



**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 *Intertek Testing Services NA, Inc.* as an IECEx Test laboratory (ExTL) within the IECEx System**

**Circulation to: Members of the IECEx Management Committee, ExMC**

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**INTRODUCTION**

**This document contains the IECEx Assessment Report for the acceptance of *Intertek Testing Services NA, Inc.* as an IECEx Test Laboratory within the IECEx System.**

**This report is hereby submitted for voting.**

**Please consider this assessment report and return the completed voting form, (a separate document - in Word Format), to the IECEx Secretariat by **100809**.**

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

*Chris Agius*

**IECEx Secretariat**

<b>Address:</b> <b>IECEx Secretariat</b> <b>SA Building</b> <b>286 Sussex Street</b> <b>Sydney 2000</b> <b>Australia</b>	<b>Tel: +61 2 8206 6940</b> <b>Fax: +61 2 8206 6272</b> <b>Email: <a href="mailto:chris.agius@iecex.com">chris.agius@iecex.com</a></b> <b>Internet: <a href="http://www.iecex.com">www.iecex.com</a></b>
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# **IECEX ASSESSMENT REPORT FOR INTERTEK TESTING SERVICES NA INC (IECEX TEST LABORATORY, ExTL)**

**Type of Assessment: (please mark)**

**Initial assessment for Candidate ExTL**      **X**

**Re-Assessment of ExTL**

**Scope Extension of ExTL**

## **1. OBJECT AND FIELD OF APPLICATION**

### **1.1. Country:**

USA

### **1.2. Name of Candidate TL**

Intertek Testing Services NA, Inc.

### **1.3. Members of the Assessment Team**

Jim Munro(AU) – Lead IECEx Assessor and Team Leader  
Heinz Berger (CH)- IECEx Expert Assessor  
Alexander Zalogin (RU) –, IECEx Expert Assessor

### **1.4. Place and Date of Assessment**

3933 US Rt 11  
Cortland New York 13045  
USA

Dates of Assessment 4-6 August 2008

### **1.5. Assessment References**

- i) IECEx 02 Third Edition 2006-11 IECEx Scheme rules of procedure
- ii) IECEx Operational Document OD 003 IECEx Assessment procedures
- iii) IECEx Operational Document OD 009 Issuing of CoCs, ExTRs and QARs
- iv) ISO/IEC 17025:2005
- v) IECEx Technical Guidance Documents (TGDs)
- vi) ExTAG decision sheets (DSs)
- vii) ExTL application documents dated 15 August 2007

## 1.6. Scope of Application

1.6.1. Intertek Testing Services NA Inc is seeking acceptance for the following standards, all of which are covered by SCC accreditation to equivalent CSA standards.

Number	Title
60079-0 Edition 5	Explosive atmospheres - Part 0: Equipment - General requirements
60079-1 Edition 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
60079-2 Edition 5	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure «p»
60079-5 Edition 3	Explosive atmospheres - Part 5: Equipment protection by powder filling «q»
60079-6 Edition 3	Explosive atmospheres - Part 6: Equipment protection by oil immersion «o»
60079-7 Edition 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
60079-11 Edition 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
60079-15 Edition 4	Electrical apparatus for explosive gas atmospheres - Part 15: Construction, test and marking of type of protection "n" electrical apparatus
60079-18 Edition 3	Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation "m" electrical apparatus

1.6.2 The following list of Standards was included as part of the assessment with a satisfactory result. However, Intertek Testing Services NA Inc do not wish to include these Standards in the current scope of application but may do so in the future, noting that these standards are not currently covered by SCC accreditation. ITS has been assessed as being capable of testing to these standards in addition to those listed in 1.6.1.

