ExMC/967/DV
November 2014

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

TITLE: IECEx Re-Assessment Report for *MSTC Mine Safety Technology Centre* as well as *a* Scope Extension to include Standards listed in Table 1.6 of this report.

INTRODUCTION

This document contains the IECEx Re-Assessment Report for MSTC Mine Safety Technology Centre.

During the re-assessment, the IECEx Assessment Team took the opportunity to also assess MSTC's facilities, equipment and competence to undertake testing and certification to the Standards listed as an "Extension of Scope" in table 1.6 of this report.

Please consider the assessment report and return the completed voting form, separate Word document, to the Secretariat by **2014 12 22**

Your speedy response to the voting process will be very much appreciated.

Chris Agius

IECEx Secretariat

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IECEx ASSESSMENT REPORT FOR
Mine Safety Technology Centre (MSTC)

Type of Assessment:

Initial assessment for Candidate ExTL

Re-Assessment of ExTL **X**

Scope Extension of ExTL + ExCB **X**

1. OBJECT AND FIELD OF APPLICATION

This Assessment report covers the 5 year re-assessment of MSTC as an ExTL according to the IECEx OD 003-2 and an application from MSTC to extend their scope to include the additional Standards listed in the Table of 1.6.

While the focus of this re-assessment was to cover the activities of the ExTL, aspects of the ExCB operations that deal with Standards not within the current ExCB scope of MSTC that are the subject of a scope extension were also covered, namely:

IEC 60079-15
IEC 60079-29-1
IEC 60079-31
IEC 62013-2

1.1. Country:

Australia

1.2. Name of the Accepted TL

MSTC Mine Safety Technology Centre

1.3. Members of the Assessment Team

Thierry HOUEIX – Lead Assessor
Lucy LU – Expert Assessor

1.4. Place and Date of Assessment

8 Hartley Drive Thornton NSW 2322
15 and 16 April 2014

1.5. Assessment References

i) IECEx 02 Third Edition 2006-11 IECEx Scheme rules of procedure
ii) IECEx Operational Document OD/003 IECEx Assessment procedures
iii) IECEx Operational Document OD/009 Issuing of CoCs, ExTRs and QARs
iv) ISO/IEC 17025:2005
v) IECEx Technical Guidance Documents (TGDs)
vi) ExTAG decision sheets (DSs)

vii) ExTL application documents dated

1.6. Scope of Application (to be selected)

The following Table identifies the current listed Standards within the MSTC Scope as well as the Standards listed for scope extension which have been successfully assessed by the IECEx Assessment Team and now recommended for ExMC acceptance

Number	Title	Scope
60079-0 Edition 6	Explosive atmospheres - Part 0: Equipment - General requirements	Current
60079-7 Edition 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"	Extension Requested
60079-11 Edition 6	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”	Current
60079-15 Edition 4	Electrical apparatus for explosive gas atmospheres - Part 15: Construction, test and marking of type of protection "n" electrical apparatus	Extension nA, nL
60079-18 Edition 3	Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation "m" electrical apparatus	Extension requested
60079-25 Edition 2	Electrical apparatus for explosive gas atmospheres - Part 25: Intrinsically safe systems	Current
60079-26 Edition 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga	Extension requested
60079-27 Edition 2	Explosive atmospheres – Part 27: Fieldbus intrinsically safe concept (FISCO)	Current
60079-29-1 Edition 1	Explosive atmospheres - Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases	Extension requested
60079-31 Edition 2	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"	Extension requested
60079-35.1	Part 35.1: Caplights for use in mines susceptible to firedamp-General requirements - Construction and testing in relation to the risk of explosion	Extension requested
61241-0 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements	Extension requested
61241-11 Edition 1	Electrical apparatus for use in the presence of combustible dust Part 11: Protection by intrinsic safety 'iD'	Extension requested
61241-18 Edition 1	Electrical apparatus for use in the presence of combustible dust Part 18: Protection by encapsulation "mD"	Extension requested
62013-1 Edition 2	Caplights for use in mines susceptible to firedamp Part 2: Performance and other safety-related matters.	Extension requested

Number	Title	Scope
62013-2 Edition 2	Caplights for use in mines susceptible to firedamp Part 2: Performance and other safety-related matters	Extension requested

1.7. Candidate TL Persons Interviewed

Name	Position
Geoff Slater	MSTC Manager & Quality Manager
John Waudby	Certification Officer
David Walker	Certification technical Support & lead auditor
Mohamed Abdelkrimi	Senior Engineer – Electrical Assessment
Lional Rajasekera	Senior Engineer – Electrical Assessment

1.8. Legal Entity of The Candidate TL

MSTC is part of the division of Resources and Energy which in turn is part of the NSW Department of Trade & Investment, Regional Infrastructure & Services

1.9. Associated ExCB

MSTC Mine Safety Technology Centre
TestSafe Australia
919 Londonderry Road
LONDONDERRY NSW

1.10. Financial Support

The commercial activities related to Ex activity are self financing through the fees required to its customers.

