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

Title: IECEx Re-assessment Report for CSA International, Accepted IECEx Test Laboratory Body (ExTL), and a request for an extension of scope

Circulated to: IECEx Management Committee, ExMC

INTRODUCTION

This document contains the IECEx Re-assessment Report for CSA International, in accordance with the 5-year scheduled re-assessment plan for surveillance and monitoring, under the IECEx System. During follow-up activities the assessment team took the opportunity to conduct a second site visit, 24 April, 2009, which included an assessment for an extension of scope to include the IEC series of standards covering gas detectors. See Item 1.6 of this report.

ExMC members are now asked to consider the scope extension request to include the gas detector standards in CSA's accepted scope.

Please consider this request and complete and return the voting form to the Secretariat by

2009 12 31

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

Chris Agius

IECEx Secretariat

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Australia

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IECEx ASSESSMENT REPORT FOR CSA INTERNATIONAL IECEx TEST LABORATORY ExTL

Type of Assessment: (please mark)

Re-Assessment of ExTL	**X**
Scope extension of ExTL	**X**

1. OBJECT AND FIELD OF APPLICATION

1.1. ***Country:***
Canada

1.2. ***Name of Candidate TL***
CSA International

1.3. ***Members of the Assessment Team***
Jim Munro – Chairman Panel of Assessors – Lead IECEx Assessor
Xu Jianping – Director of NEPSI - IECEx Assessor

1.4. ***Place and Date of Assessment***
178 Rexdale Boulevard
Toronto, Ontario M9W IR3
CANADA
Tel: + 1 416 747 4000
Fax: +1 416 747 4149
E-mail: Dave.Adams@csa-international.org

and

1707 – 94th Street NW
Edmonton, Alberta
Canada T6N 1E6
17 September 2007 - Jim Munro

Dates: 18th-19th September 2007 - Jim Munro (Mr Munro also visited 24 April 2009 for a scope extension)
1st -2nd October 2007 – Xu Jianping (Professor Xu visited separately due to Visa restrictions)

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)

1.6. Scope of Application

Existing scope:
IEC 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 60079-25 Part 25: Intrinsically safe systems
IEC 60079-27 Part 27: Fieldbus intrinsically safe concept (FISCO) and Fieldbus non-incendive concept (FNICO)
IEC 61241-1-1 Part 1-1: Electrical apparatus protected by enclosures and surface temperature limitation - Section 1 - Specification for apparatus
Note: The recognized scope for CSA International does not cover Group I.

Scope extension:
IEC 61779-1 Part1: Electrical apparatus for the detection and measurement of flammable gases – General requirements and test methods
IEC 61779-4 Part 4: Electrical apparatus for the detection and measurement of flammable gases –Performance requirements for group II apparatus indicating a volume fraction up to 100% lower explosive limit
IEC 61779-5 Part 5: Electrical apparatus for the detection and measurement of flammable gases –Performance requirements for group II apparatus indicating a volume fraction up to 100% gas
IEC 60079-29-1 Part 1: Explosive atmospheres – Gas detectors – Performance requirements of detectors for flammable
Gases (for Group II only)

1.7. *Candidate TL Persons Interviewed*

Name	**Position**
Patricia Pasemko	Operations Manager
Dave Adams	Technical Advisor, Hazardous Locations Equipment Service
Nicholas Scott (April 2008; Replaced by Gary Boswell)	Product Group Manager – General Products (Edmonton)
Joe Gryn (April 2008: Replaced by Bill Burr)	Director Conformity Assessment
John Kalinowski	Manager, Management Systems, Service Quality Certification
Len Candeloro (January 2009; Replaced by Stephen Morley)	Product Group Manager, Hazardous Locations Product Group Certification Division

Name	Position
Zafar Iqbal	Senior Technician, Hazardous Locations Certification Division (Toronto)
Ron Wildish	Senior Engineering Technologist, Hazardous Location Certification
Domenic Somma	Senior Engineering Technologist, Hazardous Location Certification
Zenon I. Grys	Senior Engineering Technologist, Hazardous Location Certification

1.8. Legal Entity of The Candidate TL
Independent, not-for-profit organization, incorporated under Canadian Laws.

1.9. *Associated ExCB*
The CSA ExTL operations at Toronto and Edmonton operate as an integrated operation with the CSA ExCB.