Number	Title
60079-25 Edition 2	Electrical apparatus for explosive gas atmospheres - Part 25: Intrinsically safe systems
60079-26 Edition 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
60079-27 Edition 2	Electrical apparatus for explosive gas atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO) and Fieldbus non-incendive concept (FNICO)

Number	Title
60079-31 Edition 1	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
61241-0 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
61241-1 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"
61241-4 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD'
61241-11 Edition 1 (see note)	Electrical apparatus for use in the presence of combustible dust – Part 11: Protection by intrinsic safety 'iD'
61241-18 Edition 1 (see note)	Electrical apparatus for use in the presence of combustible dust Part 18: Protection by encapsulation "mD"
62086-1 Edition 1	Electrical apparatus for explosive gas atmospheres – Electrical resistance trace heating – Part 1: General and testing requirements

#### 1.7. Candidate TL Persons Interviewed

Name	Position
Jeremy Neagle	Assistant Chief Engineer
Don Card	Operations Manager
Jedd Smith	Project Engineer
Kevin Wolf	Staff Engineer
Todd Relyea	Senior Project Engineer
Augustine (Joe) DiCiacce	Engineer
Bill Fiske	Senior Director Technical Affairs
Kenneth Riedl	Technical Supervisor Wire and Cable Products (in different section)

#### 1.8. Legal Entity of The Candidate TL

Intertek Testing Services NA, Inc. is incorporated under the laws of the State of New York, U.S.A., as a for-profit corporation.

#### 1.9. Associated ExCB

The Intertek Certification Body located at 165 Main St. Cortland N.Y. and the Intertek Testing Laboratory located at 3933 US Rt 11 in Cortland N. Y. are both operated under Intertek Testing Services NA Inc. wholly owned by Intertek plc.



The ExTL has also signed an agreement with Intertek, Leatherhead in the UK to act as a second ExCB. A copy of this agreement was provided to the assessment team.

#### 1.10. **Financial Support**

Intertek NA is self-funded from its operation in testing, inspection and certification.

#### 1.11. **History**

Intertek Testing Services, NA, Inc. is a wholly owned subsidiary of Intertek plc, a public company traded on the London Stock Exchange.

Electrical Testing Laboratories (ETL) was founded in 1896 through the incorporation of five of the original Edison Illuminating Companies. At that time, the company's vision was to provide assurance to consuming publics, through various products performance and safety test, that products tested to standards were available from Edison's companies and their clients, such as General Electric. More than 100 years later, ETL – now operating under the name Intertek – is still in the business of product performance and safety testing and is among the oldest and continuously operating testing laboratories in the world.

Additional History:

1977 Electrical Testing Laboratories was relocated to Cortland NY

1978 Renamed to ETL Testing Laboratories.

In 1988, ETL Testing Laboratories was purchased by Inchcape, plc, and became part of Inchcape Testing Services.

## 2. ORGANISATION

### 2.1. Names, Titles and Experience of the Senior Executives

Name	Title	Experience (years)
Gregg Tiemann	Chief Executive	17
Nimer Al-Hafi	Vice President - Operations	15
Richard Adams	Vice President – Group Engineering	17
Richard John	Vice President - Compliance	3+ years in house General Counsel, 20 years outside General Counsel for Intertek
Donald Card	Operations Manager – Hazardous Locations	6yrs in Ex Haz Loc 16 yrs Product Safety

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

	Title	Experience
*Craig Davenport	Quality Manager – Americas	27 yrs
Terence O'Beirne	Regional Quality Manager – Cortland	17 yrs with Intertek in Product Safety Last 8 yrs in Quality
Todd Relyea	Quality Supervisor – Hazardous Locations	15 yrs with Intertek in Product Safety Last 8 yrs in Quality and



		Haz Loc Engineer
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\*Note: After the assessment Craig Davenport's position changed and he is not directly involved with the IEC Ex CB or ExTL now. Hence, he does not appear on the latest organisation charts appended to this report. Mr. John Quigley is the now the Director of Quality and the Regional Quality

### 2.3. Name and Title of Nominated Principal Contact

Name	Title	Comments
William Fiske	Senior Director	<a href="mailto:bill.fiske@intertek.com">bill.fiske@intertek.com</a>
Donald Card	Operations Manager – Hazardous Locations	<a href="mailto:don.card@intertek.com">don.card@intertek.com</a>

### 2.4. Employees

Name	Title	Experience in Ex
Jeremy Neagle	Assistant Chief Engineer	13 yrs
Jedd Smith	Project Engineer	10 yrs
Michael Spector	Staff Engineer	13 yrs
Joe DiCiacce	Engineer	2 yrs
Kevin Wolf	Staff Engineer	12 yrs
Jeff Irving	Project Engineer	< 1yr
Todd Relyea	Senior Project Engineer	6 yrs Haz Loc 15 yrs Product Safety
Randy Hubbard	Associate Engineer	28 yrs in Product and Performance testing, 3 yrs in explosion testing
Jessica Billings	Project Coordinator	< 1 yr

### 2.5. Organizational Structure

See organizational charts in Annex 1, Annex 2.

