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REGULATORY COOPERATION

SECTORAL PROJECTS

Progress report on the Sectoral Initiative on Explosive Environments Equipment

Note by the secretariat^(*)

1. The Working Party, at its eighteenth session, requested the secretariat to provide an update each year on the work of all the sectoral initiatives (ECE/TRADE/C/WP.6/2009/18, para.63). Accordingly, this report contains concise information on the status of the initiative, main activities completed and under way. The progress report is submitted to the Working Party for information.
2. The document contains two annexes: the first annex contains the proposed common regulatory objectives (CROs). The CROs were thoroughly discussed at the fifth meeting of the Sectoral Initiative in Melbourne, which endorsed them and recommended their adoption by the Working Party, on the advice that further work is necessary on parts five and six (paras. 41-46). The first annex is therefore submitted to the Working Party for adoption.

^(*) The present document has been submitted after the official documentation deadline by the Trade and Timber Division due to resource constraints.

3. The second annex presents a compilation of replies to a questionnaire that sets out the regulatory regime for this sector on main markets. The second annex is submitted to the Working Party for information.

I. PROJECT OBJECTIVE AND KEY DELIVERABLES

4. Offshore facilities and vessels, and onshore facilities such as mines, refineries, chemical plants and mills are environments that expose the workers and the surrounding areas to high risks, inter alia because of the likelihood of explosions. Therefore, all equipment used in these environments must have a high level of safety to minimize the risks of explosions and contain their potential consequences.

5. The overall goal of the Sectoral Initiative on Explosive Environments Equipment is to promote and enhance safety, while at the same time eliminating barriers to the free trade and use of the equipment.

6. Specifically, the purpose of the Initiative is to develop common regulatory objectives (CROs) for the regulations on placing equipment for explosive environments on the market and for the repair and overhaul of this equipment.

II. CURRENT STATUS OF THE PROJECT

7. The initiative has been actively working towards the development of the first draft of the CROs, which is provided as the first annex to this document. The draft CROs cover each of the IECEx sectors (mining, refinery, chemical plants, and mills) and deal with different kinds of hazards (gas explosion, dust explosion, mechanical and electrical equipment, etc.).

8. The CROs also cover the entire life cycle of the products and facilities (from placing the product on the market, to installation, to repair, inspection and maintenance).

9. Additionally, the Sectoral Initiative is collecting information about the legal framework currently in force in this sector on the main markets. The secretariat drafted a questionnaire and has so far received answers from Australia, Brazil, the European Union, the Russian Federation and the United States of America. The compiled answers are provided in annex II to this document.

III. MEETINGS HELD IN 2009

10. On 28 May 2009, the Initiative met in Stockholm in parallel to the meeting of WP.6 bureau, rapporteurs and coordinators, "START" Team and "MARS" Group meeting. The meeting prepared a first draft of the CROs for discussion in Melbourne.

11. On 2 September 2009, another meeting of the Initiative was held in Melbourne, Australia, as part of the annual meeting of the International Electrotechnical Scheme for Certification to Standards relating to Equipment for Use in Explosive Atmospheres (IECEx Scheme). The 14 national delegations to IECEx who attended the meeting expressed broad support to the initiative. It also endorsed the CROs with some amendments, which have been

incorporated in the current text of the CROs as reproduced in annex I. The participants recommended that the Working Party adopts the CROs, on the advice that further work is necessary on parts V and VI of the CROs (paras. 41-46).

12. The results of the meeting of the sectoral initiative were then reported to the meeting of the management committee of IECEx. The management committee pledged to continue to support the initiative, also by facilitating contact between the sectoral initiative and national regulators.

IV. DELIVERABLES FOR THE ANNUAL SESSION

13. The main deliverable for the nineteenth session of the Working Party is the first draft of the CROs. The Working Party is expected to discuss and adopt the CROs or provide feedback so that the Sectoral Initiative can finalize them.

14. Additionally, the Sectoral Initiative requests the Working Party to encourage national governments to adopt the proposed CROs in their national legislation and to respond to questionnaire set out in annex II.