1.10. *Financial Support*
CSA International is fully supported by fees from certification, testing and inspection activities.

1.11. History
The Canadian Standards Association, of which CSA International (CSA I) is a division, was established in 1919 and works in the area of standards development and the application of standards through product certification. CSA I operates laboratories to support the product certification program. CSA I's programs in product certification, and laboratory testing are accredited by the Standards Council of Canada (SCC).The certification program was first accredited by SCC in June 1983.

2. ORGANISATION

2.1. Names, Titles and Experience of the Senior Executives

Location	Name	Title	Experience
Edmonton	Patricia Pasemko	Operations Manager	10 years in Ex and 5 years with CSA
Edmonton	Dave Adams	Technical Advisor, Hazardous Locations Equipment Service	16 years at CSA all in Ex
Toronto	Len Candeloro (January 2009; Replaced by Stephen Morley)	Product Group Manager, Hazardous Locations Product Group Certification	22 years at CSA and 12 years in Ex New, in training

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

Overall	John Kalinowski	Manager, Management Systems, Service Quality Certification	23 years at CSA and 13 years in Quality
Edmonton	Audrey Gagnon	Quality Assurance Representative	14 years at CSA, and all in Quality

Toronto	Andrew Seh	Quality Assurance Coordinator Certification	10 in CSA, 25 in QA field
Toronto	Daniel Lee	Quality Assurance Coordinator Certification	5 in CSA, Engineering Quality Assurance Specialist, 10 in QA

2.3. Name and Title of Nominated Principal Contact

Name	Title	Contact
Dave Adams	Technical Advisor, Hazardous	Previously Joe Gryn

2.4. Employees

Name	Title	Experience

There are 53 employees working for the CSA International HazLoc Service Delivery, mainly including product manager, certifiers, laboratory technicians, audit facilitators and administration staff. In which about 70% employees had more than 10 years Ex experience, and most of Ex employees at CSA International Toronto had more than 20 years Ex experience.

2.5. Organizational Structure

Even though there are two sites at Toronto and Edmonton, the ExCB and associated ExTL operate as a single business unit. The arrangement is depicted in Annexes 1 and 2.

3. RESOURCES

CSA has two well equipped laboratories, one in Toronto (at the Head Office) and the other in Edmonton. However, only the Edmonton facility can do the flameproof tests for Ex d. There are competent staffs at Toronto that can cover all other aspects of assessment and testing for Ex d. There are also competent staffs at both facilities covering all the standards on the scope. The operation is supported by a comprehensive range of procedures.

4. DOCUMENTATION

4.1. Quality Manual

There is a Quality System Management Manual for CSA International. This sits under the Corporate Policy Manual for the CSA Group. There is also a Certification Division Polices and Practices Manual.

4.2. Test Methods/Procedures

There are a variety of documents that cover procedures, such as Guidelines for Quality and Technical Activities.

4.3. Test Records

All records are retained in hard copy form, although most are records in electronic form. Record retention is shown in the procedures to be 10 years from cancellation of certification.

4.4. Document Change Control

The QM and DQD 332 address document control. All documentation is on the intranet site. A monthly notification goes out to advise staff of changes. This also addresses documentation specific to the System which is generally handled through Dave Adams. All DQDs are reviewed yearly. There is a regional operating committee (ROC) that reviews all non-conformances and this includes the DQDs, including the need for training. Staffs are provided with access to 'IHS' for international standards. Once printed these contain a statement that they are a reference copy only. Distribution and control of other materials are the responsibility of the Technical Advisors, eg Dave Adams for the Ex area.

5. TEST REPORTS

5.1. Test Reports Issued

Number of test reports issued under the IECEx System in the preceding four years for each type of protection:

ExTRs

Standard	2006	2007	2008	2009
60079-11	14/3	8/2	14/7	7/5
60079-1	10/2	4/1	15/6	11/5
61241 Series	1	1	1	2
60079-7	0	0	1	0
60079-15	7/2	2	11/7	10/5
60079-2	0	0	0	1
60079-18	0	0	0	0
60079-6	0	0	0	0
60079-5	0	0	0	0

Note: The Y/X above means of the Y ExTRs issued, X of them were for multiple protection types.

