

**APPROVAL OF EXPLOSION-PROTECTED ELECTRICAL APPARATUS
GAZETTE NOTICE EXPLANATION NOTE**

**On 14 November 2003, the following notice was published in the NSW
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The gazette notice is re-produced below – an explanation follows

COAL MINES REGULATION ACT 1982

APPROVAL OF EXPLOSION PROTECTED ELECTRICAL APPARATUS

Pursuant to clause 70 of the Coal Mines (General) Regulation 1999, I, Robert Regan, Chief Inspector of Coal Mines approve, for the purposes of clause 140(1) of the Coal Mines (Underground) Regulation 1999, the type of explosion protected electrical apparatus described in the Schedule for the period and subject to the conditions set out in the Schedule.

Dated this 30th day of November 2003

ROBERT REGAN
Chief Inspector of Coal Mines

SCHEDULE

1 Type of apparatus approved

The type of apparatus approved is Group I electrical apparatus as defined in Section 4 of Part 0 of AS/NZS 60079.0:2000 *Electrical apparatus for explosive gas atmospheres*, for which

- i) a valid AUS Ex certificate of conformity has been issued, or
- ii) a valid ANZ Ex certificate of conformity has been issued, or
- iii) a valid certificate of conformity has been issued under the IEC Ex Scheme by an Australian Ex Certification Body (ExCB)

2 Commencement and duration of approval

This approval takes effect on and from 30 November 2003 and remains in force until it is revoked, varied or amended. The approval has effect with respect to a specified certificate number or other unique identifier.

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3 Conditions of approval

This approval is given subject to the following conditions:

- (a) The supplier of the apparatus must ensure that adequate records are maintained so that product safety notifications and/or product recalls may be readily undertaken.
- (b) Before the apparatus is introduced into a hazardous zone (within the meaning of the Coal Mines (Underground) Regulation 1999), the user of the apparatus must –
 - (i) conduct a site specific risk assessment that conforms to MDG 1010 *Risk management handbook for the mining industry* or AS/NZS 4360:1999 *Risk management* encompassing the full life cycle of the apparatus; and
 - (ii) implement all appropriate risk controls identified.
- (c) All conditions of installation, use or maintenance both specified by the manufacturer and identified on the certificate of conformity must be complied with.
- (d) Each user of the apparatus must be supplied with a copy of the certificate of conformity and sufficient information (including apparatus drawings) to enable the apparatus to be installed, used and maintained in its certified condition.
- (e) Sufficient information (including apparatus drawings) must be maintained at the mine to enable the apparatus to be installed, used and maintained in its certified condition.

4 Effect of approval

Clause 140(1) of the Coal Mines (Underground) Regulation 1999 states that explosion protected electrical apparatus must not be used in a hazardous zone at a mine unless it is of an approved type. Under Clause 5 of the Coal Mines (Underground) Regulation 1999, it is the duty of the mine manager to ensure that clause 140(1) is complied with. Clause 70 of the Coal Mines (General) Regulation 1999 allows the Chief Inspector to approve, subject to conditions, a type of apparatus for the purposes of clause 140(1) of the Coal Mines (Underground) Regulation.

The effect of this approval is that the relevant mine manager must ensure that only explosion protected electrical apparatus of the approved type is used in a hazardous zone and that the conditions of the approval are complied with.

This approval and the requirements under its conditions do not limit –

- (a) any obligations imposed on the mine manager or a mine electrical engineer by clause 9 (Standards of mechanical engineering practice &

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electrical engineering practice) of the Coal Mines (General) Regulation 1999 or any other provision of the Coal Mines Regulation Act 1982, the Occupational Health & Safety Act 2000 or the regulations under either of those Acts; or

- (b) any obligations imposed on the mine owner or any other person by any provision of those Acts or regulations.

5 This approval does not affect existing approvals

This approval –

- (a) does not apply to any apparatus (or apparatus of a type) covered by an approval given before 30 November 2003 pursuant to clause 70 of the Coal Mines (General) Regulation 1999 for the purposes of clause 140(1) of the Coal Mines (Underground) Regulation 1999 (or covered by an approval that has effect under clause 88 of the Coal Mines (General) Regulation 1999 for the purposes of clause 140(1) of the Coal Mines (Underground) Regulation 1999); and
- (b) does not affect the continuing operation of any approval referred to in paragraph (a), including the conditions of such an approval.

