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

**IECEx ASSESSMENT REPORT**

**Title: Re-assessment and Scope Extension Report for** **MSTC - Mine Safety Technology Centre, AU, to include IEC 60079-28 Ed.2 in their ExCB scope**

**Introduction**

In accordance with the 5 year re-assessment plan for the surveillance and monitoring of bodies within the IECEx System, the following document contains the IECEx Re-assessment and Scope Extension Report for the continued acceptance of MSTC - Mine Safety Technology Centre, AU, as an Accepted Certification Body (ExCB) and an Accepted Ex Testing Laboratory (ExTL) within the IECEx System, Equipment Scheme 02.

During the re-assessment the IECEx Assessment Team took the opportunity to also assess MSTC’s facilities, equipment and competence to undertake certification to the Standard –

 IEC 60079-28 Edition 2.0

 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation

***This scope extension to include IEC 60079-28 Ed.2 in MSTC ExCB scope only and is hereby submitted for ExMC approval, via correspondence, using the IECEx on-line voting system.  ExMC Members are requested to submit their vote via the IECEx On-line*** [***Ballot System***](https://www.iecex.com/ballot) ***by the closing date 2019 08 23***

***Please refer to OD 050 for guidance on the “IECEx On-line voting system.”***

***Chris Agius***

**IECEx Secretariat**

|  |  |
| --- | --- |
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IEC System for certification to standards relating to equipment for use in Explosive Atmospheres (IECEx System)

IECEx Assessment Report Form

IECEx Assessment Report Form for use by IECEx Assessment Teams to report Assessments conducted according to the IECEx Assessment Procedures of

1. Operational Document IECEx OD 003-2 for the Certified Equipment Scheme
2. Operational Document IECEx OD 016 for the Certified Service Facility Scheme
3. Operational Document IECEx OD 022 for the IECEx Conformity Mark Licensing System

IECEx ExCB/ExTL assessment report for

MSTC - Mine Safety Technology Centre

NSW 2322

AUSTRALIA

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

CONTENTS

[1 Assessment information 5](#_Toc497180288)

[1.1 Type of Body covered by this assessment: 5](#_Toc497180289)

[1.2 Type of assessment: 5](#_Toc497180290)

[1.3 Details of body 5](#_Toc497180291)

[1.3.1 Country 5](#_Toc497180292)

[1.3.2 Name of body 5](#_Toc497180293)

[1.3.3 Name and title of nominated principal contact 5](#_Toc497180294)

[1.4 Assessment information 5](#_Toc497180295)

[1.4.1 Members of the assessment team 5](#_Toc497180296)

[1.4.2 Place(s) of assessment 5](#_Toc497180297)

[1.4.3 Assessment date(s) 5](#_Toc497180298)

[1.5 Scope 6](#_Toc497180299)

[1.5.1 ExCB scope for equipment certification scheme 6](#_Toc497180300)

[1.5.2 ExTL scope 7](#_Toc497180301)

[1.5.3 ExCB scope for Service Facilities Scheme 7](#_Toc497180302)

[1.5.4 ExCB scope for ExMark Scheme 7](#_Toc497180303)

[2 Common information 8](#_Toc497180304)

[2.1 Legal entity of body 8](#_Toc497180305)

[2.2 Financial support 8](#_Toc497180306)

[2.3 History 8](#_Toc497180307)

[2.4 Documentation 8](#_Toc497180308)

[2.4.1 Quality manual 8](#_Toc497180309)

[2.4.2 Procedures 8](#_Toc497180310)

[2.4.3 Work instructions 8](#_Toc497180311)

[2.4.4 Records (including test records where relevant) 8](#_Toc497180312)

[2.4.5 Document change control 8](#_Toc497180313)

[2.5 Confidentiality 9](#_Toc497180314)

[2.6 Publications (Hard cover and Electronic) 9](#_Toc497180315)

[2.7 Recognition and agreements 9](#_Toc497180316)

[2.8 Internal audit and periodic management review 9](#_Toc497180317)

[2.9 Contracting, subcontracting, use of other labs and use of other locations 9](#_Toc497180318)

[2.10 Training and competence 9](#_Toc497180319)

[2.11 Complaints and appeals (including appeals to IECEx) 9](#_Toc497180320)

[2.12 Special facts to be noted 10](#_Toc497180321)

[2.12.1 Supporting documentation 10](#_Toc497180322)

[2.13 Recommendations 10](#_Toc497180323)

[3 ExCB for IECEx Certified Equipment Scheme 11](#_Toc497180324)

[3.1 Assessment references 11](#_Toc497180325)

[3.2 ExCB persons interviewed 11](#_Toc497180326)

[3.3 Associated ExTL(s) 11](#_Toc497180327)

[3.4 Associated certification functions 11](#_Toc497180328)

[3.5 National marks and certificates 11](#_Toc497180329)

[3.6 Standards accepted 11](#_Toc497180330)

[3.7 National differences to IEC standards 12](#_Toc497180331)

[3.8 Organisation 12](#_Toc497180332)

[3.8.1 Names, titles and experience of the senior executives 12](#_Toc497180333)