V. RESPONSIBILITY FOR THE CONTINUATION OF THE WORK

15. The Coordinator of the Sectoral Initiative on Explosive Environments Equipment is currently Mr. Frank Lienesch, Ministry of Labour and Social Affairs, Government of Germany.

VI. ROLE OF THE SECRETARIAT

16. The secretariat is expected to continue supporting the work of the Initiative by servicing its meetings as appropriate (preparing the invitation, the agenda, the supporting documents and the reports). The website of the Initiative should be kept up to date. The secretariat could assist the Convener in maintaining and developing contacts with the relevant authorities and national Governments.

Annex I

COMMON REGULATORY OBJECTIVES

First draft proposal

I. BACKGROUND

1. Explosion protection is an essential part of the overall risk management to be conducted for industrial plants and appliances, to ensure safety in industrial processes using or producing hazardous materials like – for example - combustible gas, dusts or vapours.

2. The basic principles of explosion protection have been applied in industry and mines for more than 100 years. They have been codified in international standards such as the International Electrotechnical Commission (IEC) 60079-0, and conformity assessment best practice, such as the International Organization for Standardization (ISO) System No.5 product certification schemes – for example, the IECEX.

3. The significance of the international standards upon which the industry relies is underscored by the increased participation in IEC TC 31 which reached a total of 44 countries as of April 2009, either participating or observing.

4. Many national and regional regulations already use the technical requirements contained in the standards drawn up by IEC TC 31, which also develops standards covering non-electrical equipment (mechanical).

5. The ISO and IEC standards are increasingly adopted by participating countries at the regional and national level, either in full, without any variation, or in part, with supplementary requirements contained in national standards.

6. Countries use standards in their regulations in different ways, including:

(a) By making standards mandatory through a legislative act;

(b) By making compliance with the standards a means of proving compliance with the essential health and safety requirements laid out in the legislation: under this approach, equipment which complies with the provisions of the standards is “deemed to comply” with the requirements specified in the regulations.

II. PURPOSE OF THE SECTORAL INITIATIVE ON EQUIPMENT FOR ENVIRONMENTS WITH AN EXPLOSIVE ATMOSPHERE

7. The purpose of the Sectoral Initiative on Equipment for Environments with an Explosive Atmosphere is to promote the convergence of national technical regulations currently in place in this sector towards a shared framework¹. This will allow existing barriers to trade in this

¹ See annex II of this document for a review of national legislation in this sector on main markets.

equipment, together with costs, to fall. At the same time, it will increase the safety of the installations and the well-being of personnel working in the sector, as well as of the communities living in the proximity of the installations.

III. SCOPE STATEMENT OF THE COMMON REGULATORY OBJECTIVES CONTAINED IN THIS DOCUMENT

8. The Common Regulatory Objectives (CROs) presented in this document have been drawn up in accordance with Recommendation L of the Working Party on Regulatory Cooperation and Standardization Policies of the United Nations Economic Commission for Europe (ECE/TRADE/378 – UNECE Recommendations on Standardization Policies).

9. The purpose of the CROs is twofold. On the one hand, they can be used as a model to draw up legislative instruments in countries that do not currently have regulations in this sector. On the other, they can be used to align existing national regulation with an internationally harmonized best practice.

10. The CROs are drawn up with reference to international standards and conformity assessment procedures developed by IEC and ISO and to best practice in the assessment of conformity to such standards, within the IECEx.²

11. The CROs address the requirements both for electrical and mechanical equipment being placed on the market (Part One of the present document) and for the safe installation and use of the equipment in the workplace (Part Two of the present document).

12. Explosion protection in industry can be assured through a variety of legitimate means. The present document is based on one of them, namely, the “IEC Zone Concept.”³ The Zone Concept classifies hazardous locations as high, medium and low risk zones based on a standard risk assessment methodology.

13. Additionally, the present document is based on the life-cycle approach, which requires proper inspection, maintenance and repair of explosion protected equipment. This approach guarantees effective and efficient explosion protection and the elimination of potential ignition risk, at all times when a facility or product is in use.

14. Most national regulatory frameworks require that conformity assessment be conducted by independent, third party inspection bodies. This is a prerequisite for safety in a sector where hazards are substantial and may involve numerous casualties.

