

Handbook

Mines and quarries electrical protection



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SA/SNZ HB 119:2019

This Joint Australian/New Zealand Handbook was prepared by Joint Technical Committee EL-023, Electrical Equipment in Mines and Quarries. It was approved on behalf of the Council of Standards Australia on 26 November 2019 and by the New Zealand Standards Executive on 15 November 2019.

This Handbook was published on 20 December 2019.

The following are represented on Committee EL-023:

- Australian Cablemakers Association
- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Aviation and Marine Engineers Association
- Construction Forestry Miners and Energy Union
- Department of Mines, Industry Regulation and Safety (WA)
- Department of Natural Resources, Mines and Energy (Qld)
- Engineers Australia
- Minerals Council of Australia
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This Handbook was issued in draft form for comment as DR SA/SNZ HB 119:2019.

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ISBN 978 1 76072 670 6

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First published as SA/SNZ HB 119:2019.

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Preface

This Handbook was prepared by Standards Australia/Standards New Zealand Committee EL-023, Electrical Equipment in Mines.

The objective of this Handbook is to provide a framework for the development and implementation of electrical protection at mines and quarries, thereby assisting electrical engineers tasked with protection of people and property from hazards occurring during electrical equipment failure at a mine.

This Handbook —

- (a) identifies issues that need to be addressed in order to reduce the risks from electricity to a level that is as low as reasonably practicable;
- (b) describes electrical protection arrangements that can then be tailored to suit the particular needs of a mine or quarry; and
- (c) brings together electrical protection principles specified in Australian Standards, codes of practice and guidelines. As a reference point for the following parties: practising mine electrical engineers; those aspiring to be practising mine electrical engineers; and electrical engineering service providers, e.g. designers, installers and service personnel.

The material presented assumes knowledge of power system protection in a broader sense. It is suggested that one of the post-graduate courses available in protection is undertaken. The following major reference is recommended: *Power System Protection*, Volumes 1 to 4, by the Electricity Council, ISBN: 0-906048-53-2. Volumes 1 to 3 were revised in 1995 and Volume 4, *Digital Protection and Signalling*, added in 1995.

Although this document, as a Handbook, is informative and does not specify requirements, it does refer to requirements in Standards and other legislated documents that are mandatory.

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