ExMC/966/DV
November 2014

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

TITLE: IECEx Assessment Report for the acceptance of ExVeritas Limited, as an IECEx Test Laboratory, ExTL, within the IECEx System, Equipment Scheme 02.

Circulated to: Ex Management Committee, ExMC

INTRODUCTION

This document contains the IECEx Assessment Report for the acceptance of ExVeritas Limited, as an IECEx Test Laboratory, ExTL, within the IECEx System, Equipment Scheme, 02.

Please consider this assessment report and return the completed voting form, separate Word document, to the IECEx Secretary by-

17th December 2014

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

Chris Agius
IECEx Secretary

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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

a) Operational Document IECEx OD 003-2 for the Certified Equipment Scheme
b) Operational Document IECEx OD 016 for the Certified Service Facility Scheme
c) Operational Document IECEx OD 022 for the IECEx Conformity Mark Licensing System

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IECEx ExTL assessment report for ExVeritas

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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(Update when report is complete – by right click, Update field, Update entire table)

1 Assessment information

1.1 Type of Body covered by this assessment: <retain appropriate marks>

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

1.2 Type of assessment: <retain appropriate marks>

Pre-assessment for candidate body	
Initial assessment for candidate body	✓
Surveillance	
Re-assessment	
Scope extension	

1.3 Details of body

1.3.1 Country

UK

1.3.2 Name of body

ExVeritas Limited

1.3.3 Name and title of nominated principal contact

Name	Title	E-mail address
Sean Clarke	Managing Director	s.clarke@exveritas.com

1.4 Assessment information

1.4.1 Members of the assessment team

Name	Role (modify as necessary)
Jim Munro	Lead Assessor
Bernard Piquette	Expert Assessor

1.4.2 Place(s) of assessment

ExVeritas Limited Units 16-18 Asbenbury Way Wrexham Ind.Est. Wrexham LL139UZ, UK	

1.4.3 Assessment date(s)

2-3 October 2014

1.5 Application information

Date of application: 12 May 2014

1.6 Scope

1.6.1 ExTL scope for equipment certification scheme

The following is the proposed scope for the ExTL which is the same scope as the ExCB they will be working with, TRaC of UK.

Number	Title
IEC 60079-0 Edition 6	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1 Edition 7	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures “d”
IEC 60079-2 Edition 6	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure «p»
IEC 60079-6 Edition 3	Explosive atmospheres - Part 6: Equipment protection by oil immersion «o»
IEC 60079-7 Edition 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
IEC 60079-11 Edition 6	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”
IEC 60079-13 Edition 1	Explosive atmospheres - Part 13: Equipment protection by pressurized room 'p'
IEC 60079-15 Edition 4	Explosive atmospheres – Part 15: Equipment protection by type of protection "n"
IEC 60079-18 Edition 3	Explosive atmospheres – Part 18: Equipment protection by encapsulation “m”
IEC 60079-26 Edition 3	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
IEC 60079-28 Edition 1	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation. Excluding ignition tests.
IEC 60079-31 Edition 2	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
*IEC 61241-0 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
*IEC 61241-1 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosure “tD”
*IEC 61241-4 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 4: Protection by pressurization "pD"
*IEC 61241-11 Edition 1	Electrical apparatus for use in the presence of combustible dust – Part 11: Protection by intrinsic safety 'iD'

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.

2 Common information

2.1 Legal entity of body

The company is legally registered as Ex Veritas Limited but the company trades as ExVeritas which is a registered trade mark.

The company is registered in England as a Company Limited by Guarantee No. 5600913. VAT Registration No.988424565. A copy of the certificate of incorporation of a private limited company for the company and copies of subsequent certificates for incorporation on change of name that led to the current registration as Ex Veritas Limited were viewed and demonstrated that it is a legal entity.

For Europe it also has an Economic Operator Registration and Identification (EORI) Number is GB988424565000.

ExVeritas® is a legally registered Trade Mark for Certification, Test and Assessment.

2.2 Financial support

The operation is self-supporting with all investment in the company coming from the profits of the company.

2.3 History

The company has had five years as ExVeritas conducting ATEX/IEC/NEC test and assessments for ATEX Notified Bodies, and as an IECEx Technical Associate for an IECEx ExCB, TRaC.

Directors are former Notified Body owners with over 20 years' experience in Ex test and assessment (ATEX and IEC).

ExVeritas have been operating in the IECEx Certified Equipment Scheme as an associated Test Laboratory (for partial testing) working under control and in accordance with the ExTL procedures of TRaC as the approved ExTL, following an IECEx assessment of this arrangement during September 2013. Refer to ExMC/901/R issued October 2013.

ExVeritas operating under the ExTL TRaC November 2013 has now decided to seek acceptance as an ExTL in its own right. A subsequent IECEx Assessment was conducted with this report being the result and recommendation from the IECEx Assessment Team.