[3.8.2 Name, title and experience of the quality management representative 12](#_Toc497180334)

[3.8.3 Name and title of signatories for certification 12](#_Toc497180335)

[3.8.4 Other employees in ExCB activity 12](#_Toc497180336)

[3.9 Organizational structure 12](#_Toc497180337)

[3.10 Administration 12](#_Toc497180338)

[3.10.1 Administrative structure 12](#_Toc497180339)

[3.10.2 Indemnity insurance 12](#_Toc497180340)

[3.11 Resources 12](#_Toc497180341)

[3.12 Committees (such as governing or advisory boards) 12](#_Toc497180342)

[3.13 Certification operations 13](#_Toc497180343)

[3.13.1 National approval/certification methods 13](#_Toc497180344)

[3.13.2 Certification policy 13](#_Toc497180345)

[3.13.3 Application for certification 13](#_Toc497180346)

[3.13.4 Certification decision 13](#_Toc497180347)

[3.13.5 Suspension and cancellation of certificates 13](#_Toc497180348)

[3.14 Certificates issued 13](#_Toc497180349)

[3.15 National accreditation 13](#_Toc497180350)

[3.16 Assessment of manufacturers and issue of QARs 13](#_Toc497180351)

[3.17 Comments (including issues found during assessment) 14](#_Toc497180352)

[4 ExTL for IECEx Certified Equipment Scheme 15](#_Toc497180353)

[4.1 Assessment references 15](#_Toc497180354)

[4.2 ExTL persons interviewed 15](#_Toc497180355)

[4.3 Associated ExCB(s) 15](#_Toc497180356)

[4.4 Organisation 15](#_Toc497180357)

[4.4.1 Names, titles and experience of the senior executives 15](#_Toc497180358)

[4.4.2 Name, title and experience of the quality management representative 15](#_Toc497180359)

[4.4.3 Other employees in ExTL activity 15](#_Toc497180360)

[4.5 Organizational structure 15](#_Toc497180361)

[4.6 Resources 15](#_Toc497180362)

[4.7 Test reports issued 16](#_Toc497180363)

[4.8 Calibration 16](#_Toc497180364)

[4.9 Proficiency 16](#_Toc497180365)

[4.10 Comments (including issues found during assessment) 16](#_Toc497180366)

[Annexes 17](#_Toc497180367)

[Annex A Overall Organisation Chart 18](#_Toc497180368)

Annex B Certificate ISO/IEC 17065 19

[Annex C Accreditation Schedule for ISO/IEC 17065 20](#_Toc497180369)

[Annex D Accreditation Certificate for ISO/IEC 17025 (relevant pages only) 22](#_Toc497180370)

# Assessment information

## Type of Body covered by this assessment:

|  |  |
| --- | --- |
| ExCB for IECEx Certified Equipment Scheme | ✓ |
| ExTL for IECEx Certified Equipment Scheme | ✓ |
| ExCB for IECEx Certified Service Facilities Scheme |  |
| ExCB for IECEx Conformity Mark Licensing System |  |

NOTE 1 ExCB - IECEx Certification Body

NOTE 2 ExTL - IECEx Testing Laboratory

## Type of assessment: <retain appropriate marks>

|  |  |
| --- | --- |
| Pre-assessment for candidate body |  |
| Initial assessment for candidate body |  |
| Surveillance  |  |
| Re-assessment  | ✓ |
| Scope extension – ExCB Only | ✓ |

## Details of body

### Country

AUSTRALIA

### Name of body

MSTC - Mine Safety Technology Centre

### Name and title of nominated principal contact

|  |  |  |
| --- | --- | --- |
| **Name** | **Title** | **E-mail address** |
| Mohamed Abdelkrimi | Senior Engineer – Electrical Assessment | mohamed.abdelkrimi@planning.nsw.gov.au |

## Assessment information

### Members of the assessment team

|  |  |
| --- | --- |
| **Name**  | **Role (modify as necessary)** |
| Thierry Houeix (INERIS) | Lead assessor |
| Michel Brénon  | Expert Assessor |

### Place(s) of assessment

8 Hartley Drive Thornton
NSW 2322

### Assessment date(s)

30 October – 1st November 2017

## Scope

### ExCB scope for equipment certification scheme

The ExCB scope is shown on the table below:

| **Number**  | **Title**  | **Scope** |
| --- | --- | --- |
| IEC 60079-0 Ed. 6 | Explosive atmospheres - Part 0: Equipment - General requirements | Already in |
| IEC 60079-1 Ed. 7 | Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures “d” | Already in \*\* |
| IEC 60079-11 Ed. 6 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i” | Already in |
| IEC 60079-15 Ed. 4 | Explosive atmospheres - Part 15: Equipment protection by type of protection "n" | Already in |
| IEC 60079-18 Ed. 3 | Explosive atmospheres - Part 18: Equipment protection by encapsulation “m” | Already in |
| IEC 60079-25 Ed. 2 | Explosive atmospheres - Part 25: Intrinsically safe electrical systems | Already in |
| IEC 60079-26 Ed. 2 | Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga | Already in |
| \*IEC 60079-27 Ed. 1 | Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO) | Already in |
| IEC 60079-28 Ed. 2 | Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation | Extension\*\* |
| IEC 60079-29-1 Ed. 1 | Explosive atmospheres -Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases | Already in |
| IEC 60079-31 Ed. 2 | Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" | Already in |
| IEC 60079-35-1 | Explosive atmospheres - Part 35-1: Caplights for use in mines susceptible to firedamp - General requirements - Construction and testing in relation to the risk of explosion | Already in |
| \*IEC 61241-0 Ed. 1 | Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements | Already in |
| \*IEC 61241-11 Ed. 1  | Electrical apparatus for use in the presence of combustible dust – Part 11: Protection by intrinsic safety 'iD' | Already in |
| \*IEC 61241-18 Ed. 1  | Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation "mD" | Already in |

NOTE 1 Standards shown with an asterisk (\*) are superseded standards

NOTE 2 Unless otherwise indicated, earlier editions of standards (even if with a different number) are considered to be covered in the above scope for the purposes of the assessment.

NOTE 3 The above list highlights any extension of scope in the list above for new standards or later editions of standards already in scope.

NOTE 4 The \*\* marking specifies this standard which is in the scope of the ExCB only with their associated ExTL

NOTE 5 The \*\*\* marking specifies this standard which is in the scope of the ExCB and but its ExTL have a subcontract arrangement with their associated ExTL that could do these tests

### ExTL scope

The ExTL scope is shown on the table below.

| **Number**  | **Title**  | **Scope** |
| --- | --- | --- |
| IEC 60079-0 Ed. 6 | Explosive atmospheres - Part 0: Equipment - General requirements | Already in |
| IEC 60079-1 Ed. 7 | Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures “d” | Not requested |
| IEC 60079-11 Ed. 6 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i” | Already in |
| IEC 60079-15 Ed. 4 | Explosive atmospheres - Part 15: Equipment protection by type of protection "n" | Already in |
| IEC 60079-18 Ed. 3 | Explosive atmospheres - Part 18: Equipment protection by encapsulation “m” | Already in |
| IEC 60079-25 Ed. 2 | Explosive atmospheres - Part 25: Intrinsically safe electrical systems | Already in |
| IEC 60079-26 Ed. 2 | Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga | Already in |
| \*IEC 60079-27 Ed. 1 | Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO) | Already in |
| IEC 60079-28 Ed. 2 | Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation | Not requested |
| IEC 60079-29-1 Ed. 1 | Explosive atmospheres -Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases | Already in |
| IEC 60079-31 Ed. 2 | Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" | Already in |
| IEC 60079-35-1 | Explosive atmospheres - Part 35-1: Caplights for use in mines susceptible to firedamp - General requirements - Construction and testing in relation to the risk of explosion | Already in |
| \*IEC 61241-0 Ed. 1 | Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements | Already in |
| \*IEC 61241-11 Ed. 1  | Electrical apparatus for use in the presence of combustible dust – Part 11: Protection by intrinsic safety 'iD' | Already in |
| \*IEC 61241-18 Ed. 1  | Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation "mD" | Already in |

NOTE 1 Standards shown with an asterisk (\*) are superseded standards

NOTE 2 Unless otherwise indicated, earlier editions of standards (even if with a different number) are considered to be covered in the above scope for the purposes of the assessment.

NOTE 3 The above list highlights any extension of scope in the list above for new standards or later editions of standards already in scope.

Regarding IEC 60079-28, MSTC as ExCB plan to use TestSafe as ExTL for the purposes of IEC 60079-28 testing via the long standing agreement between MSTC as ExCB and TestSafe as ExTL

### ExCB scope for Service Facilities Scheme

Not in the scope of ExCB.

### ExCB scope for ExMark Scheme

The ExMark scheme is not in the scope of ExCB.

# Common information

## Legal entity of body

MSTC - Mine Safety Technology Centre is part of Department of Planning and Environment with the company number ABN 38 755 709 681.

The document was checked during the reassessment and found to meet the requirements of the IECEx.

MSTC is a Governmental Certification body.

## Financial support

MSTC - Mine Safety Technology Centre operates on a customer fee for service arrangement. MSTC is also financially supported by the NSW Government as it is part of the Resource and Energy Division of the NSW Department of Planning & Environment.

## 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 have been involved in issuing state approvals for Ex equipment for over twenty years and in testing and certification of Ex equipment for fifteen years.

## Documentation

### Quality manual

The Quality Manual is referenced QS01 rev.2.0 October 2017. It is written in accordance with ISO/IEC 17065:2012 and ISO/IEC 17025:2005 and it is the quality manual for the all certification process and the testing laboratories of MSTC.

It consists of several levels: Method and Procedures Manuals (EM), Certification Manual, Work Sheets, Test Reports Format and Equipment Calibration Methods File.