Definitions:

ANZ Ex certificate of conformity	A certificate of conformity issued under the Australian/New Zealand Certification Scheme for explosion- protected electrical equipment
AUS Ex certificate of conformity	A certificate of conformity issued under the Australian Certification Scheme for explosion - protected electrical equipment
Ex CB	Ex Certification Body, is a body which has been accepted according to IECEx 02, 2 nd edition, "IEC Scheme for Certification to standards for Electrical Equipment for Explosive Atmospheres".
IEC	International Electrotechnical Commission
IEC Ex Scheme	IEC Scheme for the certification to Standards for Electrical Equipment for Explosive Atmospheres

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INTRODUCTION

All electrical apparatus that is used in a NSW underground coal mine hazardous zone is required to be approved as explosion protected. The gazette notice specifies when explosion protected electrical apparatus is considered as approved.

{Note 1: Certification as explosion protected equipment for gas detecting instruments DOES NOT satisfy approval requirements for gas detecting instruments.-Methane detecting and oxygen deficiency instruments will require a certificate of conformity as explosion protected electrical equipment AND approval as a gas-detecting instrument, by the Chief Inspector of Coal Mines. (Refer AS/NZS 61779 Parts 1 – 3, “Electrical apparatus for the detection and measurement of flammable gases”).}

Note 2: Caplamps unless specifically assessed as explosion protected in accordance with the AS/NZS 60079 or AS2380 series of standards will need to conform to AS/NZS 62013 Parts 1 and 2, “Caplights for use in mines susceptible to firedamp” and be approved by the Chief Inspector of Coal Mines (generally undertaken by an Accredited Assessing Authority (AAA)).

CERTIFICATES OF CONFORMITY CONSIDERED AS APPROVED

Explosion-protected electrical apparatus is considered as approved if it has a CERTIFICATE OF CONFORMITY AS EXPLOSION-PROTECTED ELECTRICAL EQUIPMENT. The certificate of conformity MUST be either:

- AUS Ex certificate issued under the rules and procedures specified in MP69 “Explosion-protected electrical equipment – Certification scheme – Policy” or;
- ANZ Ex certificate issued under the rules and procedures specified in MP87 (Int: 2001) Australian/New Zealand Certification Scheme for explosion-protected electrical equipment (ANZEx Scheme) – “Basic rules and procedures.”
- IEC Ex certificate issued under IECEx 02, 2nd edition, “IEC Scheme for Certification to standards for Electrical Equipment for Explosive Atmospheres”. and issued by an Australian ExCB

Any Group I, AUS Ex and ANZ Ex certificates of conformity that HAVE NOT been withdrawn are acceptable.

Any Group I, IEC Ex certificates of conformity are acceptable if issued by an Australian ExCB

(Note: Apparatus that has had the approval revoked AND it also has a certificate of conformity – the revokal takes precedence)

The certificate of conformity must cover Group I apparatus.

The certificate of conformity must relate to Australian Standards series AS2380, “Electrical equipment for explosive atmospheres – Explosion-protection techniques or Australian / New Zealand Standards series AS/NZS60079 “Electrical apparatus for explosive gas atmospheres”.

(Note: Type of protection n – Non-sparking is not considered acceptable for use in NSW underground coal mine hazardous zones.)

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FIT FOR PURPOSE ELECTRICAL APPARATUS.

Clause 28(1), Coal Mines (General) Regulation 1999 states:

“Electrical equipment and installations

All electrical equipment at a mine or a declared plant must be designed, installed, commissioned, operated, maintained (including servicing, repairing and overhauling) and decommissioned in such a manner as to control any risks from fire, explosion, electric shock or unintended movement of equipment.”

Certification as explosion-protected electrical apparatus only relates to the explosion protected properties of electrical apparatus and you may notice certificates of conformity that have the following, or similar statements:

*“This certificate **does not** indicate compliance with electrical safety and performance requirements other than those included in the Standards specified on this certificate.”*

IT CAN NOT BE ASSUMED THAT A CERTIFICATE OF CONFORMITY IMPLIES COMPLIANCE WITH CLAUSE 28(1) IN TOTAL.

Certification that covers Group I does not necessarily mean the apparatus is fit for purpose in **ALL** locations in underground coal mine hazardous zones. For example, the robustness of the apparatus may be such that it is suitable to use on a longwall pantechnicon, but not on a continuous miner.

(Note 1: Australian Standards for coal mining equipment give further guidance, in particular:

AS1299, “Electrical equipment for coal mines – Flameproof restrained plugs and receptacles”.

AS1300, “Electrical equipment for coal mines – Bolted flameproof cable coupling devices”.

AS/NZS 2081 Parts 1 – 5, “Electrical equipment for coal and shale mines – Electrical protection devices”.

AS/NZS 4240, “Remote controls for mining equipment”.

AS/NZS 4871 Parts 1 – 5, “Electrical equipment for coal mines, for use underground”.

AS/NZS 61779 Parts 1 – 3, “Electrical apparatus for the detection and measurement of flammable gases”.

AS/NZS 62013 Parts 1 – 2, “Caplights for use in mines susceptible to firedamp”.