As an indicator of experience in testing combustible gas detectors.. the work orders to the standards CSA 152 and ISA 12.13.01 for the last 4 fiscal years are:

The number of Combustible Gas Detector work orders (CSA 152 and ISA 12.13.01) for the last 4 fiscal years are
1009-10: 12 (to the date of this report)
1008-09: 26
1007-08: 17
1006-07: 16

6. CALIBRATION

Within CSA International, the metrology laboratory operates as a comprehensive calibration laboratory accredited by SCC and NVLAP for internally providing calibration related services of all test equipment and instruments, including working standards. The corresponding procedures were well documented and all equipment checked was in calibration. But it is also noted that some of the facilities, for example vibration machine and reference standards are outsourced to be calibrated.

7. CONFIDENTIALITY

All new employees have on-line training and commitment to confidentiality which is recorded in a database. Previously this was done in hard copy but existing employees were also required to do the training in the new system. These records are maintained by HR and available on the intranet. An example of viewed.

8. NATIONAL ACCREDITATION

CSA is accredited by the Standards Council of Canada (SCC) and under the OSHA NRTL program. Copies of the accreditation certificates are shown in the Annexes for each facility. The SCC accredits against ISO/IEC 17025. The Toronto certificate is valid to 2009-08-15 and the Edmonton certificate to 2009-12-07.

Only CSA and CENELEC Ex standards are shown in the scopes for the two laboratories. Only the ANSI/ISA standard is shown for gas detectors. The extracts from the scopes are shown in the Annexes 4 and 6. However, the technical scope of these Standards matches the relevant IEC Standards.

9. RECOGNITION AND AGREEMENTS

There are agreements with KEMA, SIRA and FM Approvals for testing.

10. INTERNAL AUDIT AND PERIODIC REVIEW

An example of an internal audit for Toronto was viewed. This was 28 November 2006 for one of the Ex areas. This audit covered procedural aspects. There are also regular technical audits of completed projects.

During the first site visit, September 2007, the assessment team sighted the management review minutes of the meeting held on 15 June 2007. These are held on an annual basis. There is a comprehensive agenda for these meetings.

11. COMPLAINTS AND APPEALS (Including appeals to IECEx)

The customer complaints log had recently been centralized and was viewed. At the time of the assessment visit there was an appeals process but it didn't cover appeals to the IECEx System or how this is conveyed to customers. The procedures were subsequently changed to the satisfaction of the assessment team to address both these issues.

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 to the satisfaction of the assessment team.
- Checklist for ISO/IEC 17025
- Completed technical guidance notes (TGDs) for Ex d, p, e, i, n, m and DIP
- Photos of the facilities and tests witnessed
- Assessor notes.

12.2. Tests Witnessed

The following tests were witnessed during the re-assessment visit of September 2007:

- Dust testing to IP6X at both Edmonton and Toronto
- Pressure determination for Ex d.
- Temperature rise test for an Ex e luminaire

The following tests were witnessed during the scope extension visit of April 2009:

- Calibration curve
- Air velocity
- Time of response

13. COMMENTS (Including issues found during assessment)

The following ExTRs were reviewed:

CSA internal number CA/CSA/2004/TR152235 -1498089 (associated CoC IECEx CSA05.0003) for the trident level sensor – Magnetol – 2004. This was satisfactory. (Note: formal ExTR number not available at that time)

CA/CSA/ExTR06.0025/00 Ex d Fisher Controls – This was done in the older format and appeared to be satisfactory.

CA/CSA/ExTR07.0009/00 (associated CoC IECEx CSA 07.0007X and CSA internal number CA/CSA/07TR217005-1878541), it was issued on 2nd August 2007 for QRAE II Multi-sensor gas detector with Ex marking of Ex d ia IICT4. In general, that was satisfactory,

CA/CSA/ExTR06.0023/00 (CSA internal number CA/CSA/06/TR179806-1783594) for a flow computer with Ex rating of Ex nA IIC T3. This was satisfactory.