## 3. RESOURCES

The laboratory is well resourced with 10 staff and the range of equipment needed to do virtually all testing. The facilities were found to be generally adequate but improvements were made to facilities for temperature rise testing. There are plans to move the flameproof testing and the bunker to be used for this was viewed by the assessment team.

## 4. DOCUMENTATION

### 4.1. Quality Manual

Quality Policy Manual (QPM) of Intertek describes company's quality system structure. Documentation used in this quality system is communicated to, understood by and available via Intranet to the appropriate staff.



Intertek conducts its operations in accordance with the Intertek Standard Operating Procedures (SOP), and Local Operating Procedures (LOP, or work instructions), which are maintained locally by an assigned quality supervisor.

All policies and procedures are based on, and compliant with ISO/IEC Guide 65, ISO/IEC Standard 17025 and ISO/IEC Standard 17020.

Intertek has established and implemented, and now maintains, a quality system appropriate to the scope of its activities, including the type, range and volume of activities it undertakes. Intertek does not provide services other than those covered by the requirements defined in its quality manual. Intertek does not provide services, which may place the company in a position where a conflict of interest may occur.

#### **4.2. Procedures**

Standard Operating Procedures are contained in Section 7.0 of the Quality Policy Manual. All testing, inspection and certification projects are conducted in accordance with Standard Operating Procedures (SOP's), work instructions, and other forms of controlled documentation. Reference QPM clauses QPM 1.1, QPM 2.1, QPM 4.1.3a

#### **4.3. Work Instructions**

Work instructions (LOPs) are maintained locally and controlled via the Regional Quality Manager and Department Quality Supervisor.

#### **4.4. Records**

Company policy stated in QPM clause 4.3.  
SOP 7.4.1, Documentation Control applies to all testing, certification and inspection services records and documents. The main documents covered by this SOP include Quality Manual, SOPs, Supporting Documents, external standards used for testing and certification.

#### **4.5. Document Change Control**

Document Control policy can be found in QPM 7.4

The documents were checked and found to meet the IECEx System requirements .

#### **4.6. Test Records**

The test records are maintained in hard copy form. Generally these are very comprehensive and well presented. However, there were some problems found with how results were written or corrected, but this was subsequently addressed through refresher training and found to meet the IECEx System requirements

## **5. TEST REPORTS**

### **5.1. Test Reports Issued**

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

Standards	Title	Number of issued test reports				
		2006	2007	2008	2009	Total
60079-0	Electrical apparatus for explosive gas atmospheres Part 0: General requirements	*	*	*	*	Included
60079-1	Electrical apparatus for explosive gas atmospheres Part 1: Construction and verification test of flameproof enclosures of electrical apparatus	5	8	11	10	34
60079-2	Electrical apparatus for explosive gas atmospheres Part 2: Electrical apparatus, type of protection 'p' (Pressurization)	2	1	1	2	6
60079-5	Electrical apparatus for explosive gas atmospheres Part 5: Powder filling "q"	-	-	-	-	-
60079-6	Electrical apparatus for explosive gas atmospheres Part 6: Oil-immersion 'o'	-	-	-	-	-
60079-7	Electrical apparatus for explosive gas atmospheres Part 7: Increased safety 'e'	2	1	2	2	7
60079-11	Electrical apparatus for explosive gas atmospheres Part 11: Intrinsic safety 'i'	10	5	16	9	40
60079-15	Electrical apparatus for explosive gas atmospheres Part 15: Electrical apparatus with type of protection 'n' (Non-Sparking)	7	14	15	8	44
60079-18	Electrical apparatus for explosive gas atmospheres Part 18: Encapsulation 'm'	2	1	-	-	3
60079-25	Electrical apparatus for explosive gas atmospheres Part 25: Intrinsically safe systems	-	-	-	-	-
60079-26	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga	1	1	2	2	6
60079-27	Electrical apparatus for explosive gas atmospheres Part 27: Fieldbus intrinsically safe concept (FISCO)	-	-	-	1	1
60079-28	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation	-	-	-	-	-
61241-0	Electrical apparatus for use in the presence of combustible dust Part 0: General requirements	-	-	-	-	-
61241-1	Electrical apparatus for use in the presence of combustible dust Part 1: Electrical apparatus	1	1	1	1	4