The whole QM is complete and accessible by all employees on the intranet. The QM was checked during the assessment and found to meet the requirements of the IECEx

### Procedures

MSTC have a comprehensive range of procedures covering all aspects of the testing operations and were audited as part of this assessment. Where applicable each procedure has with it an associated test sheet for completion by the staff. The relevant existing procedures were found to meet the requirements of the IECEx.

### Work instructions

MSTC have comprehensive ranges of work instructions detailing the general procedure, and sets out in CP documents.

### Records (including test records where relevant)

All records are appropriately maintained and stored. There is also an archiving process in place for all records. The system was found to meet the requirements of the IECEx. The records retained are only hard copy records for the moment, with the assessment team confirming appropriate control procedures and confirmation of records retained.

The assessment team also confirmed that retention of records complied with IECEx requirements.

### Document change control

MSTC have procedure relating to document change control in chapter 4.3.3 of the QM.

The assessment team confirmed that this also addressed the issue of externally generated documents, eg standards, IECEx ODs and also ExTAG Decision sheets.

## Confidentiality

All employees sign confidentiality agreements when they start to work for MSTC. Examples of these were sighted by the team and found to meet the requirements of the IECEx.

## Publications (Hard cover and Electronic)

IECEx application forms are available on request.

## Recognition and agreements

MSTC have recognition by NATA and JAS-ANZ which are the Australian Accreditation Body regarding ISO/IEC 17025 and ISO/IEC 17065.

## Internal audit and periodic management review

There is an overall audit system for MSTC, including at technical level with the Ex operations. MSTC does have in place a method of regularly investigating existing testing activities.

Internal audits are done once a year for ExTL/ExCB activities. The internal audit for IECEx to ISO/IEC 17025 and ISO/IEC 17065 carried out on 20 October 2017 was reviewed. Findings raised, and the corrective actions were viewed and found to be satisfactory. The audit took place over one day and had a team of one auditor. No nonconformities were found.

The management review meeting that took place on 17 July 2017 was reviewed. It covers internal audits, corrective actions/accreditation audits, customer satisfaction (including complaints) and data on number of certificates issued (including IECEx certificates)

## Contracting, subcontracting, use of other labs and use of other locations

MSTC subcontract some tests and they have a procedure for this and agreement with the External Company. The tests which are subcontracted are permitted by the IECEx TCD and listed in the TCD and are mainly:

* 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.

These tests are sub-contracted to another Accepted ExTL (TestSafe Australia).

Provision is also made for tests to be performed at the manufacturer’s or user’s facility in accordance with OD24. It was noted that the MSTC had not used this feature.

## Training and competence

All staff employed are selected for qualifications and/or experience relevant to their responsibilities. In chapter 5.2 of the quality manual, there is a table describing each member of staff.

On regular basis, there is training of people in the ExTL on the operations, outcome of audits, revised standards.

There is a competency matrix for ExTL. This was found to meet IECEx Requirements.

## Complaints and appeals (including appeals to IECEx)

The procedures are defined in clause 3 of the Certification Manual of MSTC referenced CM01 for external complaints. However, no complaint was received up to date.

## Special facts to be noted

### Supporting documentation

Copies of additional supporting information for this assessment have been provided to the applicant and the IECEx Secretariat. These are included in a site assessment report and include:

* Details of issues raised and how these have been resolved
* Completed Technical Capability Document (TCD)
* Photos of the facilities/tests witnessed, included in the TCD
* Assessors’ notes
* Tests witnessed:

 60079-0 – IP66 test

 60079-0 – Surface resistance test

 60079-7 – Temperature rise

 60079-11 – Spark ignition test

 60079-11 – Temperature rise on batteries

 60079-18 – Dielectric Strength Test

 60079-31 – Pressure test

 60079-29-1 – Interruption Time Test

 60079-29-1 – Air Velocity Test

## Recommendations

Based on the initial site assessment performed on 30 October – 1st November 2017, plus follow up assessments and reviews, MSTC is recommended for continued acceptance in the IECEx scheme as an ExCB and ExTL in the IECEx Certified Equipment Scheme with the following extension:

* IEC 60079-28 for the ExCB, all the tests are performed by the associated ExTL Testsafe

This is according to the scope of the standards listed in this document.

|  |  |
| --- | --- |
| Thierry Houeix | Michel Brénon  |
| Lead Assessor | Expert Assessor  |

Date: April 2019

# ExCB for IECEx Certified Equipment Scheme

MSTC is already accepted as an ExTL

## Assessment references

1. IECEx02 IECEx Certified Equipment Scheme covering equipment for use in explosive atmospheres – Rules of Procedure
2. OD003-2 Assessment, surveillance assessment and re-assessment of ExCBs and ExTLs operating in the IECEx 02, IECEx Certified Equipment Scheme
3. ISO/IEC 80079-34 Edition 1, Explosive atmospheres – Part 34: Application of quality systems for equipment manufacture
4. OD009 Issuing of CoCs, ExTRs and QARs
5. IECEx Document OD 025 Guidelines on the Management of Assessment and Surveillance programs for the assessment of Manufacturer’s Quality Systems in accordance with the IECEx Scheme
6. OD0026 IECEx Certified Equipment Scheme – Guidelines for the qualification of Lead Auditor and Auditors, in accordance with the IECEx System
7. ISO/IEC 17065, General requirements for bodies operating product certification systems
8. IECEx Document OD17 Drawing and documentation guidance
9. IECEx Technical Capability Documents (TCD)
10. ExTAG decision sheets (DSs)

