

# Electrical Engineering Safety

## Decision Sheet 9.4

### Electrical Ex Equipment - Previously approved equipment

***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 DII, 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 DII.*

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**Electrical Engineering Safety Decision Sheet 9.4**  
**Electrical Ex Equipment – Previously Approved Equipment**

## **Preamble**

The gazette notice “Types of electrical plant used in a hazardous zone” specifies that plant of a type detailed on the list “Explosion Protected Electrical Apparatus Approvals List”, (as amended from time to time) can be used in a hazardous zone.

This approvals list has been derived after a survey of the NSW industry. The survey identified approved equipment that was in use at the time of the survey. It was this equipment that was put on the approvals list. Any equipment that had previously been approved and was not in use was not placed on the approvals list.

The gazette notice can be accessed at:

[http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0005/203198/Types-of-electrical-plant-used-in-hazardous-zones---CMHS-Act-2002.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0005/203198/Types-of-electrical-plant-used-in-hazardous-zones---CMHS-Act-2002.pdf)

The Electrical Apparatus Approvals List can be accessed at:

[http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0010/81478/DPI-web-publication-approvals-list-090828.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0010/81478/DPI-web-publication-approvals-list-090828.pdf)

## **Issues**

Equipment that has not been in use for a number of years has been identified for future use. The equipment has been removed from the approvals list and therefore it does not conform to the requirements of the gazette notice. As such, the use of this equipment in a hazardous zone at a NSW mine would not conform to the requirements of the Coal Mine Health and Safety Regulation 2006.

There are two separate issues:

**Issue 1:** Should this equipment be restored to the approvals list?

**Issue 2:** If an operator applies for an exemption to allow the use of the equipment, what supporting information should be provided before the application is evaluated?



## **Position**

### **Issue 1: Should the DII restore the subject equipment to the approvals list?**

**Answer:**

NO. It is the DII's stated aim that ALL electrical equipment used in a hazardous zone is certified.

### **Issue 2: If an operator applies for an exemption to allow the use of the equipment, what supporting information should be required before the application is evaluated?**

**Answer:**

The exemption application would need to be made from the requirements of clause 19(1)(c). The principle of conforming to the latest published standards or equivalent would be applied.

- 1) The application for an exemption would need to be supported by:
  - a) A credible risk assessment and options selection process that establishes there is no certified alternative equipment available in the foreseeable future.
  - b) A list of equipment subject to the exemption. Such equipment would need to be identified by serial number, and include the following documents:
    - i) The original approval document
    - ii) Any relevant supplementary approval documents
    - iii) All drawings listed on the approval and supplementary approvals..
  - c) A credible demonstration of achieving a tolerable and ALARP risk with respect to ignition sources and prevention of ignition. In particular:
    - i) An assessment by a competent person or organisation that the equipment complies with the original and supplementary approvals
    - ii) A clause by clause assessment of compliance (or otherwise) with the current published explosion protection standards. Where non-compliance is identified, alternative risk controls that provide for at least an equivalent level of risk and equivalence in the hierarchy of risk controls would need to be specified.



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- 2) In addition there would be a need to repeat this exercise as part of normal site assessments that the operation undertakes for ALL hazards, including:
  - a) A credible demonstration of achieving a tolerable and ALARP risk
  - b) That the operator has established that the equipment complies with ALL CMHS Reg and OHS Reg requirements. In particular the supply of information so that plant can be used, maintained and repaired safely. This information must comply with Chapter 5 OHS Reg 2001.
- 3) In demonstrating ALARP risk, there will be a need to, as a minimum:
  - a) Conduct a clause by clause assessment of compliance (or otherwise) with the current published standards. Where non-compliance is identified, alternative risk controls that provide for at least an equivalent level of risk reduction and equivalence in the hierarchy of risk controls will need to be achieved. The published standards would include:
    - i) AS/NZS 4871 series,
    - ii) AS/NZS 4240,
    - iii) AS/NZS 2081 series
    - iv) AS 1299
    - v) AS 1300
  - b) Satisfy functional safety requirements.
  - c) Arc fault control / containment capabilities.

**Note:** There is no ability to process supplementary approvals so any modifications that may alter the Ex properties to the approved equipment will not be permissible.

**Note:** Availability of ALL the approval drawings; if access to the Departments file is required, there may be delays in accessing the file. The applicant would need to get permission from the approval holder or demonstrate that the approval holder is no longer in existence before access would be given to DII files. There would be a cost associated with accessing the information from our files.