15. The main drawback of such a system is that equipment traded internationally may have to undergo repeated testing and conformity assessment for each of the national markets to which it is exported. This greatly increases the costs of the equipment without a corresponding increase in the safety of workers and end-users.

² IEC System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres.

³ See http://www.iec.ch/zone/fsafety/fsafety_entry.htm.

16. Additionally, the existence of disparate safety procedures in a sector that operates as a truly global and integrated industry may in and of itself constitute a hazard. Indeed, as workers move from one location to another, they may be insufficiently familiar with local safety procedures.

17. For these reasons, an internationally recognized certification scheme, such as the IECEX, is of essential importance in order to reduce unnecessary costs associated with duplication of testing and assessment and as the basis for sound risk management. In time, this should be flanked by a system of personnel certification aimed at ensuring competencies within a system of standard safety procedures, such as the new IECEX Certificate of Personal Competency Scheme.

18. One final and essential element of the present document relates to market surveillance. Market surveillance is necessary to monitor the proper application of the CROs by industry and increase confidence in the effectiveness of the CROs. Common guidelines will be defined to support the national authorities defining and implementing actions and procedures, including for the removal of unsafe products from the national market.

COMMON REGULATORY OBJECTIVES

PART ONE

REQUIREMENTS FOR PLACING PRODUCTS AND EQUIPMENT ON THE MARKET

A. Definition of applicable standards

19. Potential ignition sources that may occur when electrical and mechanical equipment is used in accordance to its intended use must be eliminated. The list of potential ignition sources published in the applicable international standards assists in identifying risks caused by stand-alone equipment (see appendix, B1).

20. To eliminate the ignition sources validated protection concepts (“types of protection”) have to be applied, as laid down in applicable IEC or international standards (see appendix, B2). Equipment is to be manufactured under on-going third party surveillance. The manufacturer has to operate a Quality Management System which is complying with the requirements of the applicable ISO/IEC standard (see Appendix, B.3).

21. The documentation accompanying the equipment has to cover instructions about the intended use, details for the installation and repair. The documentation has to be available in English language. On request of the customer of the equipment the manufacturer has to provide a translation into a national language.

B. Definition of applicable conformity assessment procedures

22. Compliance with this CRO shall be by use of an international certification scheme such as IECEX for direct market acceptance of products carrying IECEX Certification. Alternatively, where national legislation does not allow for use of IECEX certificates, national certification of compliance should be based on IECEX testing and assessments.

COMMON REGULATORY OBJECTIVES

PART TWO REQUIREMENTS FOR THE SAFE USE OF THE EQUIPMENT

23. All substances intended for use in a plant or facility characterized by an explosive atmosphere have to be classified concerning their safety characteristics by applying the applicable ISO/IEC standards (see appendix, C.1).
24. If it is not possible to avoid explosive atmospheres, the different risk levels in an area according the IEC Zone classification concept have to be assessed by applying the applicable IEC standards (see appendix, C.2).
25. The selection of equipment in a classified area (Zones 0 , 1, 2 , 20, 21 and 22) has to be aligned with the applicable Equipment Protection Level 1, 2, 3 and installed accordingly (see appendix, D.1).
26. The equipment has to be installed properly by taking into account specific local conditions (e.g. ambient temperature, potentially aggressive materials) and the intended use of the equipment, specified in the product documentation (see appendix, D.1).
27. The installation and the equipment needs to be inspected and maintained by appropriate and effective procedures which have to be implemented in the quality system of the plant (see appendix, D.2)
28. In the case of personnel performing work functions that govern the selection, installation and use of equipment, the personnel shall be appropriately qualified as being competent. Compliance with this requirement may be demonstrated by use of an international Certification Scheme such as IECEx for acceptance of persons carrying an IECEx Certificate of Personal Competency. Alternatively, where national legislation does not allow for use of IECEx certificates, national certification of compliance should be based on IECEx assessment of persons according to IECEx requirements.
29. In case of necessary repair of equipment, appropriate repair procedures have to be implemented in the quality system of the plant (see appendix D.4). Compliance with this requirement may be demonstrated by use of an international Certification Scheme for acceptance of Repair Facilities like IECEx Certification to the applicable IEC standard (see appendix, D3). Alternatively, where national legislation does not allow for use of IECEx certified repairers, national certification of compliance should be based on IECEx assessment and audit of such facilities.
30. All rationales and concepts related to the explosion risk assessment and the adequate measures to eliminate these risks have to be documented in the “Explosion Protection Document”.