1.11. History

MSTC Mine Safety Technology Centre has been issuing state approvals/registrations for gas detector instruments, materials and chemical testing for over 30 years.
MSTC staff has been involved in issuing state approvals for Ex equipment for over twenty years, testing and assessment of Ex equipment for six years and certification of Ex equipment for the last year.

2. ORGANISATION

Tables below to be initially completed by applicant or body being re-assessed

2.1. Names, Titles and Experience of the Senior Executives

Name	Title	Experienc
Geoff Slater	MSTC Manager & Quality Manager	Since 2006

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

Name	Title	Experience
Geoff Slater	MSTC Manager & Quality	Since 2006

	Manager	

2.3. Name and Title of Nominated Principal Contact

Name	Title	Comments
Mohamed Abdelkrimi	Senior Engineer – Electrical Assessment	

2.4. Employees

Name	Title	Experience
David Paul Walker	Lead Auditor & Certification Technical Support – Contractor	Testing, assessment and certification of Ex equipment with BASEEFA, TestSafe, ITACS/TRA and MSTC since 1988
Mohamed Abdelkrimi	Senior Engineer – Electrical Assessment	17 years of Testing, assessment and certification of Ex equipment with TestSafe and MSTC
Lional Rajasekera	Senior Engineer – Electrical Assessment	9 years of Testing, assessment and certification of Ex equipment with TestSafe and MSTC

Additional support staffs, such as the Laboratory assistant and the administration person, are called on to help with certain tasks that do not require specific competence when necessary.

2.5. Organizational Structure

Refer to MSTC Mine Safety Technology Centre Organizational Chart in Annex 1

3. RESOURCES

The Mine Safety Technology Centre ExTL has two full time employees carrying out the equipment assessment and testing and one contract employee who when not called upon for certification may be involved in assessment and testing.

The laboratory and offices are located in an industrial unit, which provides an adequate environment for the work. The testing equipment is suitable for the range of tests carried out in house. Where tests may require other equipment,

The following tests are sub-contracted to another ExTL (TestSafe Australia):

- IP dust testing for equipment that is greater 350 mm x 350 mm x 350 mm in size
- Endurance testing for equipment that is greater 700 mm x 700 mm x 500 mm in size
- Ex e rotating machines, Measuring instruments and instrument transformers

and transformers other than instrument transformers
- AC equipment requiring supply voltages greater than 450 Vrms.
- Ex n electrical machines and current transformers.

4. DOCUMENTATION

4.1. Quality Manual

Mine Safety Technology Centre has a comprehensive quality manual supported by other procedural documents, which refer to ISO 9001, ISO/IEC 17025 standards and ISO/IEC Guide 65.

4.2. Procedures

Mine Safety Technology Centre has a very comprehensive range of procedures covering all aspects of the testing operations that were audited as part of this re-assessment. Where applicable each procedure has with it an associated test sheet for completion by the staff. The procedures were found to meet the requirements of the IECEx requirements.

4.3. Work Instructions

See above.

4.4. Records

The handling of records is detailed in section 4.13 of the Quality Manual QS001 (currently at version 3.11). All records are maintained in according to IECEx requirements.

4.5. Document Change Control

As per 4.4 above.

4.6. Test Records

As per 4.4 above.

5. TEST REPORTS

5.1. Test Reports Issued

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

Standards	Title	Number of issued test reports				
		2011	2012	2013	2014	Total
IEC 60079-0 and IEC 60079-11	Explosive atmospheres - Part 0: Equipment - General requirements and Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”	4	2	6	3	**15**

6. CALIBRATION

All equipment used in the testing of Ex equipment is calibrated and traceable through NATA.

All the testing equipment and measuring instruments used at the MSTC laboratory are properly calibrated with traceability to national basis. Examples of calibration certificates were reviewed and were found to be satisfactory.

7. CONFIDENTIALITY

All employees sign confidentiality agreements. Confidentiality is also part of the Department of Trade and Investment Policies which MSTC is part.

The confidentiality agreements of Mohamed Abdelkrimi, Lional Rajasekera and David Paul Walker were sighted by the team and found to meet the requirements of the IECEx System.

8. NATIONAL ACCREDITATION

Mine Safety Technology Centre ExTL is accredited by NATA which is an ILAC member.

9. RECOGNITION AND AGREEMENTS

MSTC Mine Safety Technology Centre has a number of agreements including:

- Agreement with TestSafe Australia.
- Agreement with White Rose Hazardous Area Technologies to provide assessment and certification technical support, lead auditing and training.