14. RECOMMENDATION

Based on the re-assessment performed on 18-19 September and 1-2 October 2007, and the scope extension visit on 24 April 2009, CSA International is recommended for continued acceptance in the IECEx System as a Testing Laboratory (ExTL) according to the scope of the standards listed in this document and for the scope extension as shown.

Jim Munro	Xu Jianping
Team Leader	Expert Assessor

Date: 7 September 2009

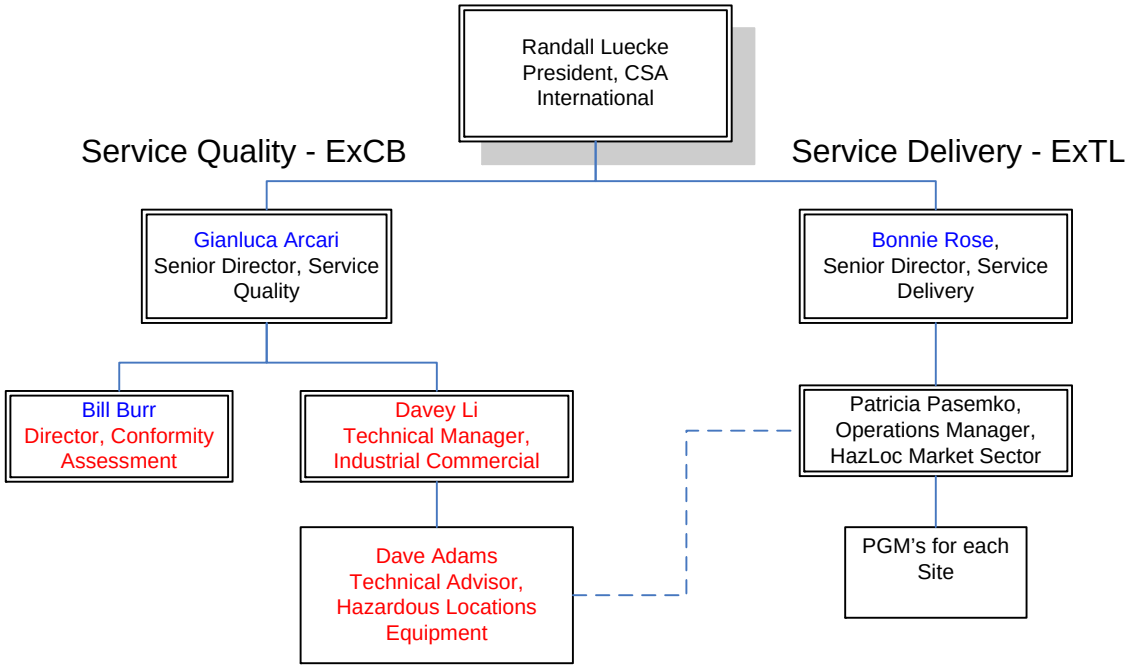
This report has been reviewed by the IECEx Secretariat.

List of Annexes:

1. Chart Showing Relationship of ExCB and ExTL for CSA International
2. Chart of the CSA International HazLoc Service Delivery (ExTL)
3. Accreditation Certificate from SCC for Toronto to ISO/IEC 17025
4. Summary of Scope of Accreditation at Toronto
5. Accreditation Certificate from SCC for Edmonton to ISO/IEC 17025
6. Summary of Scope of Accreditation at Edmonton
7. Accreditation from OSHA – Toronto and Edmonton

Annex 1
Chart Showing Relationship of ExCB and ExTL for of CSA International

Summary of CSA International Organizational Charts showing Relationship between Service Quality (ExCB) and Service Delivery (ExTL).



Generally, within CSA International, Service Quality is responsible for the content of procedures; Service Delivery is responsible for the implementation of procedures.