COMMON REGULATORY OBJECTIVES

PART THREE

REFERENCE LIST TO INTERNATIONAL STANDARDS PROVIDING THE PRESUMPTION OF CONFORMITY WITH THIS REGULATION MODEL

31. Standards providing the presumption of conformity with the requirements chapter B to D. are listed in the appendix. The list of standards is to be updated as frequently as necessary depending on the publication output of IEC or ISO/IEC standards relevant to the objectives of this regulation model.

32. The group of countries having implemented this regulation model shall form a Standard Acceptance Group (UNECE-ExSAG) taking care of the acceptance of IEC or ISO/IEC standards providing the presumption of conformity with this regulation model. The members of this group seek for access to all standardization work of IEC (drafts, meetings) in order to influence standardization with concerns of regulators in an early stage. After the working group has accepted a standard, the standard will be listed in the appendix to this regulation model. If there is a former edition of the standard, this former edition will be withdrawn from the list within three years.

COMMON REGULATORY OBJECTIVES

PART FOUR

RECOGNITION OF CONFORMITY ASSESSMENT BODIES

33. The accreditation of Conformity Assessment Bodies and Test Laboratories has to follow the applicable ISO/IEC standards (see appendix, E.1). The accreditation body has to be member of ILAC/IAF.

34. Certificates have to be in line with ISO Type 5 requirements of the applicable ISO/IEC standard resp. guide (see appendix, E.2)

35. The use of the IEC Conformity Assessment System IECEx provides the presumption of conformity with the requirements of Part Four.

COMMON REGULATORY OBJECTIVES

PART FIVE

UNECE EXPLOSION PROTECTION STEERING COMMITTEE

36. In order to monitor the application experience within the countries having based their national legislation on the UNECE regulation model and to update the regulation model in the light of their experience, a UNECE Explosion Protection Steering Committee (UNECE-ExSC) is to be formed and operated under the umbrella of UNECE WP.6.

37. The ExSC agrees on a constitution and other governing rules and procedures of the daily operations (e.g. voting procedures).

38. The ExSC notifies the members of the Standard Acceptance Group (UNECE-ExSAG).

39. Members of the ExSC with the right to vote are the representatives of those countries having implemented the regulation model. Observers are also invited to attend the meetings: representatives from IEC-SMB, IEC-CAB, IEC/TC 31, IECEX, "MARS" group.

COMMON REGULATORY OBJECTIVES

PART SIX MARKET SURVEILLANCE

40. In order to monitor proper compliance with the requirements of this model regulation in the market place, a network of market surveillance experts in explosion protection is to be formed and operated (UNECE-ExMARS).

41. In case of critical non-conformance, an international alert system (ExAlertSystem) has to be used to inform all UNECE members about recently detected risks or faulty products.

Appendix

LIST OF ACCEPTED STANDARDS

Version: September 2009

B.1 Basic concepts, risk assessment
[EN 1127-1, IEC/SC 31M project]

B.2 Design requirements

IEC 60079-0:2007

IEC 60079-1:2007

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B.3 Production of equipment

[EN 13980, prISO/IEC 80079-34]

C.1 Material safety characteristics

IEC 60079-20-1

IEC 60079-20-2

C.2 Zone classification

IEC 60079-10-1

IEC 60079-10-2

D.1 Selection and installation of equipment

IEC 60079-14-1

IEC 60079-14-2

D.2 Inspection and maintenance

IEC 60079-17

D.3 Repair of equipment

IEC 60079-19

E.1 Conformity assessment standards

ISO/IEC Guide 65

ISO/IEC 17025

ISO/IEC 17021

ISO/IEC 17024

E.2 Fundamentals of product certification

ISO/IEC Guide 67

Under maintenance of the UNECE-(IECEX) ExSAG

Annex II

SECTORAL INITIATIVE ON EQUIPMENT FOR EXPLOSIVE ENVIRONMENTS

A compilation of replies to the questionnaire

At its seventeenth session, the Working Party mandated the Sectoral Initiative on Equipment for Explosive Environments 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 answers received to date from Australia, Brazil, the European Union, the Russian Federation and the United States of America.

