



**INTERNATIONAL ELECTROTECHNICAL COMMISSION SYSTEM FOR
CERTIFICATION TO STANDARDS RELATING TO EQUIPMENT FOR USE
IN EXPLOSIVE ATMOSPHERES (IECEx SYSTEM)**

**Title: Re-assessment Report for the continued acceptance of Korea
Occupational Safety and Health Agency (KOSHA) as an Accepted Certification
Body (ExCB)**

To: Members of the IECEx Management Committee, ExMC

Introduction

This document contains the IECEx Re-assessment Report for KOSHA as an Accepted Certification Body, ExCB, in accordance with the 5 year re-assessment plan for the surveillance and monitoring of bodies under the IECEx System.

This Report is issued for endorsement during the 2010 ExMC Berlin Meeting.

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IECEx ASSESSMENT REPORT FOR KOSHA

ExCB (IECEx Certification Body)

Type of Assessment: (please mark)

Initial Assessment for Candidate ExCB

Re-Assessment of ExCB **X**

Scope Extension of ExCB

1. OBJECT AND FIELD OF APPLICATION

1.1. Country:

The Republic of Korea

1.2. Name of Candidate ExCB

Korea Occupational Safety and Health Agency (KOSHA)

1.3. Members of the Assessment Team

Xu Jianping (Leader Assessor)

Gordana Manojlovic (Expert Assessor)

1.4. Place and Date of Assessment

Korea Occupational Safety and Health Agency (KOSHA)

Center for Safety Certification and Assessment

34-4, Gusan-dong, Bupyeong-gu

Incheon 403-711

The Republic of Korea

28 + 29 January 2010

1.5. Assessment References

- i) IECEx 02 Third Edition 2006-11 IECEx Scheme rules of procedure
- ii) IECEx OD/003 IECEx Assessment procedures
- iii) IECEx OD 005V2 Quality System requirements for manufacturers
- iv) IECEx OD/009 Issuing of CoCs, ExTRs and QARs
- v) IECEx Document OD 025V1 (ExMC/161/CD) Management of assessment and surveillance programs for manufacturers (includes QAR forms)
- vi) ISO/IEC Guide 65:1996

- vii) IECEx Document OD 17 Drawing and documentation guidance

1.6. Scope of Application (to be selected)

Number	Title
60079-0 Edition 5	Explosive atmospheres – Part 0: Equipment - General requirements
60079-1 Edition 6	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures “d”
60079-2 Edition 5	Explosive atmospheres – Part 2: Equipment protection by pressurized enclosure “p”
60079-5 Edition 3	Explosive atmospheres – Part 5: Equipment protection by powder filling “q”
60079-6 Edition 3	Explosive atmospheres – Part 6: Equipment protection by oil immersion “o”
60079-7 Edition 4	Explosive atmospheres – Part 7: Equipment protection by increased safety “e”
60079-11 Edition 5	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”
60079-15 Edition 3	Electrical apparatus for explosive gas atmospheres – Part 15: Construction, test and marking of type of protection “n” electrical apparatus
60079-18 Edition 3	Electrical apparatus for explosive gas atmospheres – Part 18: Construction, test and marking of type of protection encapsulation “m” electrical apparatus
61241-0 Edition 1	Electrical apparatus for use in the presence of combustible dust – Part 0: General requirements
61241-4 Edition 1	Electrical apparatus for use in the presence of combustible dust – Part 4: Protection by enclosures “tD”
62086-1 Edition 1	Electrical apparatus for explosive gas atmospheres – Electrical resistance trace heating – Part 1: General and testing requirements

1.7. Any changes in Scope

There is no change to their existing scope.