Note: As of April 2008, the following personnel changes were made at CSA International:

Service Delivery:

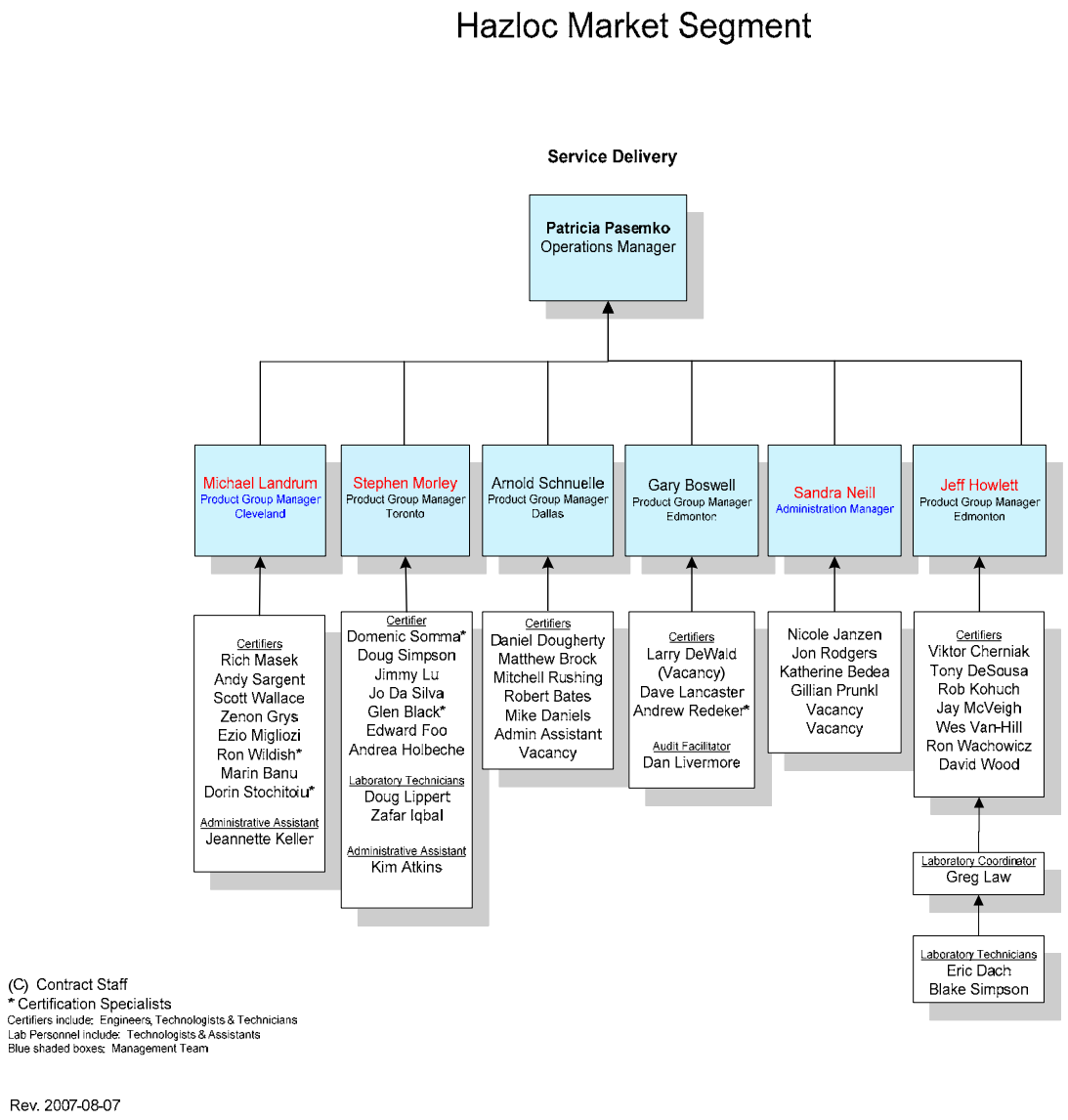
Mark Towbridge was replaced by **Bonnie Rose** as Senior Director, Service Delivery ("Acting" designation was removed).

Service Quality:

Irma Vescan was replaced by **Gianluca Arcari** as Senior Director, Service Quality.

Joe Gryn was replaced by **Bill Burr** as Director, Conformity Assessment.

Annex 2
Chart of the CSA International HazLoc Service Delivery (ExTL)



<u>Note:</u> As of April 2008, the personnel changes noted above were made at CSA International.