NOTE The latest editions of the above documents were applied

## ExCB persons interviewed

|  |  |
| --- | --- |
| **Name** | **Position** |
| Geof Slater | Certification Manager |
| Mohamed Abdelkrimi | Senior Electrical Engineer |
| Lional Rajasekera | Senior Electrical Engineer |
| David Walker | Senior Electrical Engineer |
| Terese Drane | Scientific Officer |

## Associated ExTL(s)

The associated ExTL is from MSTC for the scope specified in 1.5.2.

The laboratories for IECEx testing are located at 8 Hartley Drive Thornton , NSW 2322, AUSTRALIA.

For the assessment and test against IEC 60079-1, MSTC is associated with TESTSAFE, an accepted ExTL, in Australia as ExTL.

## Associated certification functions

MSTC provides also ANZEX certificates and their operations are accredited to ISO/IEC 17065 by the National Accrediting body JAS-ANZ.

## National marks and certificates

MSTC is an accepted as a certification body to issue ANZEx certificates available in Australia and in New Zealand.

## Standards accepted

See clause 1.5 of this report

## National differences to IEC standards

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

## Organisation

### Names, titles and experience of the senior executives

|  |  |  |
| --- | --- | --- |
| **Name** | **Title** | **Experience in Ex field** |
| Geoff Slater | Certification Manager | > 10 years |
| Mohamed Abdelkrimi | Senior Electrical Engineer | > 21 years |
| Lional Rajasekera | Senior Electrical Engineer | > 14 years |
| David Walker | Senior Electrical Engineer | > 34 years |

### Name, title and experience of the quality management representative

|  |  |  |
| --- | --- | --- |
| **Name** | **Title** | **Experience**  |
| Geoff Slater | Certification Manager | > 10 years |

### Name and title of signatories for certification

|  |  |  |
| --- | --- | --- |
| **Name** | **Title** | **Comments** |
| Geoff Slater | Certification Manager | > 10 years |

### Other employees in ExCB activity

|  |  |  |
| --- | --- | --- |
| **Name** | **Title** | **Responsibility and Experience in Ex** |
| Mohamed Abdelkrimi | Senior Electrical Engineer | > 21 years |
| Lional Rajasekera | Senior Electrical Engineer | > 12 years |
| David Walker | Senior Electrical Engineer | > 34 years |

## Organizational structure

See Annex A

## Administration

### Administrative structure

Sufficient administrative assistance is provided

### Indemnity insurance

MSTC holds professional indemnity and public liability insurance. These are covered in one policy from 01.01.2017 which was reviewed and its validity was found to be extended every year. The cover is considered acceptable.

## Resources

MSTC has an adequate number of staff for the current level of business. There are experienced staff in Ex activities.

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.

## Committees (such as governing or advisory boards)

The composition and terms of reference of the Certification Advisory Committee are given in Certification Manual Clause 5.1.3. The Ex Committee comprises representatives of inspectorate industry and MSTC with no single interest predominating. The content of the procedures meets the requirements of ISO/IEC 17065 and the IECEx requirements.

## Certification operations

### National approval/certification methods

MSTC is recognised under the National accreditation systems and schemes. It has procedures for compliance with IECEx Rules and Operational Documents.

### Certification policy

The Quality Manual is available in printed form. It contains a quality policy that makes reference to product certification. Further aspects related to certification policy are covered in the general quality policy and were seen to be in conformity with the requirements of ISO/IEC 17065 and IECEx 02

### Application for certification

The complete certification process for delivering certificates is contained in Quality Manual and Application Form provided to customers either by the website of MSTC or by the staff by email. The procedures were found by the assessment team to meet the requirements of IECEx.

### Certification decision

In principle, the certification decision is taken by Geoff Slater, however systems are in place to deal with his absence. The MSTC operating procedures ensure that the Certification Decision is taken by the Certification Officer independent of the testing and assessment process.

The above is documented in the ExCB Competency Matrix.

### Suspension and cancellation of certificates

The suspension of certificates rules is well defined in Certification Manual Clause 3 and there is specific reference as to how this relates to the IECEx System.