1.8. Candidate ExCB Persons Interviewed

Name	Position
Mr. Yong Soo, Hong	Director General for Technology, KOSHA
Mr. Jae Jong, Jeong	Director, Center for Safety Certification and Assessment
Mr. Dae Sik, Park	Deputy Director, Chief of Testing Team, Technical Manager
Mr. Soo Bum, Choi	Chief of Approval Team, Certification manager

Mr. Ha Dong, Kim	Quality Manager
Mr. Sang Hee, Kim	Manager

1.9. Legal Entity of the Candidate ExCB

KOSHA was established in 1987 with legal authority for the “Korea Industrial Safety Corporation Act”. Under KOSHA, the Occupational Safety and Health Research Institute (OSHRI) was established in 1989, mainly serving for safety certification & assessment. There has been no change in legal status since last re-assessment.

1.10. Associated Testing Laboratories

KOSHA has an integral testing laboratory under the scheme. The assessment team is satisfied that the quality management system and operational procedures provide sufficient separation between testing and certification as required by ISO/IEC Guide 65.

1.11. Associated Certification Functions

KOSHA operates a recognized certification scheme at the national level, including machine tools, personal protection equipment, Ex products, safety management system and etc.

1.12. National Marks and Certificates

KOSHA operates Korean voluntary “S” Mark and compulsory “KCS” Mark. They issue KCS mark for equipment used for explosive atmospheres.

1.13. Financial Support

As a government organization KOSHA has the full financial support from the government.

1.14. History

See clause 1.9 of this report.

1.15. Standards Accepted

See clause 1.6 of this report.

1.16. National Differences to IEC Standards

National differences to IEC standards are listed in the latest version of the IECEx Scheme Bulletin.

2. ORGANISATION

2.1. Names, Titles and Experience of the Senior Executives

Name	Title	Experience
Jae Jong, Jeong	Director, Center for Safety	11 years

	Certification and Assessment	
Soo Bum, Choi	Deputy Director, Chief of Approval Team, Certification Manager	10 years
Dai Sik, Park	Deputy Director of Center for Safety Certification and Assessment, Chief of Testing Team, technical Manager	16 years

2.2. Name, Title and Experience of the Quality Management Representative

Name	Title	Experience
Ha Dong, Kim	Quality Manager	17 years

2.3. Name and Title of Nominated Principal Contact

Name	Title	Comments
Jea Jong, Jeong	Director, Center for Safety Certification and Assessment	Tel : +82 32 5100 850 Fax : +82 32 518 6484 koshaex@kosha.net

2.4. Name and Title of Signatories for Certification

Name	Title	Comments
Mr Min-Ki, Noh	President of KOSHA	Tel : +82 32 5100 501 Fax : +82 32 515 9944

2.5. Other Employees in ExCB activity

Name	Title	Responsibility and Experience in Ex
Mr. Soo Bum, Choi	Chief of Approval Team, Certification Manager,	Approval Auditor, 10 years in certification, 3 years in Ex field
Mr. Ha Dong, Kim	Quality Manager	Approval Auditor, 17 years
Mr. Sang Hee, Kim	Manager	Auditor in training, 8 years in KOSHA, 3 years in Ex field

2.6. Organizational Structure

See Annex 1, 2 and 3.

Annex 1: Overall Organization Chart of KOSHA.

Annex 2: Overall Organization Chart of OSHRI of KOSHA.

Annex 3: Organization Chart of Ex Operation (Center for Safety Certification and Assessment)

Since last assessment, changes include: Chief of Approval Team, Quality Manager and Certification Manager.

2.7. Administration (including Indemnity Insurance)

The administration structure is same as above. There is a policy covering professional indemnity/legal liability that was viewed during the site assessment. KOSHA has indemnity insurance with value of KRW 600, 000,000, which is applicable to all over the world valid until 24 July 2010.

3. RESOURCES

KOSHA are well equipped with competent personnel along with a well-structured quality system. The Certification activities are supported by well-equipped Ex Testing facilities. At re-assessment time, there are 3 staff involved in the certification team that are separate to testing. The staff involved in Certification functions were subjected to a detailed interview and found to have a solid grounding in the principles of product certification as applied to the Ex field. This included demonstrating sound competencies in quality system auditing under the IECEx scheme.

