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**ECONOMIC COMMISSION FOR EUROPE**

**COMMITTEE ON TRADE**

Working Party on Regulatory Cooperation and  
Standardization Policies

Eighteenth session  
Geneva, 3 - 4 November 2008  
Item 4(b) of the provisional agenda

**PANEL SESSIONS**

**Panel session 2 - Sectoral Initiative on Equipment for Explosive Environments**

**Questionnaire on Explosive Environments Equipment**

Submitted by the secretariat

The Working Party at its seventeenth session endorsed the establishment of a task force and mandated it to prepare a comparison table detailing the different regulatory approaches used in various markets, based on information collected through a questionnaire.

This document sets out the answers that were received to date from Australia, the European Union, the Russian Federation and the United States. It is submitted to the Working Party for information.

## QUESTIONS TO REGULATORS

### 1. Which national directives/laws control the placing on the market of equipment for explosive atmospheres?

#### **Australia:**

*Note: This answer only relates to coal mining in the state of New South Wales (NSW). Queensland is the other major coal mining state with hazardous areas and has state-based legislation concerning this matter. For Group II industries– defined as places with an explosive gas atmosphere other than mines susceptible to firedamp - the legislation is again state- based, and generally hazardous area requirements are defined through the national wiring rules (AS/NZS3000) which in turn refer to AS/NZS2381 (Selection, Installation for hazardous areas)*

*This note also applies to all other answers from Australia in this questionnaire.*

NSW Coal Mine Health and Safety Act 2002

NSW Coal Mine Health and Safety Regulation 2006. This regulation requires Ex-equipment to meet requirements specified in a Government Gazette - [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)

#### **European Union:**

The directive 94/9/EC and its national implementation by the member states specify the rules.

#### **United States:**

US MINING: Federal Law governs the design and use of explosion-protected equipment in United States mines. More specifically: “Federal Coal Mine Health and Safety Act of 1969”, Public Law 91-173; “Federal Mine Safety and Health Act of 1977”, Public Law 95-164 (amends Public Law 91-173); “Mine Improvement and New Emergency Response act of 2006 (Miner Act)”, Public Law 109-236 (amends Public Law 95-164

#### **Russian Federation:**

The Federal Law “On Industrial Safety of Hazardous Industrial Facilities” was adopted in 1997 No 116 FL, Part 7, points 1, 2 and 3.

### 2. Are there compulsory conformity assessment procedures in place?

#### **Australia:**

Yes, the gazette notice requires Ex-equipment to be certified under the IEC Ex-Scheme or ANZ (Australia New Zealand) Ex-Scheme. These schemes require conformity assessment against the published standards.

**European Union:**

The directive 94/9 requires the conformity assessment procedure of explosion protected equipment. Depending on the categories (safety level) a notified body shall be involved. The notified body issue an EC-Type Examination Certificate. Additionally the directive 94/9 require a quality module of the product or production facility.

**United States:**

US MINING: Federal Law requires the US Department of Labour (USDOL) Mine Safety and Health Administration (MSHA) to administer the requirements contained in Title 30, Code of Federal Regulations (Mineral Resources) pertaining to explosion-protected equipment. Current regulations only recognize “explosion-proof” and “intrinsically safe” as acceptable means for explosion-protecting equipment, where such equipment is required to be used in mining applications.

**Russian Federation:**

Safety Rules for certification of electrical equipment used in explosive environment are specified in RS 03-538-03.

**3. What is the role of national or international standards for the conformity assessment procedures (are they used in regulations and how)?****Australia:**

National standards for Ex-equipment are adopted IEC standards (note Ex-‘s’ – special protection is an Australian New Zealand Standard, Ex-‘n’ is not permitted in NSW underground coal mine hazardous areas).

Conformity assessment against the Ex-standards is required by regulation via the above mentioned gazette notice. Conformity assessment is part of certification.

**European Union:**

The directive requires fulfilling the general requirements specified in the directive and not the fulfilling of a standard. Usually the harmonized standards, published in the Official Journal of the European Commission, are used. The harmonized standards have adopted the IEC-Standards (Parallel Voting). In an annex of the European standard specific requirements of the directive are incorporated.

**United States:**

US MINING: There is no blanket acceptance of national or international harmonized standards for mining applications. Federal Regulations permit approval of explosion-proof equipment that has been designed and tested according to IEC Standards, as long as certain additional criteria stated in the regulations are met.

**Russian Federation:**

As there is no mutual acceptance of the standards; all equipment should pass the certification procedures according the RS 03 – 538-03.

**Other countries:**

To be completed

**4. What is the process of legal acceptance of the standards (national, regional, international)?**

**Australia:**

Legal acceptance is via the above mentioned gazette notice, this only recognises Australian Standards (AS & AS/NZS), which in turn are adoptions of the IEC standards.

**European Union:**

The adoption of the standards (harmonisation) based on the Decision of the European Commission together with the Consultant and CENELEC TC 31.

**United States:**

US MINING: The development and adoption of US Mining regulations are governed by the “Administrative Procedures Act” (Title 5 - United States Code - Chapter 5, Sections 511-599). In general, MSHA must first draft and propose a regulation and then allow for public review and comment before finalizing a regulation. US mining regulations are also constrained by current mining laws which prohibit the promulgation of any safety standard that reduces the protection afforded miners below that provided by current mining law.

**Russian Federation:**

As a rule during the development of national standards the international standards are used, but with corrections due to national specific features supported by technical or economic targets.

**Other countries:**

To be completed

**5. Who is authorized to conduct the conformity assessment? (Are results of conformity assessment done abroad accepted?)**

**Australia:**

Conformity assessment is done by organisations accredited under the ANZ Ex-Scheme or IEC Ex-Scheme.