Standards	Title	Number of issued test reports				
		2006	2007	2008	2009	Total
	protected by enclosures					
60079-31	Electrical apparatus for use in the presence of combustible dust Part 1: Electrical apparatus protected by enclosures Section 1: Specification for apparatus	1	1	2	3	7
61241-4	Electrical apparatus for use in the presence of combustible dust Part 4: Type of protection 'pD'	1	1	1	1	4
61241-11	Electrical apparatus for use in the presence of combustible dust Part 11: Protection by intrinsic safety 'iD'	-	-	-	-	-
61241-18	Electrical apparatus for use in the presence of combustible dust Part 18: Protection by encapsulation 'mD'	-	-	-	-	-
62086-1	Electrical apparatus for explosive gas atmospheres – Electrical resistance trace heating - Part 1: General and testing requirements	-	-	-	-	-

\* Included

Plus over 500 evaluations for equivalent protection concepts for NEC and CEC under Class / Division System

## 6. CALIBRATION

There is a calibration data base that covers all of America. The equipment is identified by asset number. There is provision to send for calibration, repair etc. For calibration all equipment for calibration is then shown in a calibration turn-in sheet. The equipment is taken to Calsource. Much of their operation is done on site. Calsource are accredited by A2LA and are included on the list of sub-contractors. A review occurs when the equipment is received back. Every couple of weeks an e-mail goes to the responsible officer to advise of equipment requiring calibration in time for the equipment to be calibrated. Each department has its own calibration manager responsible for ensuring calibration is done.

## 7. CONFIDENTIALITY

The confidentiality issue is described in the QM, clause SOP 7.4.3. Each employee must sign a confidentiality and innovation agreement carrying the number SD 4.3.1 (mandatory). The assessment team confirmed the availability of signed agreements.

## 8. NATIONAL ACCREDITATION

The ExTL of Intertek NA holds an accreditation of the Standards Council of Canada (SCC) (see Annex 3 and Annex 4 Scope of Accreditation to ISO/IEC 17025). Furthermore, Intertek NA is recognized by the US Occupational Safety and Health Administration (OSHA) as an NRTL (Nationally Recognized Testing Laboratory).



## 9. RECOGNITION AND AGREEMENTS

There are presently no bilateral agreements for mutual recognition. However, the ExTL has also signed an agreement with Intertek, Leatherhead in the UK to act as a second ExCB. A copy of this agreement was provided to the assessment team.

## 10. INTERNAL AUDIT AND PERIODIC REVIEW

Intertek NA procedures require annual audits (QM SOP 7.5.2) of all activities and an annual Management Review (QM SOP 7.5.1), typically scheduled in Jan/Feb. The last Management Review report is dated February 7<sup>th</sup>, 2008. The processes with its records were checked and found to meet the requirements of the IECEx System

## 11. COMPLAINTS AND APPEALS (Including appeals to IECEx)

The complaints procedure is described in the QM, clause SOP 7.14.1, the appeal procedure in 7.14.3. which deals with the IECEx Appeals Process. After the assessment visit, Intertek NA also established an Independence and Impartiality Committee that has a role to deal with unresolved complaints.

