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REGULATORY COOPERATION

SECTORAL PROJECTS

Progress report on Sectoral Initiative on Explosive Environments Equipment

Note by the secretariat

The Working Party, at its eighteenth session requested that the secretariat provides an update each year on the work of all the sectoral initiatives (ECE/TRADE/C/WP.6/2008/18, para. 63). Accordingly, this report contains concise information on the status of the initiative, and describes the main activities that they have been completed and are underway. The information is organized on the basis of a template prepared by the secretariat.

The progress report is submitted to the Working Party for noting.

Additionally, the document contains two annexes: the first draft of the proposed CROs and the compiled answers to a questionnaire that documents the regulatory regime for this sector on the main markets.

I. PROJECT OBJECTIVE AND KEY DELIVERABLES

1. 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.
2. The overall goal of the Sectoral Initiative on Explosive Environments Equipment is to promote and enhance safety, while at the same time eliminating barriers against the free trade and use of the equipment.
3. Specifically, the purpose of the sectoral initiative is to develop common regulatory objectives (CROs) for the regulations on placing the Equipment for Explosive Environments on the market and for the repair and overhaul of this equipment.

II. CURRENT STATUS OF THE PROJECT

4. The sectoral 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, mills) and deal with different kinds of hazards (gas explosion, dust explosion, mechanical and electrical equipment etc).
5. 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).
6. 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. The compiled answers are provided as the second annex to this document.

III. MEETINGS HELD IN 2009

7. Two meetings have been held in 2009. On 28 May 2009, the Task Force met in Stockholm in parallel to the Meeting of WP.6 Bureau, Rapporteurs and Coordinators, START Team and MARS Group meeting. They prepared a first draft of the CROs which will be discussed at the session.
8. On 2 September 2009, members of the Task Force will meet 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 meeting aims at presenting the draft CROs to national regulators and obtaining their feedback on the project.

III. DELIVERABLES FOR THE ANNUAL SESSION

9. The main deliverable for the nineteenth session of the Working Party is the first draft of the CROs, reproduced as an Annex to this document. The Working Party is expected to discuss and provide feedback on the CROs so that the task force can continue to work towards their finalization.

10. Additionally, the Working Party is invited to encourage more delegations to answer the UNECE questionnaire and discuss the different legal frameworks that exist in this sector with a view to promote an improved mutual understanding among the regulators.

IV. RESPONSIBILITY FOR THE CONTINUATION OF THE WORK

11. The Coordinator of the Sectoral Initiative on Explosive Environments Equipment is currently Mr. Frank Lienesch,

VI. ROLE OF THE SECRETARIAT

12. The secretariat is expected to continue supporting the work of the UNECE Initiative by servicing its meetings as appropriate (prepare the invitation, agenda and supporting documents) and preparing the meetings reports. The website of the Initiative should be kept continuously up to date with recent developments. The secretariat could assist the Convener in maintaining and developing contacts with the various counterparts of the Scheme in the national governments.

Annex 1

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 IEC 60079-0, and conformity assessment best practice, like ISO System No.5 product certification schemes - such as 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 UNEC SECTORAL INITIATIVE ON EQUIPMENT FOR ENVIRONMENTS WITH AN EXPLOSIVE ATMOSPHERE

7. The purpose of the initiative 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 equipment, together with its costs, to fall. At the same time, this will increase the safety of installation and 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 to 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 best practice in the assessment of conformity to such standards – within the IECEx.

11. The CROs address both the requirements for electrical and mechanical equipment being placed on the market (section II of the present document) and the requirements for the safe installation and use of the equipment in the workplace (section III 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 Concept²”. 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 risks, at all times a facility or product is in use.

14. Most existing national regulatory frameworks require that conformity assessment is 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.

1 See Annex 2 of this document for a review of national legislation in this sector on main markets.

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

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 substantially increases the costs of the equipment without a corresponding increase in the safety of workers and end-users.

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 a 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 in the definition and implementation of actions and procedures, including for the removal of unsafe products from the national market.

PART I

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 Annex A, B1).

20. To eliminate the ignition sources validated protection concepts (“types of protection”) have to be applied, as laid down in applicable IEC Standards resp. International Standards (see Annex A, B.2).

21. The documentation accompanying the equipment has to cover instructions about the intended use, details for the installation and repair.

B. Definition of applicable conformity assessment procedures

22. Compliance with this CRO shall be by use of an international Certification Scheme like IECEx for direct market acceptance of products carrying IECEx Certification.

23. Alternatively, where national legislation does not allow for use of IECEx certificates – then national certification of compliance should be based on IECEx testing and assessments.

PART II

REQUIREMENTS FOR THE SAFE USE OF THE EQUIPMENT

24. 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 Annex A, C.1).

25. 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 Annex A, C.2).

26. The selection of equipment in a classified area (Zone 0, Zone 1, Zone 2) has to be aligned with the applicable Equipment Protection Level 1, 2, 3 and to be installed accordingly (see Annex A, D.1).

27. The equipment has to be installed properly by taking into account specific local conditions (e.g. ambience temperature, potentially aggressive materials) and the intended use of the equipment, specified in the product documentation (see Annex A, D.1).

