particular Mine Safety Operations and from our external clients. They are for use by any staff in Mine Safety Operations, but primarily by Electrical Engineering staff. They can be distributed externally to the DPI.

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In-service failure of explosion-protection characteristics of explosion protected plant in a hazardous zone

Preamble

Mines are required to report incidents involving the in-service failure of explosion protected equipment in a hazardous zone. The DPI cannot investigate all these matters and will rely on mine's conducting an investigation and reporting to the DPI. Sometimes the evidence of failure of explosion protected properties only becomes apparent after the equipment has been inspected / tested at a licensed Ex repair workshop.

Issue

What is an in-service failure of explosion protected characteristics?

On some occasions a workshop may identify that an item of equipment is not in an explosion protected condition at strip down and that the defect was unlikely to have been identified at the mine.

Position

Failure of explosion protected characteristics are:

- any condition that renders the equipment not capable of fulfilling its explosion protection duties, this can include being used outside the conditions of use specified in the certificate of conformity or approval,
- non-compliance to the standard that the equipment was certified or approved to with regard to explosion protected properties,
- not in its certified or approved condition with regard to explosion protected characteristics.

Investigating failures of explosion protected characteristics:

The coal operator shall have a process for investigating the cause of every failure of explosion protected characteristics of an explosion protected piece of equipment in the hazardous zone. A report must be made to the DPI.



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Licensed Ex repair workshops may also be a source for identifying a failure of explosion protected characteristics. A good quality management system will capture such sources of information and include them in the reporting processes. The mine shall have a process whereby licensed Ex repair workshops report evidence of failure of explosion protected characteristics to the mine.

Reporting to the DPI must be done in accordance with legislative requirements.

Note 1: Mine Safety Operations procedures

Every report is an incident. Every incident is a COMET database event. It is important to enter each and every incident into the COMET database. The information entered into the COMET database needs to clearly identify the main causal factors and the name of the manufacturer and the name of the organisation that did the last code C1 inspection or repair / overhaul, so that COMET data can be used to target problem areas.

Note 2: Notification of certain incidents

Clause 56(1)(m), Coal Mine Health and Safety Regulation 2006, requires notification of “*the in-service failure of the explosion-protection characteristics of explosion-protected plant.*”

- Notification is pursuant to Section 110(c) of the Act.
- Notification must occur as soon as possible, but no later than 7 days after the operator becomes aware. This means that if a workshop identifies evidence of the failure of explosion protected characteristics, then the operator has seven days from that date in which to notify the DPI and Industry Check Inspector.
- The notification must be on the prescribed form that is on the website, there is no ancillary report form specified.
- The mine can disturb the scene of the incident.