## Certificates issued

Number of certificates issued under for the preceding four years for each type of protection as IECEx Certification Body only.

|  |  |  |  |
| --- | --- | --- | --- |
| Standardsnumbers | Type of Protection or other identifying information | Total | Number of issued certificates (CoCs) (for last 4 years) |
| **2017** | **2016** | **2015** | **2014** |
| 60079-0 | General requirements | **78** | 21 | 9 | 16 | 32 |
| 60079-1  | Flameproof enclosures “d” | **9** | 2 | 3 | 1 | 3 |
| 60079-7 | Increased safety "e" | **10** | 4 | 0 | 0 | 6 |
| 60079-11 | Intrinsic safety “i” | **70** | 20 | 7 | 15 | 28 |
| 60079-15 | Type of protection "n" | **0** | 0 | 0 | 0 | 0 |
| 60079-18 | Encapsulation "m" | **11** | 3 | 0 | 0 | 8 |
| 60079-25 | Intrinsic safety System | **0** | 0 | 0 | 0 | 0 |
| 60079-26 | Protection level (EPL) Ga | **4** | 1 | 1 | 0 | 2 |
| 60079-27 | Fisco | **0** | 0 | 0 | 0 | 0 |
| 60079-29-1 | Gas detector performance | **0** | 0 | 0 | 0 | 0 |
| 60079-31 | Enclosure "t" | **4** | 1 | 2 | 1 | 0 |
| 60079-35-1 | Caplights for use in mines  | **0** | 0 | 0 | 0 | 0 |
| 61241-0 | General requirements D | **1** | 0 | 0 | 0 | 1 |
| 61241-11 | Intrinsic safety 'iD' | **1** | 0 | 0 | 0 | 1 |
| 61241-18 | Encapsulation "mD" | **0** | 0 | 0 | 0 | 0 |

## National accreditation

MSTC has JAS-ANZ accreditation to ISO/IEC 17065 as a certification body. The certificate number is valid until May 2023 and a copy is shown at Annex B of this report. The link to the JAS-ANZ website is:

<http://www.jas-anz.org/accredited-bodies/organisation/dd2e4c9d-c9b3-e411-be4f-005056b24e56/schemes-standards>

The scope of this accreditation includes the national scheme for Ex equipment in accordance to the ANZEx Rules.

## Assessment of manufacturers and issue of QARs

Clauses 7.3 and 7.4 of Certification Manual CM 01 addresses assessments of manufacturers. The report format includes all the requirements from the IECEx Scheme together with ANZEx requirements.

For IECEx certification scheme a set of documented procedures is in place to enable surveillance to be carried out in accordance with the criteria of the certification systems. The requirements for manufacturing surveillance activities (including initial and ongoing inspection of product during manufacture, audit of quality system and audit of products) are detailed within the relevant scheme rules and in relevant procedures.

## Comments (including issues found during assessment)

Issues were raised during the site assessment visit requiring action. These were cleared to the satisfaction of the assessment team.

These included:

* Internal audit
* Management of competence
* Certification Decision
* Surveillance of manufacturer
* Test on flameproof enclosure
* Documents control
* Accommodation and Environmental Conditions
* Testing and Calibrations results

# ExTL for IECEx Certified Equipment Scheme

## Assessment references

1. IECEx02 IECEx Certified Equipment Scheme covering equipment for use in explosive atmospheres – Rules of Procedure
2. IECEx OD003-2 Assessment, surveillance assessment and re-assessment of ExCBs and ExTLs operating in the IECEx 02, IECEx Certified Equipment Scheme
3. IECEx OD009 Issuing of CoCs, ExTRs and QARs
4. ISO/IEC 17025:2005 Edition 2, General requirements for the competence of testing and calibration laboratories
5. IECEx Document OD17 Drawing and documentation guidance
6. IECEx Technical Capability Documents (TCD)
7. ExTAG decision sheets (DSs)

NOTE The latest editions of the above documents were applied.

## ExTL persons interviewed

|  |  |
| --- | --- |
| **Name** | **Position** |
| Mohamed Abdelkrimi | Senior Electrical Engineer |
| Lional Rajasekera | Senior Electrical Engineer |
| David Walker | Senior Electrical Engineer |

## Associated ExCB(s)

The Associated ExCB is MSTC

## Organisation

### Names, titles and experience of the senior executives

|  |  |  |
| --- | --- | --- |
| **Name** | **Title** | **Experience** |
| Geof Slater | Certification Manager | > 10 years |
| Mohamed Abdelkrimi | Senior Electrical Engineer | > 21 years |

### Name, title and experience of the quality management representative

|  |  |  |
| --- | --- | --- |
| **Name** | **Title** | **Experience**  |
| Geof Slater | Certification Manager | > 10 years |

###  Other employees in ExTL activity

| **Name** | **Title/responsibility** | **Experience in Ex** |
| --- | --- | --- |
| Lional Rajasekera | Senior Electrical Engineer | > 14 years |
| David Walker | Senior Electrical Engineer | > 34 years |
| Terese Drane | Scientific Officer | > 7 years |
| …. |  |  |

## Organizational structure

See Annex A

## Resources

MSTC has several professional and technical staff involved in Ex testing. It has a comprehensive range of testing equipment and good facilities for this type of testing.