Annex 3
Accreditation Certificate from SCC for Toronto to ISO/IEC 17025

CERTIFICATE OF ACCREDITATION

CERTIFICAT D'ACCRÉDITATION

Standards Council of Canada
Conseil canadien des normes

Canadian Standards Association
CSA INTERNATIONAL - TORONTO
178 Rexdale Boulevard, Etobicoke, Ontario

having been assessed under the authority of the *Standards Council of Canada Act* and found to conform with the requirements of ISO/IEC 17025 and the conditions established by the SCC is hereby recognized as an

ACCREDITED TESTING LABORATORY

for specific tests or types of tests listed in the scope of accreditation approved by the Standards Council of Canada.

ayant été soumis à une évaluation selon la *Loi sur le Conseil canadien des normes* et ayant été trouvé conforme aux prescriptions d'ISO/CEI 17025 et aux conditions établies par le CCN est de fait reconnu comme étant un

LABORATOIRE D'ESSAIS ACCRÉDITÉ

pour les essais ou types d'essais déterminés inscrits dans la portée d'accréditation approuvée par le Conseil canadien des normes.

STANDARDS COUNCIL OF CANADA ESTABLISHED 1970
CONSEIL CANADIEN DES NORMES ÉTABLI EN 1970

Accredited Laboratory No. / Numéro de laboratoire accrédité : 12

Accreditation date: / Date d'accréditation : 1984-08-15

Issued on: / Délivré le : 2005-10-25

Expiry date: / Date d'expiration : 2009-08-15

Chairman (SCC)/ Président (CCN)

Assessment are performed according to ISO/IEC 17025 and the conditions of the SCC PALCAN Handbook. Laboratories that comply with the requirements of ISO/IEC 17025 operate a quality management system for testing and calibration activities listed on the scope of accreditation, that also meet the general principles of ISO 9001. The controlled version of the scope of accreditation is maintained on the SCC website at www.scc.ca.

Les évaluations sont menées conformément à la norme ISO/CEI 17025 et aux conditions énoncées dans le Guide du PALCAN du CCN. Les laboratoires qui respectent les exigences d'ISO/CEI 17025 ont, dans les essais et étalonnages énumérés dans leur portée d'accréditation, recours à un système de management de la qualité conforme aux principes d'ISO 9001. La version contrôlée de la portée d'accréditation figure dans le site Web du CCN à www.ccn.ca.

Canada

This certificate is the property of the Standards Council of Canada (SCC) and must be returned on request; reproduction is prohibited except on written approval of the SCC.
Ce certificat est la propriété du Conseil canadien des normes (CCN) et doit lui être remis sur demande; toute reproduction est interdite sans l'autorisation écrite du CCN.

Annex 4
Summary of Scope of Accreditation at Toronto

CSA International's Standards Council of Canada accreditation as an ACCREDITED TESTING LABORATORY to the requirements of ISO/IEC17025:2005 (CAN-P-4E) (Accredited Laboratory No. 12)

CSA International's Scope of Accreditation with SCC is long and broken up into product categories. The summary below shows those Standards relating to Hazardous Locations (Ex) Equipment which are included in this accreditation.
The complete scope is available at http://palcan.scc.ca/specs/pdf/52_e.pdf

CSA C22.2 Standards – Hazardous Locations (Divisions)	
CSA C22.2 No 25	Enclosures for Use in Class II Groups E, F and G Hazardous Locations.
CSA C22.2 No 30	Explosion-Proof Enclosures for Use in Class I Hazardous Locations.
CSA C22.2 No 137	Electrical Luminaires for Use in Hazardous Locations.
CSA C22.2 No 138	Heat Tracing Cable and Cable Sets for Use in Hazardous Locations.
CSA C22.2 No 145	Motors and Generators for Use in Hazardous Locations.
CSA C22.2 No 152	Combustible Gas Detection Instruments.
CSA C22.2 No 157	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations.
CSA C22.2 No 159	Attachment Plugs, Receptacles, and similar Wiring Devices for Use in Hazardous Locations: Class I, Groups A, B, C and D; Class II, Group G, in Coal or Coke Dust, and in Gaseous Mines.
CSA C22.2 No 174	Cables and Cable Glands for Use in Hazardous Locations.
CSA C22.2 No 213	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations.
NFPA 496	Purged and Pressurized Electrical Equipment.