2.4 Documentation

2.4.1 Quality manual

The top level quality document is the Quality Manual QM-001 and at the time of the assessment visit this was at Issue V3.1 dated 09/09/2014. It incorporates the quality policy, the customer service policy, and the health and safety policy.

The next level down is the Laboratory Quality Manual QM-001.1 and at the time of the assessment visit this was at Issue V3.1 dated 09/09/2014 and found to cover IECEx requirements.

2.4.2 Procedures

The above manuals are supported by detailed quality procedures, forms and work instructions.

2.4.3 Work instructions (for testing)

For testing there is a comprehensive range of test methods and test forms. The test forms cover all work done for Ex testing. They were reviewed and found to meet IECEx requirements

2.4.4 Records (including test records where relevant)

Test records are kept in hard copy but are also scanned and retained in electronic form. The electronic copy becomes the official copy.

QP-004 covers records maintenance and retention. WI011 electronic data - describes how electronic data is stored using Dropbox. Dropbox is designed to ensure archival storage is effective.

WI-012 Work is the instruction for feedback which relates to current operational arrangements for working with TRaC.

NOTE 1 Example records should be sought of oldest records both in electronic and hard copy to test the retrieval and existence of records, including archival records.

NOTE 2 Information should be sought on whether there is a method of secure disposal of hard copy records once they have been placed on an electronic system.

2.4.5 Document change control

Document change control is addressed in Clause 7.3 of the Laboratory Quality Manual. FO-008 addresses system change notification and makes provision for employees to propose changes to quality documents.

Only the electronic copy of the quality documents is the controlled copy and each document contains a statement printed copies are not controlled documents.

2.5 Confidentiality

The Laboratory Quality Manual addressed confidentiality and conflict of interest in Section 7. For each project the employees involved sign a form (FO-016) which includes a commitment to confidentiality and for conflict of interest. Examples for forms signed by employees were viewed. This was found to meet the requirements for IECEx.

2.6 Publications (Hard cover and Electronic)

ExVeritas have produced various materials to publicise the operation such as a wall chart on ATEX and IEC guidance. They have a website located at http://www.exveritas.com.

2.7 Recognition and agreements

There is an agreement with MET Labs in the USA for North American listing. ExVeritas has been with TRaC in the role of an associate IECEx test laboratory for about a year and for a longer time as ATEX partner laboratory.

2.8 Internal audit and periodic management review

Internal audit is covered in the Laboratory Quality Manual Clause 7.14 and Procedure QP-10. The internal audit plan is addressed in EIR-008b. The plan provides for vertical audits of the various parts of ISO/IEC 17025 looking at projects with each part being covered twice a year. They are also in the process of introducing technical audits of the range of Ex standards in their scope. The report of the latest internal audit carried out from 22 to 28 April 2014 was

viewed. There were a significant number of non-conformities and opportunities for improvement identified. All non-conformities and opportunities for improvement were resolved.

Management review is covered in the Laboratory Quality Manual Clause 7.15.1.1. The meeting took place on 2 July 2014 and the minutes of meeting were reviewed at the assessment. This was found to meet the requirements of IECEx.

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

All subcontractors are identified in data base of subcontractors and suppliers. Details have been included in the site assessment report. The following tests are subcontracted:

IEC 60079-28 measurement of optical power and optical irradiance, by Lasermet of the UK, noting that Lasermet is also used by TRaC and has been subjected to IECEx assessment refer to ExMC/829/DV Feb 2013 voting report for scope extension of TRaC to include IEC 60070-28 using Lasermet test facilities

IEC 60079-0 Clause 26.10 exposure to light by Smithers Rapra

IEC 60079-7 Clause 6.3.3 shock test by TRaC

Load testing of electrical motors will be done by witness testing at manufacturers' premises according to OD024.

There is a procedure for offsite and witness testing QP-017 that addresses the requirements of OD024, including the need for a signed agreement. In OD024 the ExCB, TRaC, has the responsibility for notifying IECEx about any agreement signed.

2.10 Training and competence

There is a comprehensive system of training staff and recording their competence.

There are two competency matrices. One covers the testing and is linked to specific tests and the other one covers assessments and is linked to standards.

Relevant ExVeritas procedures, forms and data storage locations are QM-001, QP-014, EIR-012, FO-014a

2.11 Complaints and appeals (including appeals to IECEx)

All customer feedback, including complaints are captured. Only one complaint has been received. The procedure is addressed in the Laboratory Quality Manual Clause 7.8. EIR-018 is the complaints log.

Appeals will be dealt with through the ExCB, TRaC.

2.12 Special facts to be noted

2.12.1 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

- Checklist for ISO/IEC 17025
- Completed Technical Capability Document notes (TCD) for the scope requested
- Photos of the facilities/tests witnessed included in above
- Assessors' notes

2.12.2 Witnessed Tests

The following tests were witnessed during the assessment visit:

- Flameproof pressure determination (with hydrogen)
- Flameproof pressure test
- Temperature rise on a luminaire
- Use of the spark test apparatus
- Electrolyte leakage test for cells and batteries, short circuit test of battery to IEC 60079-11 Cause 10.5.2 a).
- IP X4 test to IEC 60529 and IEC 60079-0 Clause 26.4.5

All were carried out effectively to the satisfaction of the assessment team.