28. The installation and 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 Annex A, D.3)

29. In the case of personnel performing work functions that govern the selection, installation and use of equipment Personnel shall be appropriately qualified as being competent.

30. Compliance with this CRO shall be by use of an international Certification Scheme like IECEx for acceptance of Persons carrying an IECEx Certificate of Personal Competency.

31. Alternatively, where national legislation does not allow for use of IECEx certificates – then national certification of compliance should be based on IECEx assessment of Persons according to IECEx requirements.

32. In case of necessary repair of equipment, appropriate repair procedures have to be implemented in the Quality System of the plant (see Annex A, D.4).

33. Compliance with this CRO shall be by use of an international Certification Scheme for acceptance of Repair Facilities like IECEx Certification to IEC 60079-19.

34. Alternatively, where national legislation does not allow for use of IECEx certified Repairers – then national certification of compliance should be based on IECEx assessment and audit of such facilities.

35. 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”.

PART III

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

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

37. The group of nations having implemented this regulation model shall form a Standard Acceptance Group (UNECE-ExSAG) taking care of the acceptance of IEC resp. ISO/IEC standards providing the presumption of conformity with this regulation model. The members of the working 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 published in the Annex A of this regulation model. If there is a former edition of the standard, this former edition will be withdrawn from the list within three years.

PART IV

RECOGNITION OF CONFORMITY ASSESSMENT BODIES

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

39. Certificates have to be in line with ISO Type 5 requirements of the applicable ISO/IEC standard resp. guide (see Annex A, H.2)

40. The use of the IEC Conformity Assessment System IECEx provides the presumption of conformity with the requirements of Part 4.

PART V

UNECE Explosion Protection Steering Committee

41. In order to monitor the application experience within the nations 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.

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

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

44. Members of the ExSC with the right to vote are the representatives of those nations having implemented the regulation model. As observers are invited to attend the meetings: representatives from IEC-SMB, IEC-CAB, IEC/TC 31, IECEX, MARS group.

PART VI

MARKET SURVEILLANCE

45. 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).

46. In case of critical non-conformances an international Alert System (ExAlertSystem) has to be used to inform all UNECE members about recently detected risks or faulty products.

Annex A to the CROs

LIST OF ACCEPTED STANDARDS

Version: June 2009

B.1

[EN 1127-1, IEC/SC 31M project]

B.2

IEC 60079-0:2007

IEC 60079-1:2007

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B.3

[EN 13980, prISO/IEC 80079-34]

C.1

IEC 60079-20-1

IEC 60079-20-2

C.2

IEC 60079-10-1

IEC 60079-10-2

D.1

IEC 60079-14-1

IEC 60079-14-2

D.3

IEC 60079-17

D.4

IEC 60079-19

H.1

ISO/IEC Guide 65

ISO/IEC 17025

ISO/IEC 17021

ISO/IEC 17024

H.2

ISO/IEC Guide 67

Under maintenance of the UNECE-ExSAG

Annex 2

**SECTOR OF INITIATIVE ON
EQUIPMENT FOR EXPLOSIVE ENVIRONMENTS (SIEEE)**

**Compiled Answers to the Questionnaire
on Regulations Governing the SIEE**

1. At its seventeenth session the Working Party mandated the Sectoral Initiative on Environments with an Explosive Atmosphere to prepare a comparison table detailing the different regulatory approaches used in various markets, based on information collected through a questionnaire.
2. This document sets out answers received to date from Australia, Brazil, the European Union, the Russian Federation and the United States.

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

Countries	Replies from countries
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.
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	<u>US MINING:</u> 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 from countries
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.
Russian Federation	Safety Rules for certification of electrical equipment used in explosive environment are specified in RS 03-538-03.
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.

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

Countries	Replies from countries
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 the use of 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.
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	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 from countries
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 standards is not available must be used the IEC standard.
European Union	The adoption of the standards (harmonisation) based on the Decision of the European Commission together with the Consultant and CENELEC TC 31.
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	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 from countries
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 form any Certification Body that is recognized under the IEC Ex-Scheme is acceptable.
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.
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	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 from countries
Australia	Accreditation is scheme dependent: <ul style="list-style-type: none"> ▪ 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.
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.
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.
United States	<u>US MINING</u> : 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 from countries
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.
Russian Federation	There is a list of standards and other regulating documents for each specific type of equipment and production.
United States	<u>US MINING</u> : Federal mining laws and regulations (see above) contain specific requirements for different types of products.

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

Countries	Replies from countries
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 areas are regulated by the Labour Ministry Regulation NR-10.
European Union	The use (installation, maintenance, repair and overhaul, etc.) 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.
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	<u>US MINING:</u> 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 from countries
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 the 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.
Russian Federation	The market of explosive protected equipment is controlled by state bodies on the stages of production and importing.
United States	<u>US MINING:</u> 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 from countries
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
Brazil	<p>The Labour Ministry Regulation NR-10 defines the need for user to perform regular inspections.</p> <p>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.</p>
European Union	<p>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.</p>
Russian Federation	<p>Operation, maintenance and repair procedures of equipment are regulated by GOST R 513300.18-99.</p> <p>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.</p>
Unites States	<p><u>US MINING:</u> Federal mining laws and regulations (see above) address inspection, maintenance and repair of the equipment.</p>

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