Note 2: *The above list of Australian Standards is not exhaustive.)*

To assist in achieving compliance with cause 28(1), the gazette notice contains conditions of approval. These have been categorised below under mine responsibilities and supplier/manufacturer responsibility

Mine responsibility - CONDITIONS OF APPROVAL

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Condition 3(b)

Before the apparatus is introduced into an underground coal mine hazardous zone, the user of the apparatus must –

- (iii) conduct a site specific risk assessment that conforms to MDG 1010 *Risk management handbook for the mining industry* or AS/NZS 4360:1999 *Risk management* encompassing the full life cycle of the apparatus; and
- (iv) implement all appropriate risk controls identified.

(Note 1: This may be a mine site in general or a specific site or sites within a mine. Eg. A flameproof junction box used on a continuous miner and on a longwall would require the risk assessment to encompass the two different mining environments.

Note 2: It is expected that the Standards of Engineering Practice at a mine would provide for the implementation of these risk controls in accordance with Clause 9 of Coal Mines (General) Regulation 1999)

Condition 3(c)

Any conditions of installation, use or maintenance specified by the manufacturer or identified on the certificate of conformity must be complied with.

(The mine will have to include these conditions in the Standards of Engineering Practice required by Clause 9 of Coal Mines (General) Regulation 1999)

Condition 3(e)

Sufficient information (including apparatus drawings) must be maintained at the mine to enable the apparatus to be installed, used and maintained in its certified condition.

(The mine will have to have this information available from the time the apparatus arrives at the mine to the time it is removed from the mine premises.)

Supplier/manufacturer responsibility - CONDITIONS OF APPROVAL

Condition 3(a)

The supplier of the apparatus will maintain adequate records so that product safety notifications and/or recalls can be readily undertaken.

(Note: The supplier may be the equipment manufacturer, an agent of the manufacturer, a general equipment supplier, a mine selling unwanted equipment, or an equipment hire company. Note these are indicative examples and are not meant to be exhaustive)

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Condition 3(d)

Each user of the apparatus must be supplied with a copy of the certificate of conformity and sufficient information (including apparatus drawings) to enable the apparatus to be installed, used and maintained in its certified condition.

(Note 1: The mine will have to be supplied with a copy of the certificate of conformity and the appropriate apparatus drawings – note these drawings may not necessarily be all or any of the drawings listed on the certificate of conformity.

Note 2: This information should be supplied by the organisation that sells or hires the apparatus to a mine.

Note 3: Some apparatus will consist of component parts that have separate certificates of conformity – it is essential that ALL certificates of conformity relating to the apparatus be supplied)

EFFECT ON APPROVED ELECTRICAL EXPLOSION-PROTECTED APPARATUS

This approval does not replace approvals issued prior to 30 November 2003. That is apparatus approved prior to 30 November 2003 must be used in accordance with the approval conditions specified on the approval documentation.

Where apparatus has an approval and an Ex CoC the approval takes precedence

Where apparatus has an approval and an Ex CoC and it is necessary to modify that apparatus then a supplementary Ex CoC must be obtained – any apparatus that conforms to the supplementary Ex CoC must have the approval number removed

OBLIGATIONS

Approvals do not limit the obligations placed on persons or organisations by the NSW OH&S Act 2000, CMRA 1982 and Coal Mines Regulations 1999.

ADDITIONAL INFORMATION

Prior to 01 January 2003 Accredited Assessing Authorities processed approvals of electrical explosion-protected apparatus under delegation from the Chief Inspector of Coal Mines. Post 30 November 2003, the gazette notice effectively does not require this to happen for apparatus conforming to the gazette notice.

However, it is recognised that some equipment approved prior to 30 November 2003 may need to be modified, in this case:

- Any apparatus that has an approval issued prior to 30 November 2003 **AND** a certificate of conformity, **AND** is required to be modified, will require a supplementary certificate of conformity issued.
- Any apparatus that has a certificate of conformity **AND** is required to be modified, will require a supplementary certificate of conformity issued.

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- Any apparatus that is approved **AND DOES NOT** have a certificate of conformity as well, **AND** is required to be modified, will require a supplementary approval. For this reason Accredited Assessing Authorities will fulfil this function until 01 January 2005.
- After 01 January 2005 it is expected that electrical explosion protected apparatus for use in a hazardous zone of a NSW underground coal mine will require a certificate of conformity.

Contact details of Accredited Assessing Authorities are:

- Mr L Jago, Sydney Flameproof and Eng. Pty Ltd
Telephone (02) 9542 3888, Fax (02) 9542 3991
- Mr G Waring, Waring Engineering Services
Telephone (02) 4946 5500, Fax (02) 4946 5500

IEC WEBSITE

<http://www.iecex.com/>

SAI Global website

<http://www.sai-global.com/assurance/sections/epee/>

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