4. COMMITTEES / Governing Board / Appeals / Advisory Board

The procedure P011 sets out the Process for the Certification Committee along with the function listed in Clause 2 on Page 2 of P011. The procedure indicates that KOSHA operate a Certification Committee consisting of 9 members as follows:

- Chief of the Center for safety Certification and Assessment
- Chief of Quality Assurance
- Chief of Testing Team
- Chief of Ex Certification

And the rest members are from testing agency, university and safety institute.

5. CERTIFICATION OPERATIONS

5.1. National Approval/Certification Methods

KOSHA are recognised under the National system with systems and procedures that comply with IECEx Rules and Operational Documents. It was noted that majority of the procedures include clear references to IECEx Operational Documents including OD 009. The re-assessment Team are satisfied that the methods and procedures for issuing IECEx Certification are integrated within the KOSHA Management system.

5.2. Certification Policy

The KOSHA Quality Manual contains a clear Policy statement in clause 4.2 for compliance with IECEx Rules and Procedures.

5.3. Application for Certification

There is a procedure for issuing of an IECEx CoC. The application package for IECEx Certification including the KOSHA Website have been updated to ensure applicants for IECEx Certification are fully aware of the steps and rules required in order to achieve IECEx Certification.

5.4. Certification Decision

The detailed procedures for certification decision are addressed in the body's Quality Manual. It was reviewed and found to meet the requirements of the IECEx System.

5.5. Suspension and Cancellation of Certificates

Procedures for the suspension and cancellation of certificates are covered by the Quality Management system procedures in clause 4.3.7 of P094, and found to comply with the requirements of IECEx Rules and Operational Documents.

6. STATISTICS

6.1. Certificates Issued

Number of certificates issued under the IECEx, national or regional schemes in the preceding four years for each type of protection:

Standards	Title	Number of issued certificates				Total
		2006	2007	2008	2009	
60079-0	Explosive atmospheres - Part 0: General requirement	1	10	29	50	
60079-1	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'	1	8	17	39	65
60079-7	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'	-	1	5	-	6
60079-15	Electrical apparatus for explosive gas atmospheres - Part 15: Construction, test and marking of type of protection 'n' electrical apparatus	-	1	2	1	4
The others	With several types of protection combined	-	-	5	10	15

In addition, KOSHA issues about 800 Ex certificates at national level annually.

7. DOCUMENTATION

7.1. Quality Manual

KOSHA has a comprehensive quality manual and supporting procedures. It is noted that the Quality Manual has been updated on 11 December 2009, and found to be satisfactory.

7.2. Procedures

The comprehensive supporting procedures (21 in total) were found to be in place.

7.3. Work Instructions

In Ex field, there are 73 working instructions dated on 26 March 2009 were sighted during the re-assessment.

7.4. Records

They have extensive procedures dealing with quality records. The procedures ensure that all records related to IECEx testing and certification activities are maintained with a retention time of 10 years. All the relevant records are stored using the registration numbers.

7.5. Document Change Control

Documents are all subject to a change control procedure P050 that includes regular checks of those being used in the workplace.

8. CONFIDENTIALITY

The assessment was noted that all the KOSHA staff and the members of Certification Committee, including the committee members from social organization are subjected to the strict confidentiality requirements. Examples of records reviewed, and it was noted that some of the agreement with the persons from social organizations were time-expired. This has been subsequently resolved with satisfaction of the assessment team.

9. PUBLICATIONS

KOSHA publishes a Brochure in English periodically for introduction of KOSHA's activities. Further detailed information including service description can also be found on their website at www.kosha.net.

10. NATIONAL ACCREDITATION

KOSHA holds national authorization for the many varying activities, including Ex certification. However the assessment team noted that KOSHA has not a local accreditation according to ISO/IEC Guide 65, and KOSHA agree to bear an annual surveillance under the IECEx System as done before.