## 12. SPECIAL FACTS TO BE NOTED

### 12.1. *Supporting Documentation*

Copies of additional supporting information for this assessment have been provided to the applicant and the IECEx Secretariat. These include:

- Details of issues raised and how these have been resolved
- Checklist for ISO/IEC 17025
- Completed technical guidance documents (TGDs) for Ex d, i, p, e, n, m and dusts
- Photos of the facilities

### 12.2. *Witness Tests*

The following tests were witnessed during the assessment:

- Flameproof pressure determination test
- Test for non-transmission using hydrogen
- Temperature rise test
- IP54 test to IEC 600529
- Use of the spark test apparatus
- Tests for temperature rise/determination of the maximum short circuit current on a high capacity battery according to 10.5.3 of IEC 60079-11:Ed5

## 13. COMMENTS (Including issues found during assessment)

It was found that Intertek had limited experience in many of the IEC standards in the scope. but do have significant experience generally in Ex for the national standards and in issuing their ETL mark. They have done some testing to EN standards for certification by Intertek in the UK. As an applicant ExTL and ExCB, Intertek do not yet have no experience in this format.



A number of issues were found during the assessment and all these were resolved to the satisfaction of the assessment team. Some of these have been noted earlier and other ones included:

- The need to finalise procedures for testing to IEC standards.
- Appropriate use of thermocouples during testing to ensure proper adhesion and appropriate measurement of ambient temperature.
- The need for improvements to IP6X testing.
- The need to ensure traceability on mixtures of gases.
- The provision of air-cored inductors for intrinsic safety testing.
- The need to ensure that the parameters of the spark test apparatus were correct.

#### **14. RECOMMENDATION**

Based on the initial assessment performed on 4-6 August 2008 Intertek Testing Services NA, Inc. is recommended for acceptance in the IECEx scheme as an IECEx Testing Laboratory (ExTL) according to the scope of the standards listed in 1.6.1 of this document.

However, due to the lack of experience that Intertek has in producing reports to the IEC standards and the IECEx format the first ExTR for Ex d and Ex i should be subject to review.

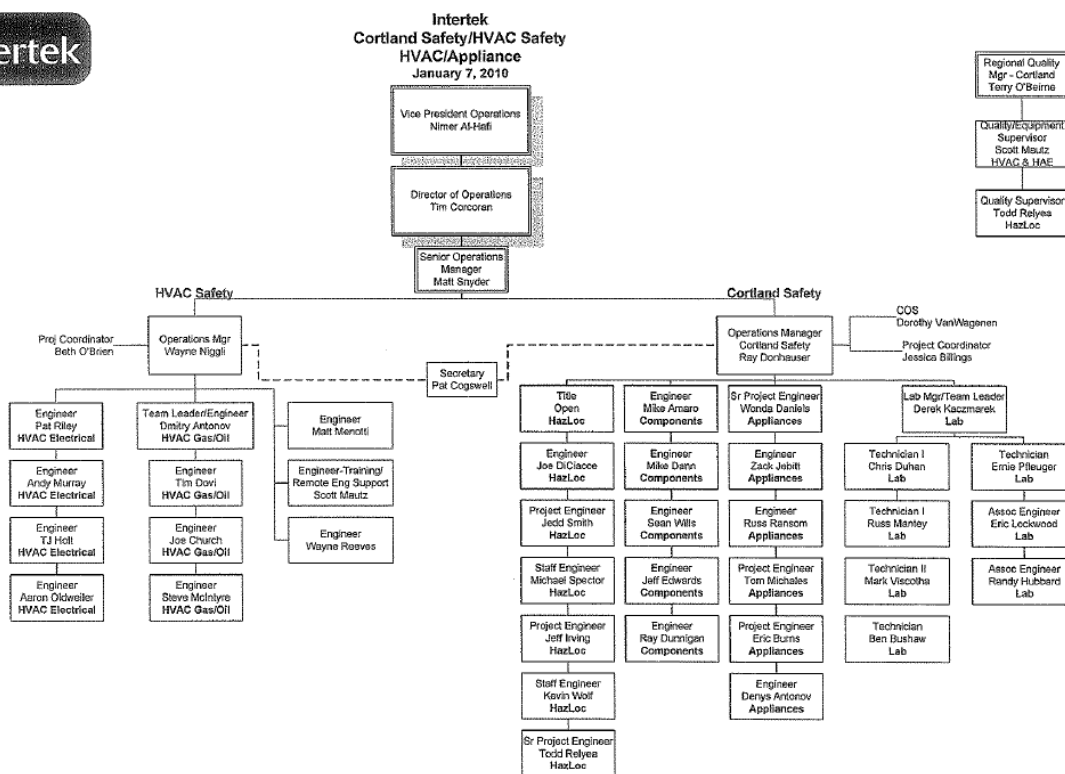
Jim Munro	Heinz Berger	Alexander Zalogin
Team Leader	Expert Assessor	Expert Assessor

