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

Ex Management Committee, ExMC

**TITLE: IECEx Assessment Report for the acceptance of scope extension to FM
Approvals LLC (USA) as an IECEx Test Laboratory (ExTL)**

INTRODUCTION

This document contains the IECEx Assessment Report for the extension of IECEx scope of acceptance for FM Approvals LLC (USA) to include:

- *IEC 60079-26*
- *IEC 60079-27*
- *IEC Dusts Standards*

The report is hereby submitted for voting.

Please consider this assessment report and return the completed voting form (separate - in Word Format available on the IECEx website www.iecex.com/committee_documents.htm) to the Secretariat by **25th August 2007**. Your speedy response to the voting process will be very much appreciated.

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IECEX ASSESSMENT REPORT FOR FM APPROVALS LLC (USA) ExTL (IECEX TEST LABORATORY)

Type of Assessment: (please mark)

Initial assessment for Candidate ExTL

Re-Assessment of ExTL

Scope Extension of ExTL **X**

1. OBJECT AND FIELD OF APPLICATION

1.1. Country:

USA

1.2. Name of Candidate TL

FM Approvals LLC (USA)

1.3. Members of the Assessment Team

Jim Munro Lead assessor

1.4. Place and Date of Assessment

151 Boston–Providence Turnpike
Norwood MA 02062; USA (Headquarters)

(by phone)

AND

743 Reynolds Road; West Glocester, RI 02814; USA
(site visit)

27 November 2006 plus off-site reviews

1.5. Assessment References

- i) IECEx 02 Second Edition 06 2003 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 or 1999 (specify)
- v) IECEx Technical Guidance Documents (TGDs)
- vi) ExTAG decision sheets (DSs)



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vii) ExTL application documents dated 10 May 2006

1.6. Scope of Application

Existing Scope:

EC 60079-0 Part 0: General requirements
 IEC 60079-1 Part 1: Flameproof enclosures 'd'
 IEC 60079-2 Part 2: Pressurized enclosures 'p'
 IEC 60079-5 Part 5: Powder filling 'q'
 IEC 60079-6 Part 6: Oil-immersion 'o'
 IEC 60079-7 Part 7: Increased safety 'e'
 IEC 60079-11 Part 11: Intrinsic safety 'i'
 IEC 60079-15 Part 15: Construction, test and marking of type of protection 'n' electrical apparatus
 IEC 60079-18 Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus
 IEC 61779-1 Part 1: General requirements and test methods
 IEC 61779-4 Part 4: Performance requirements for group II apparatus indicating up to 100% lower explosive limit
 IEC 61779-5 Part 5: Performance requirements for group II apparatus indicating a volume fraction up to 100 % gas
 IEC 62086-1 Electrical apparatus for explosive gas atmospheres –
 Electrical resistance trace heating – Part 1: General and testing requirements

Proposed Additional Scope:

Number	Title
60079-26	Explosive atmospheres Part 26: Equipment with equipment protection level (EPL) Ga (1)(2)
<u>60079-27</u>	Electrical apparatus for explosive gas atmospheres Part 27: Fieldbus intrinsically safe concept (FISCO) (2)
<u>61241-0</u>	Electrical apparatus for use in the presence of combustible dust Part 0: General requirements
<u>61241-1</u>	Electrical apparatus for use in the presence of combustible dust Part 1: Electrical apparatus protected by enclosures
<u>61241-1-1</u>	Electrical apparatus for use in the presence of combustible dust Part 1: Electrical apparatus protected by enclosures Section 1: Specification for apparatus (3)
<u>61241-4</u>	Electrical apparatus for use in the presence of combustible dust Part 4: Type of protection 'pD'
<u>61241-11</u>	Electrical apparatus for use in the presence of combustible dust Part 11: Protection by intrinsic safety 'iD'
<u>61241-18</u>	Electrical apparatus for use in the presence of combustible dust Part 18: Protection by encapsulation 'mD'

Notes

(1) Added after site visit assessment.



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(2) Added for use in conjunction with FM Approvals Ltd in the UK.

(3) Added in case earlier edition is requested.

There was some lack of understanding whether the scope covered Group I. After the assessment it was clarified that the original assessment did cover Group I and the scope for the FM LLC ExTL does cover Group I.