Conformity assessment is accepted from overseas organisations that are accredited under the IEC Ex-Scheme. That is an IEC Ex-Certificate of Conformity from any Certification Body that is recognized under the IEC Ex-Scheme is acceptable.

**European Union:**

The notified bodies execute the conformity assessment. All member states have the right to nominate their notified bodies within their territory.

**United States:**

US MINING: Under Federal Law, MSHA is the only organization authorized to issue approval for explosion-protected equipment. Some approval regulations permit the testing and evaluation of products by the applicant or third party; however, MSHA has the ultimate authority to issue approval for the equipment.

**Russian Federation:**

The specially accredited centres of certification are responsible for assessments. They can take part in the testing of equipment and the results of the testing are accepted in making decisions to issue a certificate of conformity.

**6. Who is authorized to conduct the accreditation of the conformity assessment bodies and based on which requirements? (Is accreditation of foreign conformity assessment bodies possible?)**

**Australia:**

Accreditation is scheme dependent:

- For international (IEC) it is the IEC Ex-Scheme.
- For national (the ANZ Ex-Scheme) it is JASANZ (Joint Accreditation Scheme for Australia and New Zealand).

Criteria are based on International Guides and specific scheme requirements.

Foreign conformity assessment bodies are permitted in accordance with the IEC Ex-Scheme.

**European Union:**

The member states of the European Community nominate their notified bodies within their territory. The criteria of the nomination are an accreditation in accordance to the IEC/ISO 17025 and EN 45011/12. Foreign notified bodies (outside their territory) can not be nominated by a member state.

**United States:**

US MINING: MSHA will observe the testing and evaluation of explosion-protected equipment conducted by the applicant or third party. However, there is no formal accreditation issued.

**Russian Federation:**

The accreditation procedures are ruled by GOST R 51000.5-96. And according to clause 5 point 2 of Federal Law “On Industrial Safety of Hazardous Industrial Facilities”, the bodies of accreditation (the Rostekh regulirovanie) should have their decisions approved by the Rostekhnadzor.

Accreditation of foreign assessment bodies is possible based on ISO and IEC documents.

**7. Which additional directives/laws have a product for use in explosive environments to comply with? (Common for all products and/or for specific products?)**

**Australia:**

For ALL products –

NSW Occupational Health and Safety Act 2000

NSW Occupational Health and Safety Regulation 2001 – In particular, Chapter 5 – Plant Safety

**European Union:**

The manufacturer has to fulfil all relevant directives concerning his product. Depending on the product it could be the machinery of low voltage directive. A list of potential “New Approach” directives can be uploaded.

**Japan:**

To be completed

**United States:**

US MINING: Federal mining laws and regulations (see above) contain specific requirements for different types of products.

**Russian Federation:**

There is a list of standards and other regulating documents for each specific type of equipment and production.

**8. Are there additional or special directives/laws for the putting products into operation (in addition to placing a product on the market)?**

**Australia:**

It is the above mentioned law that controls the putting into operation of the product; that in turn constrains the putting of the product on the market in the first place.

**European Union:**

The use (installation, maintenance, repair and overhaul, ...) of explosion protected products are specified in the directive 99/92. This directive specifies minimum requirements and can be completed by national regulations of the member states. These additional requirements are not allowed to affect the product itself.

**United States:**

US MINING: Federal mining laws and regulations (see above) contain specific installation and use requirements for different types of products.

**Russian Federation:**

To use any specific equipment in oil and gas facilities operators must have the Permission of Rostekhnadzor issued for a limited time or for the life of the equipment.

**9. Which are the procedures for the market surveillance and who is responsible?**

**Australia:**

Market surveillance is ad-hoc and there are a number of market surveillance opportunities:

- Market surveillance at manufacture – ANZ ex Scheme and IEC Ex-Scheme
- Market surveillance by the purchaser – Legislation requires employers to determine the suitability of equipment (generally vested in the Manager of Electrical Engineering, which is a statutory coal mine position)
- Market surveillance by the repairer/overhauler – Legislation requires these organisations to be licensed
- Market surveillance by the Mining Regulator – Investigation of specified reportable incidents, licensing of Ex-repair facilities, mine site assessments and random reviews (including testing per the standard).

**European Union:**

The market surveillance is organized by the member states. All market surveillance authorities communicate every 6 month within their ADCO meeting. With the safeguard clause of the directive 94/9 the market surveillance can act. Complained product will be published in the internet (RAPEX) to communicate it to the population.

**United States:**

US MINING: MSHA's quality assurance specialists perform audits of approved products and address field complaints of defective or non-conforming products. Discrepant products must be brought into compliance or removed from mines.

**Russian Federation:**

The market of explosive protected equipment is controlled by state bodies on the stages of production and importing.

**10. What are the regulations for inspection, maintenance and repair of the equipment?**

**Australia:**

- Coal Mine Health and Safety Regulation 2006
- Occupational health and Safety Regulation 2001
- Coal mine Health and Safety Regulation 2006, specifically requires repair at licensed facilities

**European Union:**

The use of explosion protected equipment is specified in the directive 99/92. The implementation of the directive into national laws can specify the rules of inspection, maintenance, repair and overhaul. International standards (IEC) exist, but they are not legally binding to the member states, they are not harmonised. A heterogeneous system has been established.

**United States:**

US MINING: Federal mining laws and regulations (see above) address inspection, maintenance and repair of the equipment.

**Russian Federation:**

Operation, maintenance and repair procedures of equipment are regulated by GOST R 513300.18-99.

Inspection of the equipment safe operation is conducted by the Rostekhnadzor regional offices. Those bodies have the right to enforce regulations and apply penalties in case of operators' non-conformity.

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