Date: 11 March 2010

#### **List of Annexes:**

1. Cortland Organization Chart
2. Organization Chart of IECEx Operation
3. Accreditation Certificate for ISO/IEC 17025 from SCC (Standards Council of Canada)
4. Extract from Scope of SCC Accreditation

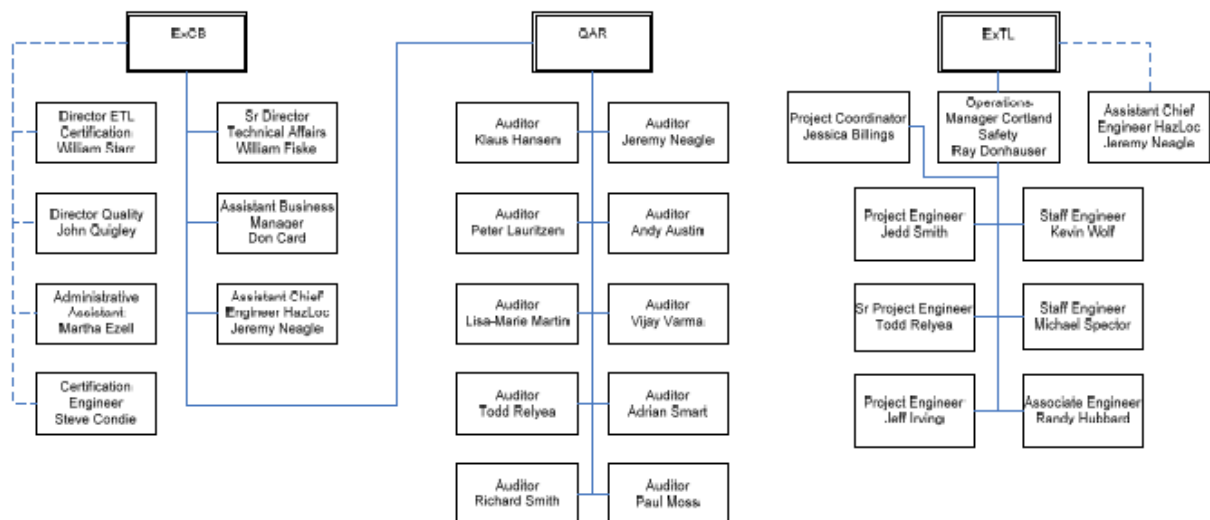
## Annex 1 Cortland Organization Chart





## Annex 2 Organization Chart of IECEX Operation

### Intertek Cortland IECEX Operation HVAC/Appliance January 29, 2010





ExMC/610/DV  
July 2010

### Annex 3

#### Accreditation Certificate for ISO/IEC 17025 from SCC (Standards Council of Canada)

CERTIFICATE OF ACCREDITATION	 Standards Council of Canada Conseil canadien des normes	CERTIFICAT D'ACCREDITATION
<b>Intertek Testing Services NA Inc</b> <b>ITS CORTLAND LABORATORY</b> 3933 U.S. Route 11, P.O. Box 2040, Cortland, New York		
having been assessed by the Standards Council of Canada (SCC) and found to conform with the requirements of ISO/IEC 17025:2005 (CAN-P-4E) and the conditions for accreditation established by SCC is hereby recognized as an		ayant fait l'objet d'une évaluation réalisée par le Conseil canadien des normes (CCN) et été jugé conforme aux exigences énoncées dans ISO/IEC 17025:2005 (CAN-P-4E) et aux conditions liées à l'accréditation établies par le CCN, est, en vertu du présent certificat, reconnu comme étant un
<b>ACCREDITED TESTING LABORATORY</b>		<b>LABORATOIRE D'ESSAIS ACCRÉDITÉ</b>
for the specific tests or types of tests listed in the scope of accreditation approved by SCC and found on the SCC website at <a href="http://www.scc.ca">www.scc.ca</a> .		pour les essais ou types d'essais énumérés dans la portée d'accréditation approuvée par le CCN et figurant dans le site Web du CCN à <a href="http://www.ccn.ca">www.ccn.ca</a> .
		Accredited Laboratory No.: / Numéro de laboratoire accrédité : 86 Accreditation date: / Date d'accréditation : 1991-12-10 Issued on: / Délivré le : 2007-04-10 Expiry date: / Date d'expiration : 2011-12-10  Chairman (SCC) / Président (CCN)
<small>This accreditation is the formal recognition of the technical competence of the laboratory, for the approved scope. In addition, this laboratory has demonstrated that they operate a quality management system (refer to the SCC website for the joint ISO-ILAC-IAP Communiqué dated 2005-06-16).</small>		
<small>Cette accréditation est la reconnaissance officielle de la compétence technique du laboratoire pour la portée d'accréditation approuvée. Ce laboratoire a également prouvé qu'il gère un système de management de la qualité (voir le site Web du CCN pour le communiqué commun ISO-ILAC-IAP daté de 16 juin 2005).</small>		