CSA CAN/CSA E79 Series Standards – Hazardous Locations (Zones)	
ANSI/ISA 12.13.01−2000	Performance Requirements for Combustible Gas Detectors Except for: Clause 3.8 – Vibration Test
CSA E79-0	Electrical apparatus for explosive gas atmospheres. PART 0: General requirements.
CSA E60079-1	Electrical apparatus for explosive gas atmospheres. PART 1: Construction and verification test of flameproof enclosures of electrical apparatus.
CSA E79-5	Electrical apparatus for explosive gas atmospheres. PART 5: Powder filling "q".
CSA E79-6	Electrical apparatus for explosive gas atmospheres. PART 6: Oil-Immersion "o".
CSA E79-7	Electrical apparatus for explosive gas atmospheres. PART 7: Increased safety "e".
CSA E79-11	Electrical apparatus for explosive gas atmospheres. PART 11: Intrinsic safety "i".

CSA CAN/CSA E79 Series Standards – Hazardous Locations (Zones)	
CSA E79-15	Electrical apparatus for explosive gas atmospheres. PART 15: Electrical apparatus with type of protection “n” (Non-Sparking).
CSA E79-18	Electrical apparatus for explosive gas atmospheres. PART 18: Encapsulation “m”.
CSA E61241-1-1	Electrical apparatus for use in the presence of combustible dust. PART 1: Electrical apparatus protected by enclosures. Section 1: Specification for apparatus.

CENELEC EN50 Series Standards – Hazardous Locations	
EN50 014	Electrical apparatus for potentially explosive atmospheres – General requirements.
EN50 016	Electrical apparatus for potentially explosive atmospheres - Type of protection “p”.
EN50 018	Electrical apparatus for potentially explosive atmospheres – Flameproof enclosures “d”.
EN50 019	Electrical apparatus for potentially explosive atmospheres – Increased safety “e”.
EN50 020	Electrical apparatus for potentially explosive atmospheres – Intrinsic safety "i".
EN50 021	Electrical apparatus for potentially explosive atmospheres – Type of protection “n”
EN50 028	Electrical apparatus for potentially explosive atmospheres - Encapsulation “m”.
EN50 039	Electrical apparatus for potentially explosive atmospheres - Intrinsically Safe Electrical Systems “i”.
EN50281-1-1	Electrical apparatus for use in the presence of combustible dust – Part 1-1: Electrical apparatus protected by enclosures – Construction and testing.

Annex 5
Accreditation Certificate from SCC for Edmonton to ISO/IEC 17025

CERTIFICATE OF ACCREDITATION

Standards Council of Canada
Conseil canadien des normes

CERTIFICAT D'ACCRÉDITATION

Canadian Standards Association
CSA INTERNATIONAL - EDMONTON
1707-94 Street, Edmonton, Alberta

having been assessed under the authority of the *Standards Council of Canada Act* and found to conform with the requirements of ISO/IEC 17025 and the conditions established by the SCC is hereby recognized as an

ACCREDITED TESTING LABORATORY

for specific tests or types of tests listed in the scope of accreditation approved by the Standards Council of Canada.

ayant été soumis à une évaluation selon la *Loi sur le Conseil canadien des normes* et ayant été trouvé conforme aux prescriptions d'ISO/CEI 17025 et aux conditions établies par le CCN est de fait reconnu comme étant un

LABORATOIRE D'ESSAIS ACCRÉDITÉ

pour les essais ou types d'essais déterminés inscrits dans la portée d'accréditation approuvée par le Conseil canadien des normes.

Accredited Laboratory No.: / Numéro de laboratoire accrédité : 135

Accreditation date: / Date d'accréditation : 1993-12-07

Issued on: / Délivré le : 2005-11-18x

Expiry date: / Date d'expiration : 2009-12-07

Chairman (SCC) / Président (CCN)

Assessment are performed according to ISO/IEC 17025 and the conditions of the SCC PALCAN Handbook. Laboratories that comply with the requirements of ISO/IEC 17025 operate a quality management system for testing and calibration activities listed on the scope of accreditation, that also meet the general principles of ISO 9001. The controlled version of the scope of accreditation is maintained on the SCC website at www.scc.ca.