2.13 Recommendations

Based on the assessment performed on 2-3 October 2014, ExVeritas is recommended for acceptance in the IECEx scheme as:

- An ExTL in the IECEx Certified Equipment Scheme

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

Jim Munro	Bernard Piquette
Lead Assessor	Expert Assessor

Date: 22 October 2014

3 ExTL for IECEx Certified Equipment Scheme

3.1 Assessment references

a) IECEx02 IECEx Certified Equipment Scheme covering equipment for use in explosive atmospheres – Rules of Procedure

b) IECEx OD003-2 Assessment, surveillance assessment and re-assessment of ExCBs and ExTLs operating in the IECEx 02, IECEx Certified Equipment Scheme

c) IECEx OD009 Issuing of CoCs, ExTRs and QARs

d) ISO/IEC 17025:2005 Edition 2, General requirements for the competence of testing and calibration laboratories

e) IECEx Document OD17 Drawing and documentation guidance

f) IECEx Technical Guidance Documents (TGDs)

g) ExTAG decision sheets (DSs)

NOTE The latest editions of the above documents were applied.

3.2 Candidate ExTL persons interviewed

Name	Position
Sean Clarke	MD
Diego Oliveira	17025 Lab Manager

3.3 Associated ExCB(s)

ExVeritas is working with TRaC as its ExCB. TRaC is an accepted ExCB in IECEx.

3.4 Organisation

3.4.1 Names, titles and experience of the senior executives

Name	Title	Experience
Sean Clarke CEng MSc	MD	25 Years ATEX/Ex Certification Experience with 3 ATEX Notified Bodies. ATEX Notified Body certification reviewer
Stephen D'Henin	Technical Director	25 Years ATEX/Ex Certification Experience with 4 ATEX Notified Bodies. Former ATEX Notified Body technical expert and certification reviewer

3.4.2 Name, title and experience of the quality management representative

Name	Title	Experience
Sean Clarke CEng MSc	MD	25 Years ATEX/Ex Certification Experience with 3 ATEX Notified Bodies. ATEX Notified Body certification reviewer

3.4.3 Other employees in ExTL activity

Name	Title/responsibility	Experience in Ex
Diego Oliveira BEng MBA	17025 Lab Manager	8 years Ex Certification experience, IECEx body NCC Brazil (Reviewer)
ExVeritas have an additional 6 technical staff averaging above 10 years each in Ex certification and testing Experience.		

3.5 Organizational structure

See Annex

3.6 Resources

ExVeritas is well resourced with competent staff, appropriate facilities and a comprehensive range of procedures.

3.7 Test reports issued

The following are the IECEx ExTR reports that ExVeritas has worked on as an associate laboratory of TRaC.

Standard numbers	Type of protection or other identifying information	Number of issued reports (ExTRs) (for last 12 months)	
			Total
IEC60079-1	Ex d (IIB, IIC)	5	5
IEC60079-2	Ex p (px, py)	1	1
IEC60079-7	Ex e (battery boxes, junction boxes, luiminaire, motors)	4	4
IEC60079-11	ia, ib and ic projects	6	6
IEC60079-15	nA, nR, nC	3	3
IEC60079-18	Ex mb	1	1
IEC60079-31	ta, tb	4	4
IEC60079-26		2	2

NOTE Above include reports to IEC 60079-0

3.8 National accreditation

ExVeritas had an initial audit on 1 and 2 September 2014 from UKAS for ISO/IEC 17025 accreditation and at the time of the assessment visit had resolved all non-compliances. The formal accreditation was not available on the date this report was issued. This is expected shortly. However, the IECEx Secretariat is to review the status during 2015.

3.9 Calibration

The Laboratory Quality Manual addresses calibration. Procedure QP-011 also covers calibration requirements. EIR-010 documents all equipment requiring calibration and information about calibration. It also includes equipment that does not require calibration.

All equipment requiring calibration is calibrated by a UKAS laboratory.

UKAS calibrated stop watches are bought and then they are replaced when they run out of calibration.

All equipment viewed was in calibration or marked 'for indication only'. Some of the latter equipment may be calibrated if required for a particular project.

3.10 Comments (including issues found during assessment)

Some issues were raised during the assessment in regard to having an updated agreement with TRaC to reflect the ExCB-ExTL relationship, clarifying subcontractor and critical supplier arrangements, and putting in place a maintenance routine for the oxygen analyser. These were resolved to the satisfaction of the assessment team the following week.

4 Annexes

Annex 4 Organisation Chart of ExVeritas Ltd

Annex A
Organisation Chart of ExVeritas