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.

**Canada**



## Annex 4

### Extract from Scope of SCC Accreditation



200-270, rue Albert St.  
Ottawa, ON (Canada)  
K1P 6N7

Canada

Tel.: +1 613 238 3222

Fax.: +1 613 569 7808

E-mail/Courriel : [info@scs.ca](mailto:info@scs.ca)

Internet: <http://www.scs.ca>

### SCOPE OF ACCREDITATION

Intertek Testing Services NA Inc  
ITS CORTLAND LABORATORY  
3933 U.S. Route 11, P.O. Box 2040  
Cortland, NY  
13045-0950

Accredited Laboratory No. 86  
(Conforms with requirements of CAN-P-4E (ISO/IEC 17025:2005))

CONTACT:	Mr. Craig Davenport
TEL:	607-753-6711
FAX:	607-756-9891
EMAIL:	<a href="mailto:craig.davenport@intertek.com">craig.davenport@intertek.com</a>
CLIENTS SERVED:	All interested parties
FIELDS OF TESTING:	Electrical/Electronic, Mechanical/Physical, Thermal & Fire Resistance
ISSUED ON:	2008-06-13
VALID TO:	2011-12-10

#### Hazardous Location Equipment

CSA C22.2 No. 137	Electric 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. 157	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
CSA C22.2 No. 213	



	Non-Incendive Electrical Equipment for Use in Class 1, Division 2 Hazardous Locations
CSA C22.2 No. 22	Electrical Equipment for Flammable and Combustible Fuel Dispensers
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 E60079-0	Electrical Apparatus for Explosive Gas Atmospheres Part 0 Gen Req.
CSA E60079-1	Electrical Apparatus for Explosive Gas Atmospheres Part 1, Flameproof Enclosures "d"
CSA E60079-11	Electrical Apparatus for Explosive Gas Atmospheres Part 11 Intrinsic Safety "I" Gen. Instruction NO. 1
CSA E60079-15	Electrical Apparatus for Explosive Gas Atmospheres, Part 15: Electrical Apparatus with Type of Protection "n" Except for: Clause 16 – Luminaires
CSA E60079-2	Electrical Apparatus for Explosive Atmospheres Part 2: Pressurized Enclosures "p"
CSA E60079-5	Electrical Apparatus for Explosive Gas Atmospheres Part 5: Powder Filling "q"
CSA E60079-6	Electrical Apparatus for Explosive Gas Atmospheres Part 6: Oil Immersion "o"
CSA E61241-1-1	Electrical Apparatus for Use in the Presence of Combustible Dust Part 1-1: Electrical Apparatus Protected by Enclosures and Surface Temperature Limitation-Specification for Apparatus
CSA E79-18	Electrical Apparatus for Explosive Gas Atmospheres, Part 18: Encapsulation "m"
CSA E79-7	Electrical Apparatus for Explosive Gas Atmospheres, Part 7: Increased Safety "e"