11. RECOGNITION AND AGREEMENTS

KOSHA holds various MOUs with NEMKO, PTB, TIIS and etc.

12. INTERNAL AUDIT AND PERIODIC MANAGEMENT REVIEW

As part of the KOSHA Quality Management System, KOSHA conduct internal audit and periodic management review as scheduled. The assessment team satisfied that the internal audit and management review for the year of 2009 included the assessment against additional IECEx scheme requirements e.g. compliance IECEx Operational documents and Rules and etc.

13. SUBCONTRACTING, USE OF OTHER LABS AND USE OF OTHER LOCATIONS

KOSHA has a procedure P030 for subcontracting of explosive product and calibration. With exception of the chemical resistance test, electrostatic charging test and electrostatic capacity measurement test required in the clause 26 of IEC60079-0 (Ed.5) KOSHA has all the testing facilities for Ex testing covering in the standards listed in this report. KOSHA occasionally use KTL as a subcontracting laboratory for issuing KCS Mark to Ex equipment.

14. TRAINING

The staff training at KOSHA is periodically provided according to procedures QM 94 and P170 as well as specific development plans. All members of staff are responsible for maintaining their own training records and recoded in intra-net. The assessment team also noted that there have had more staff changes especially within ExCB in the last several years, including the Chief of Approval Team, Quality Manager, Certification Manager and Approval auditors. As a part of review of training rerecords, it was found that there is no evidence of training on IECEx procedures, IEC latest standards, OD005 for these staff changed. This issue has been subsequently resolved by conducting a newly developed training plan.

15. ASSESSMENT OF MANUFACTURERS AND ISSUE OF QARS

The procedures for assessment of manufacturers are contained in P 094 Explosive equipment certification procedure. The operational document OD005 and relevant procedures are also used. There are currently 6 sites and 16 QARs being maintained by KOSHA. In the recent year auditing is done mainly by Ha Dong, Kim who has good experience in the Ex field in addition to auditing. The several issued QARs were reviewed and satisfactory.

16. COMPLAINTS AND APPEALS (Including appeals to IECEx)

KOSHA also operate an appeals procedure handling customer complains in accordance with clause 2 of P121 of their Manual which was updated on 31 March 2009. This procedure includes reference to the IECEx appeals procedure as a further option for manufacturers.

17. SPECIAL FACTS TO BE NOTED

17.1. Supporting Documentation

Copies of additional supporting information for this re-assessment have been provided to the applicant and the IECEx Secretariat. These include:

- Details of issues raised and how these have been resolved
- Checklist for ISO/IEC Guide 65

17.2. Other Issue

KOSHA has not a national accreditation according to ISO/IEC Guide 65. An annual site surveillance is required to conduct by IECEx assessor.



18. COMMENTS (Including issues found during assessment)

A number of issues mainly on training, calibration, test records and confidentiality, were raised during this re-assessment and reported to KOSHA at the end of re-assessment. All has been subsequently resolved to the satisfaction of the assessment team. Details of issues and how these have been resolved are listed in Annex A and B of the site assessment report, retained at the Secretariat.

19. RECOMMENDATION

Based on the re-assessment performed on 28 + 29 January 2010, as well as the positive outcome on follow-up actions, KOSHA is recommended for continued acceptance in the IECEx System as an IECEx Certification Body (ExCB) according to the scope of the standards listed in this document.