## Test reports issued

Number of test reports (ExTRs) issued under for the preceding four years for each type of protection

|  |  |  |  |
| --- | --- | --- | --- |
| Standardsnumbers | Type of Protection or other identifying information | Total | Number of issued reports (ExTRs) (for last 4 years) |
| **2017** | **2016** | **2015** | **2014** |
| 60079-0 | General requirements | 36 | 5 | 5 | 12 | 14 |
| 60079-1  | Flameproof enclosures “d” | 0 | 0 | 0 | 0 | 0 |
| 60079-7 | Increased safety "e" | 3 | 1 | 0 | 0 | 2 |
| 60079-11 | Intrinsic safety “i” | 36 | 5 | 5 | 12 | 14 |
| 60079-15 | Type of protection "n" | 0 | 0 | 0 | 0 | 0 |
| 60079-18 | Encapsulation "m" | 3 | 1 | 0 | 0 | 2 |
| 60079-25 | Intrinsic safety System | 0 | 0 | 0 | 0 | 0 |
| 60079-26 | Protection level (EPL) Ga | 0 | 0 | 0 | 0 | 0 |
| 60079-27 | Fisco | 0 | 0 | 0 | 0 | 0 |
| 60079-29-1 | Gas detector performance | 49 | 11 | 18 | 9 | 11 |
| 60079-31 | Enclosure "t" | 0 | 0 | 0 | 0 | 0 |
| 60079-35-1 | Caplights for use in mines  | 0 | 0 | 0 | 0 | 0 |
| 61241-0 | General requirements D | 0 | 0 | 0 | 0 | 0 |
| 61241-11 | Intrinsic safety 'iD' | 0 | 0 | 0 | 0 | 0 |
| 61241-18 | Encapsulation "mD" | 0 | 0 | 0 | 0 | 0 |

The link to the NATA site is:

<https://www.nata.com.au>

The online scope is available on

<https://www.nata.com.au/entity_scope/?q1=cfn&str=&&BEName=TR>

## Calibration

The majority of test equipment is sent out for calibration by an external calibration facility. These calibration facilities are NATA accredited.

However, the calibration procedure required review to ensure that when test equipment is returned and has been adjusted or recorded as requiring adjustment. Action was taken in respect of reviewing previous results where the equipment has been used to the satisfaction of the assessment team.

## Participation in IECEx Proficiency testing programs

MSTC participates in the IECEx Proficiency testing organised by PTB. The results of the temperature classification, intrinsic safety assessment and electrostatic test show that they are achieving good results except for one of them. MSTC applied required action following PTB’s recommendation. It was confirmed that MSTC will continue their involvement in the IECEx PTP

## Comments (including issues found during assessment)

Minor issues were also found, eg calibration matters, which were cleared to the satisfaction of the assessment team during the follow up assessment activities.

# Annexes

ANNEX A: Overall Organisation Chart

ANNEX B: Accreditation Certificate for ISO/IEC 17065

ANNEX C Accreditation Schedule for ISO/IEC 17065

ANNEX D: Accreditation Certificate for ISO/IEC 17025 (relevant pages only)

1. Overall Organisation Chart



**Annex B Accreditation Certificate for ISO/IEC 17065**

**

ANNEX C
Accreditation Schedule for ISO/IEC 17065

• AS 1826

Electrical equipment for explosive atmospheres - Special protection - Type of protection 's'

• AS 60529

Degrees of protection provided by enclosures

• AS/NZS 2229:2004

Fuel dispensing equipment for explosive atmospheres

• AS/NZS 60079-0

Explosive atmospheres - Equipment - General requirements

• AS/NZS 60079-1

Explosive atmospheres - Equipment protection by flameproof enclosures 'd'

• AS/NZS 60079-11

Explosive atmospheres - Equipment protection by intrinsic safety "i"

• AS/NZS 60079-7

Explosive atmospheres - Part 7: Equipment protection by increased safety “e”

• AS/NZS 60079.15

Electrical apparatus for explosive gas atmospheres - Construction, test and marking of type of protection, n electrical apparatus

• AS/NZS 60079.18

Electrical apparatus for explosive gas atmospheres - Construction, test and marking of type of protection encapsulation m electrical apparatus

• AS/NZS 60079.25

Electrical apparatus for explosive gas atmospheres - Intrinsically safe systems

• AS/NZS 60079.26

Electrical apparatus for explosive gas atmospheres - Construction, test and marking of Group II Zone 0 electrical apparatus DR 06716 C

• AS/NZS 60079.27

Explosive atmospheres - Fieldbus intrinsically safe concept (FISCO)

• AS/NZS 60079.28:2016

Explosive atmospheres Protection of equipment and transmission systems using optical radiation

• AS/NZS 60079.29.1

Explosive atmospheres – Part 29.1: Gas detectors - Performance requirements of detectors for flammable gases

• AS/NZS 60079.29.4

Explosive atmospheres - Gas detectors - Performance requirements of open path detectors for flammable gases

• AS/NZS 60079.31

Explosive atmospheres - Equipment dust ignition protection by enclosure

• AS/NZS 60079.33:2012

Explosive atmospheres - Equipment protection by special protection ‘s’

• AS/NZS 60079.35.1

Explosive atmospheres - Caplights for use in mines susceptible to firedamp - General requirements - Construction and testing in relation to the risk of explosion

• AS/NZS 61241.0:2005

Electrical apparatus for use in the presence of combustible dust - General requirements

• AS/NZS 61241.11:2006

Electrical apparatus for use in the presence of combustible dust - Protection by intrinsic safety ‘iD’