1.7. Candidate TL Persons Interviewed

John Hill

Andrew Lozinski

Ray Lawrence

Dave Styracula (by phone)

1.8. Legal Entity of The Candidate TL

Not covered for the extension of scope, as covered by previous assessment.

1.9. Associated ExCB

For the standards shown in the extension of scope FM Approvals LLC in the USA will work with FM Approvals Ltd in the UK, also known as FM Approvals Europe. The extension of scope by the FM Approvals ExCB in the USA for these standards is not being sought at this time.

1.10. Financial Support

Not covered for the extension of scope, as covered by previous assessment..

1.11. History

Not covered for the extension of scope, as covered by previous assessment..

2. ORGANISATION

2.1. Names, Titles and Experience of the Senior Executives

Name	Title	Experience
Mr Bob Martell	Ass. Vice President, Group Manager	More than 20 years experience in Standards and Certification
Mr David Styracula	Technical Team Manager	More than 20 years experience
Andrew Lozinski	Technical Team Manager	More than 20 years experience
Mr John Hill	Group Manager, Technical Auditing Services	25+ years

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

Name	Title	Experience
Mr Glen Jutras	Quality Assurance Manager	More than 20 years experience

2.3. Name and Title of Nominated Principal Contact

Name	Title
Bob Martell	Ass. Vice President, Group Manager

2.4. Employees

Name	Title	Experience
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There are about 26 employees involved in Ex testing and certification.

2.5. Organizational Structure

There has been no significant change since the initial assessment.

3. RESOURCES

FM Approvals LLC has the necessary competent staff, facilities and procedures to be able to undertake testing and assessment to the standards in the extension of scope.

4. DOCUMENTATION

4.1. Quality Manual

There has been no impact on the Quality Manual due to the change of scope. However, some procedures have changed (see below).

4.2. Test Methods/Procedures

Test procedures have been developed for the dust general requirements standard, the 'tD' standard and 'pD' standard where additional to those already performed. When tests are the same as ones already carried out in the standard reference is included in the relevant existing procedure.

At the time of the assessment visit, procedures were not updated for 'iD' and 'mD'. However, this was subsequently done and the procedures were reviewed by the assessor and found to be satisfactory.

4.3. Test Records

Test data sheets are available for recording the tests carried out. A single document ES200-39 lists all the test equipment used for any of the testing and the current calibration status. The equipment used for a particular test is noted on a printed copy and this document is kept with the rest of the information in the project data report. All records are also scanned and retained as pdf documents.

4.4. Document Change Control

Not covered for the extension of scope, as covered by previous assessment..

5. TEST REPORTS

5.1. Test Reports Issued

There have been no reports issued for the standards requested in the change of scope.

6. CALIBRATION

The calibration of testing apparatus viewed as part of the application for extension of scope was checked and found to be current.

7. CONFIDENTIALITY

Not covered for the extension of scope, as covered by previous assessment..

8. NATIONAL ACCREDITATION



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FM Approvals LLC has accreditation from OSHA in the USA and the Standards Council of Canada. The OSHA accreditation has limited reference to standards relevant to IEC but does cover the UL DIP standard 1203. The SCC accreditation has more specific reference to Canadian standards equivalent to IEC. Evidence was provided that SCC will be updating this accreditation to cover testing for 'tD'.

9. RECOGNITION AND AGREEMENTS

Not covered for the extension of scope, as covered by previous assessment..

10. INTERNAL AUDIT AND PERIODIC REVIEW

Not covered for the extension of scope, as covered by previous assessment..

11. COMPLAINTS AND APPEALS (Including appeals to IECEx)

Not covered for the extension of scope, as covered by previous assessment..

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 the one issue raised and how this have been resolved
- Completed technical guidance note (TGD) for dust.
- Photos of the facilities
- Assessor's notes

13. COMMENTS (Including issues found during assessment)

Only one issue was found as shown in 4.2 above.

14. RECOMMENDATION

Based on the assessment performed on 27 November 2006, FM Approvals LLC ExTL in the USA is recommended for an extension of the scope for the standards listed in this document.

Jim Munro
Lead Assessor

Date: 6 July 2007

List of Annexes:

None.