Xu Jianping
Team Leader
Lead Assessor

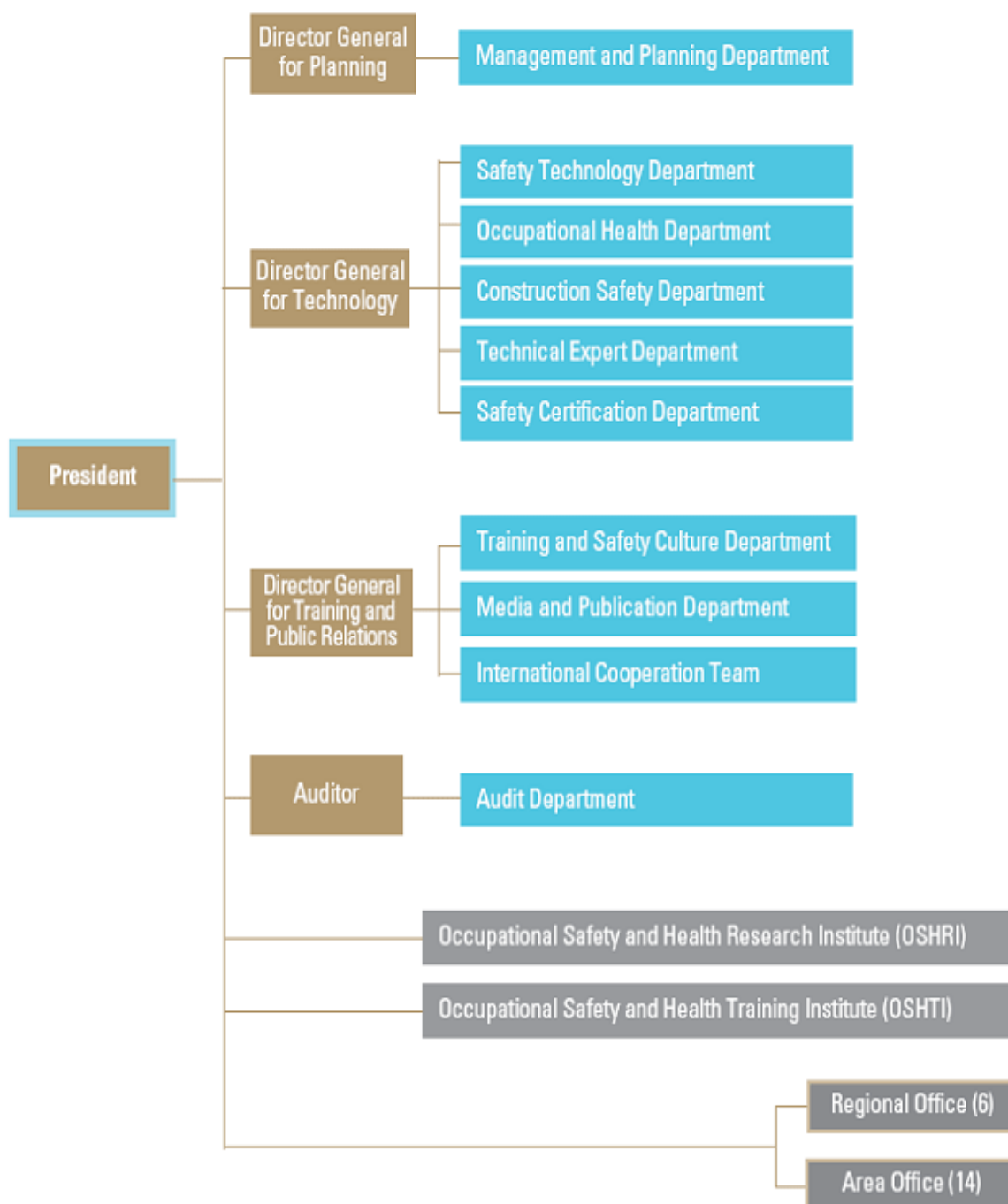
Gordana Manojlovic
Expert Assessor

Date: 12 July 2010

List of Annexes:

1. Overall Organization Chart of KOSHA
2. Overall Organization Chart of OSHRI of KOSHA
3. Organization Chart of Ex Operation (Center for Safety Certification and Assessment)

Annex 1 Overall Organization Chart of KOSHA



Annex 2
Overall Organization Chart of OSHRI of KOSHA



Annex 3 Organization Chart of Ex Operation