Les évaluations sont menées conformément à la norme ISO/CEI 17025 et aux conditions énoncées dans le Guide du PALCAN du CCN. Les laboratoires qui respectent les exigences d'ISO/CEI 17025 ont, dans les essais et étalonnages énumérés dans leur portée d'accréditation, recours à un système de management de la qualité conforme aux principes d'ISO 9001. La version contrôlée de la portée d'accréditation figure dans le site Web du CCN à www.ccn.ca.

This certificate is the property of the Standards Council of Canada (SCC) and must be returned on request; reproduction is prohibited except on written approval of the SCC.
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Canada

Annex 6
Summary of Scope of Accreditation at Edmonton

CSA International Edmonton's Standards Council of Canada accreditation as an ACCREDITED TESTING LABORATORY to the requirements of ISO/IEC17025:2005 (CAN-P-4E)
(Accredited Laboratory No. 135)

CSA International Edmonton's Scope of Accreditation with SCC is long and broken up into product categories. The summary below shows those Standards relating to Hazardous Locations (Ex) Equipment which are included in this accreditation.
The complete scope is available at http://palcan.scc.ca/specs/pdf/100_e.pdf

CSA C22.2 Standards – Hazardous Locations (Divisions)	
CSA C22.2 No 25	Enclosures for Use in Class II Groups E, F and G Hazardous Locations.
CSA C22.2 No 30	Explosion-Proof Enclosures for Use in Class I Hazardous Locations.
CSA C22.2 No 137	Electrical Luminaires for Use in Hazardous Locations.
CSA C22.2 No 145	Motors and Generators for Use in Hazardous Locations.
CSA C22.2 No 157	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations.
CSA C22.2 No 159	Attachment Plugs, Receptacles, and similar Wiring Devices for Use in Hazardous Locations: Class I, Groups A, B, C and D; Class II, Group G, in Coal or Coke Dust, and in Gaseous Mines.
CSA C22.2 No 174	Cables and Cable Glands for Use in Hazardous Locations.
CSA C22.2 No 213	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations.

CSA CAN/CSA E79 Series Standards – Hazardous Locations (Zones)	
CAN/CSA E60079-0	PART 0: General requirements.
CAN/CSA E60079-1	PART 1: Construction and verification test of flameproof enclosures of electrical apparatus.
CAN/CSA E60079-2	PART 2: Electrical apparatus with type of protection "p".
CAN/CSA E60079-5	PART 5: Powder filling "q".
CAN/CSA E60079-6	PART 6: Oil-Immersion "o".
CAN/CSA E60079-7	PART 7: Increased safety "e".
CAN/CSA E60079-11	PART 11: Intrinsic safety "i".
CAN/CSA E60079-15	PART 15: Electrical apparatus with type of protection "n" (Non-Sparking).
CAN/CSA CSA E60079-18	PART 18: Encapsulation "m".
CAN/CSA E1241-1-1	Electrical apparatus for use in the presence of combustible dust. PART 1: Electrical apparatus protected by enclosures. Section 1: Specification for apparatus.

Annex 7
Accreditation from OSHA – Toronto and Edmonton

Occupational Safety and Health Administration

Nationally Recognized Testing Laboratory Program

NRTLP

Certificate of Recognition

Canadian Standards Association

178 Rexdale Boulevard (Toronto)
Etobicoke, Ontario M9W 1R3

is recognized by the Occupational Safety and Health Administration (OSHA) as meeting the requirements for a Nationally Recognized Testing Laboratory (NRTL) established under Section 1910.7 of *Title 29, Code of Federal Regulations*. This recognition is limited to testing and certification only within the current scope of recognition and is subject to all other terms set forth in the letter of recognition and in applicable *Federal Register* notices. This recognition continues in force beyond the "*Effective through*" date below provided the NRTL has filed a timely request for renewal with OSHA. For current recognition status and other recognition information, contact the OSHA NRTL Program or visit *www.osha.gov*.

R. Davis Layne
Acting Assistant Secretary of Labor
Occupational Safety and Health Administration

July 3, 2006
Effective through

5
Certificate No.