• AS/NZS 61241.18:2005

Electrical apparatus for use in the presence of combustible dust - Protection by encapsulation ' mD'

• AS/NZS 62013.1

Caplights for use in mines susceptible to firedamp - General requirements - Construction and testing in relation to the risk of explosion

• AS/NZS 62013.2

Caplights for use in mines susceptible to firedamp - Performance and other safety-related matters

• IEC 60079-0

Explosive atmospheres - Part 0: Equipment - General requirements

• IEC 60079-1

Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures

• IEC 60079-11

Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"

• IEC 60079-15

Explosive atmospheres – Part 15: Equipment protection by type of protection "n"

• IEC 60079-18

Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"

• IEC 60079-25

Electrical apparatus for explosive gas atmospheres - Part 25: Intrinsically safe systems

• IEC 60079-26

Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

• IEC 60079-28 Ed. 2.0

Explosive atmospheres Part 28: Protection of equipment and transmission systems using optical radiation

• IEC 60079-31

Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure

• IEC 60079-33

Explosive atmospheres - Part 33: Equipment protection by special protection 's'

• IEC 60079-35-1

Explosive atmospheres - Part 35-1: Caplights for use in mines susceptible to firedamp - General requirements - Construction and testing in relation to the risk of explosion

• IEC 60079-35-2 Ed. 1.0

Explosive atmospheres - Part 35-2: Caplights for use in mines susceptible to firedamp - Performance and other safety-related matters

• IEC 60079-7

Explosive atmospheres - Part 7: Equipment protection by increased safety

• IECEX 61241-0

IECEx Test Report for IEC 61241-0 (2004) ed 1.0 - Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements

ANNEX D
Accreditation Details for ISO/IEC 17025
(relevant pages only)

National Association of Testing Authorities, Australia

SCOPE OF ACCREDITATION

NSW Department of Planning and Environment

MINE SAFETY TECHNOLOGY CENTRE

| Accreditation Number: 2325 | Site Number: 16115 |

Address Details:

8 Hartley Drive

THORNTON, NSW 2322

AUSTRALIA

Website: www.planning.nsw.gov.au Contact Details:

Mr Mohamed Abdelkrimi

+61(02) 49638712

Note: Not all of the columns of the scope of accreditation displayed include data.

The only data displayed is that deemed relevant and necessary for the clear description of the activities and services covered by the scope of accreditation.

ISO/IEC 17025 (2005)

Manufactured Goods

| **SERVICE** | **PRODUCT** | **DETERMINANT** | **TECHNIQUE** | **PROCEDURE** |
| --- | --- | --- | --- | --- |
| Electrical equipment approval and safety evaluation | Enclosures for electrical equipment | Degree of protection - IP rating | Not applicable | IEC 60529; AS 60529 (first numeral 4, 5 and 6 plus second numeral 3 and 4 for products whose standards specify the use of the spray nozzle and second numeral 5, 6, 7 and 8);  |
| Electrical equipment for explosive environments | Ignition source risk | Type of protection 'e' increased safety apparatus; Type of protection 'i' intrinsic safety; Type of protection 'm' encapsulated apparatus; Type of protection 'n' non-sparking apparatus; Type of protection 's' special protection; Type of protection 't' dust ignition protection; Type of protection - (EPL) Ga; Type of protection - Fieldbus intrinsically safe concept (FISCO); Type of protection - Intrinsically safe systems; | AS2380.1; AS/NZS 60079.0; IEC 60079.0; IEC 61241-0; IEC 60079-11; AS/NZS 60079.11; AS 2380.7; AS/NZS 61241.11; IEC 61241-11; AS/NZS 60079.25; IEC 60079-25; AS/NZS 60079.27; IEC 60079-27;AS 1826; AS/NZS 1826 (combustible sensor heads only);AS/NZS 60079.7; IEC 60079-7 (excluding clauses 5.2.7, 6.2.3.1.4, 6.3.3, 6.6.3 and 7.3, vibration test to clause 6.3.4 is limited to an upper limit of 8 kg, measurements under clauses 6.4 and 6.5 are limited to a maximum dynamic current of 10 kA; clauses 6.2 and 6.8 excluding rotating machines rated at more than 400 V and /or 1kW); IEC 60079-15; AS/NZS 60079.15 (excluding clause 22.9; clauses 8.10 and 22.13 excluding rotating machines rated at more than 400 V and /or 1kW); IEC 60079-18; AS/NZS 60079.18; AS/NZS 61241-18; IEC 60079-26; IEC 60079-31;AS/NZS 62013.1; AS/NZS 62013.2; IEC 62013-1; IEC 60079-2; IEC 60079-35-1; IEC 60079-35-2 |
| Performance evaluation of personnel protection equipment and general ballistic measurements | Flammable gas monitors | Performance tests | Accuracy testing; Climate; Durability; Functionality; | AS/NZS 60079.29.1; IEC 60079-29-1 excluding clause 5.4.21 other than IEC 61000-4-4;AS/NZS 60079.29.1 (2008); IEC 60079-29-1 (2016) excluding clause 5.4.25 |