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

Countries	Replies
Australia	<p><i>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.</i></p> <p>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</p>
Brazil	The INMETRO Regulation “Portaria 83:2006” states the requirements for Electrical Equipment for use in Explosive Atmospheres of vapours and gases. This Regulation will be replaced in 2009 by a new INMETRO Regulation that will include dust atmospheres.
European Union	The directive 94/9/EC and its national implementation by the member states specify the rules.
New Zealand	Electricity Act 1992 and Electricity Regulations 1997 (Note Electricity Regulations 2009 due to be released soon. Will cover both regimes where appropriate).
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.
United States of America	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

2. Are there compulsory conformity assessment procedures in place?

Countries	Replies
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.
Brazil	The procedure for mandatory certification (RAC – Conformity Assessment Procedure) is specified in the INMETRO Regulation “Portaria 83:2006”
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.
New Zealand	<ol style="list-style-type: none"> 1. Not at this time as this is primarily controlled under the Electricity Act and Regulations which are performance based. 2. When the Electricity Regulations 2009 are introduced, they will mandate AS/NZS 3000 and AS/NZS 2381.1 (or AS/NZS 60079.10.1, 60079.14 and 60079.17 if they are published prior to the introduction of the Regulations); this will mean that New Zealand will only accept: <ol style="list-style-type: none"> (a) IEC Ex-Scheme (b) AUS Australian or ANZ (Australia New Zealand) Ex-Schemes (c) Other Type 5 Type testing schemes to IEC and AS/NZS Standards; (d) ATEX Equipment under specified conditions; (e) FM and UL equipment that is battery powered and has no integrated chargers.
Russian Federation	Safety rules for certification of electrical equipment used in explosive environment are specified in RS 03-538-03.
United States of America	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.

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

Countries	Replies
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.
Brazil	It is mandatory to use national standards harmonized with IEC standards. For those cases where it is not available a harmonized standard must be use the equivalent IEC standard.
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.

Countries	Replies
New Zealand	<ol style="list-style-type: none"> Under the current Electricity Regulations 1997 those schemes meeting the requirements set out in AS/NZS 2381.1 are accepted as being a means of demonstrating that the equipment is electrically safe for use in New Zealand; Under the Electricity Regulations 2009 compliance will have to be verified to the above schemes because the base hazardous area standards will be mandated.
Russian Federation	As there is no mutual acceptance of the standards; all equipment should pass the certification procedures according the RS 03 – 538-03.
United States of America	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.

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

Countries	Replies
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.
Brazil	For hazardous location area, the national standard harmonized must be used. If the Brazilian standard is not available the IEC standard must be used.
European Union	The adoption of the standards (harmonisation) based on the Decision of the European Commission together with the Consultant and CENELEC TC 31.
New Zealand	<ol style="list-style-type: none"> This has been dealt with the Standards Process for a number of years which the Electricity Regulator had been very active in so was part of the decision making process; How this occurs in the future is uncertain in New Zealand as it is unclear as to who the Electricity Regulator will be for these types of installations but as the IECEx System is where New Zealand is heading that may not be an issue.
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.
United States of America	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.

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

Countries	Replies
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.

Countries	Replies
Brazil	The conformity assessment is carried out by certification bodies accredited by INMETRO. According to the INMETRO Regulation "Portaria 83:2006", the acceptance of test results performed outside Brazil can be considered only if the test laboratory is accredited by some ILAC Full Member and if the laboratory accreditation scope covers the same standards required in the Brazilian Law. Any other activity performed by Certification Body, such as inspections, is allowed only if there is a Memorandum of Understanding between the Brazilian Certification Organization and the Certification Body abroad.
European Union	The notified bodies execute the conformity assessment. All member states have the right to nominate their notified bodies within their territory.
New Zealand	These are done as per the requirements of the schemes accepted by the Standards we use. New Zealand does not have any additional controls over the ones of the recognised schemes.
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.
United States of America	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.