10. INTERNAL AUDIT AND PERIODIC REVIEW

Internal audits are carried out once a year in accordance with the procedures detailed in their Internal Audit Manual. The internal audit at MSTC is carried out on an annual basis for each type of operation by trained and qualified staff and covers the requirements of ISO/IEC 17025 as well as ensuring that IECEx Rules and Procedures and ODs are followed The latest audit was reviewed and all the records are well documented.

11. COMPLAINTS AND APPEALS (Including appeals to IECEx)

They have a general process in MSTC Mine Safety Technology Centre from external complaints defined in the quality manual and the certification manual “Complaints and Appeals and Procedures. This covers the complaints mechanism requirements of the ExCB and ExTL and found to comply with IECEx requirements.

The Management review is defined in the Quality Manual (QS001) and is also conducted annually

12. SPECIAL FACTS TO BE NOTED

12.1. *Supporting Documentation*

Copies of additional supporting information for this 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 17025
- Photos of the facilities

13. COMMENTS (Including issues found during assessment)

Minor issues regarding test standards which were used prior the reassessment and its calibration were cleared through improved procedures and documentation.

14. RECOMMENDATION

Based on the re-assessment performed on 15 and 16 April 2014, MSTC is recommended for continued acceptance in the IECEx scheme as a IECEx Testing Laboratory (ExTL) according to the scope of the standards listed in this document (including the extension of scope).

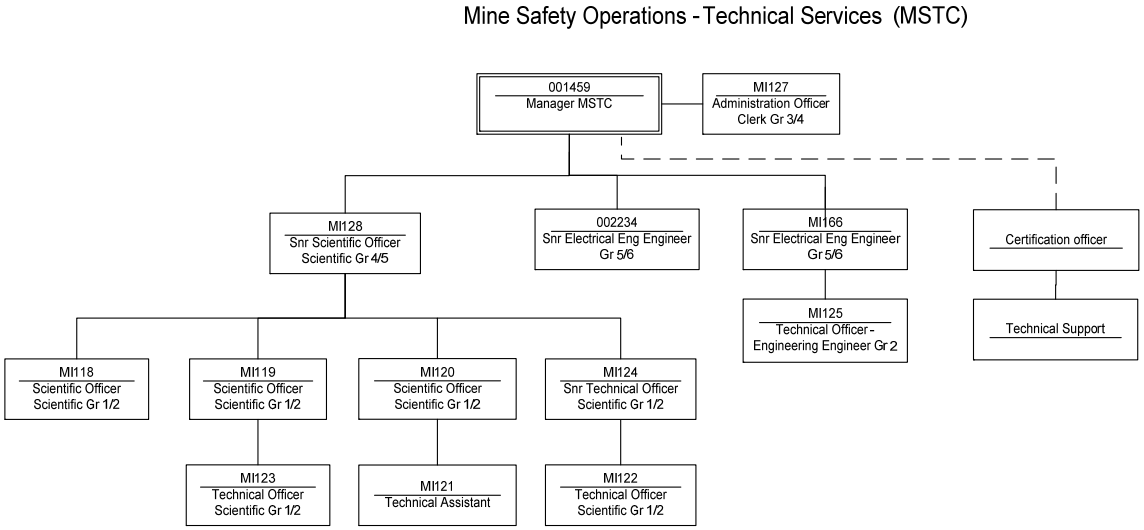
Thierry HOUEIX	Lucy LU
Lead Assessor	Expert Assessor

Date: 2014-07-16

List of Annexes:

1. Overall Organization Chart of MSTC is provided in Annex 1.
2. Accreditation Certificate for ISO/IEC 17025 is provided in Annex 2.

Annex 1. Overall **Organization Chart of MSTC Mine Safety Technology Centre**



Annex 2. National Association of Testing Authorities, Australia Mine Safety Technology Centre Accreditation Certificate to ISO/IEC 17025.

NATA Accredited Laboratory

National Association of Testing Authorities, Australia
(ABN 59 004 379 748)

has accredited

NSW Department of Primary Industries

Mine Safety Technology Centre

following demonstration of its technical competence
to operate in accordance with

ISO/IEC 17025

This facility is accredited in the field of

Measurement Science and Technology

for the tests shown on the *Scope of Accreditation* issued by NATA

A J Russell
Chief Executive

Date of accreditation: 25 February 1988
Accreditation number: 2325

NATA
WORLD RECOGNISED
ACCREDITATION

NATA is Australia's government-endorsed laboratory accreditor, and a leader in accreditation internationally. NATA is a signatory to the international mutual recognition arrangements of the International Laboratory Accreditation Cooperation (ILAC) and the Asia Pacific Laboratory Accreditation Cooperation (APLAC).

L.11.7.2/Issue 1/March 2005