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?)

Countries	Replies
Australia	<ol style="list-style-type: none"> 1. Accreditation is scheme dependent: (a) For international (IEC) it is the IEC Ex-Scheme, and (b) For national (the ANZ Ex-Scheme) it is JASANZ (Joint Accreditation Scheme for Australia and New Zealand). 2. Criteria are based on International Guides and specific scheme requirements. 3. Foreign conformity assessment bodies are permitted in accordance with the IEC Ex-Scheme.
Brazil	According to CONMETRO 004:2002 law, only INMETRO can conduct the accreditation of Certification Organizations and Test Laboratories, according to ISO Guide 65 and ISO 17025. The accreditation of foreign assessment bodies is possible.
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.
New Zealand	Again these are done as per the requirements of the schemes accepted by the Standards we use. New Zealand does not have any additional controls over the ones of the recognized schemes.
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.

Countries	Replies
United States of America	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.

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?)

Countries	Replies
Australia	For ALL products – NSW Occupational Health and Safety Act 2000 NSW Occupational Health and Safety Regulation 2001 – In particular, Chapter 5 – Plant Safety
Brazil	The manufacturer has to fulfil all relevant Regulations concerning his product.
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.
New Zealand	As with questions 1 and 8.
Russian Federation	There is a list of standards and other regulating documents for each specific type of equipment and production.
United States of America	US MINING: Federal mining laws and regulations (see above) contain specific requirements for different types of products.

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

Countries	Replies
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.
Brazil	The use of products in hazardous locations is regulated by the Labour Ministry Regulation NR-10.
European Union	The use (installation, maintenance, repair and overhaul, etc.) of explosion protected products is 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.
New Zealand	1. Health Safety and Employment Act 1992 and Health and Safety in Employment Regulations 1995; 2. Health Safety and Employment (Mining - Underground) Regulations 1999. (Note: These regulations have only broad electrical statements in them and as of this time no specific electrical safety regulations have been put in place to cover mines. Generally the Mines follow Australian Mining Legislation and Standards); 3. Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 1999; 4. Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001.

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

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

Countries	Replies
Australia	Market surveillance is ad-hoc and there are a number of market surveillance opportunities: <ul style="list-style-type: none"> - 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).
Brazil	INMETRO is responsible for performing market surveillance.
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.
New Zealand	New Zealand does not have pre-market intervention so all surveillance is done post market. This is a responsibility of everyone in the supply, installation and use chain to ensure the equipment is and is being used to be electrically safe in New Zealand. Good communications is needed in such systems and as New Zealand imports most of the electrical product it uses it does not have the ability to always influence the marketplaces the products come from to affect a change so it is important that the whole supply chain here plays its part. The Regulators play there part when auditing hazardous area installations.
Russian Federation	The market of explosive protected equipment is controlled by state bodies on the stages of production and importing.
United States of America	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.

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

Countries	Replies
Australia	<ul style="list-style-type: none"> - 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

Countries	Replies
Brazil	The Labour Ministry Regulation NR-10 defines the need to perform regular inspections. There are no legal requirements for conducting these inspections and overhaul and repair. But there is a recommendation to use national standards harmonized with IEC 60079-17 and IEC 60079-19.
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, and they are not harmonised. A heterogeneous system has been established.
New Zealand	Those specified in questions 1 and 8 have an impact in this area to varying degrees but the Standards we cite have the how to aspects of how to achieve these requirements in the Regulations.
Russian Federation	Operation, maintenance and repair procedures of equipment are regulated by GOST R 513300.18-99. Inspection of the safe operation of the equipment is conducted by the Rostekhnadzor regional offices. Those bodies have the right to enforce regulations and apply penalties in case of operators' non-conformity.
Unites States of America	US MINING: Federal mining laws and regulations (see above) address inspection, maintenance and repair of the equipment.

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