



ExMC/140/R
2002 09

INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC SCHEME FOR CERTIFICATION TO STANDARDS FOR SAFETY OF ELECTRICAL EQUIPMENT FOR EXPLOSIVE ATMOSPHERES (IECEx SCHEME)

**Title: IECEx Assessment Report for the acceptance of CSA as an
Accepted Certification Body within the IECEx Scheme**

This document contains the IECEx Assessment Report for the *Canadian Standards Association (CSA)*

Following assessment, including an on site assessment, the assessment team recommends acceptance of CSA as an Ex Accepted Certification Body within the IECEx Scheme. An Annex C, has been added to the document to include additional information received by the secretariat from the Assessment Team Leader, Mr Vries.

Signed copies of the assessment report have been retained by the Secretariat.

This report has been issued for consideration during the next ExMC Meeting being held in Seoul October 2002 under Item 8 of Draft Agenda ExMC/127/DA.

**Address:
IECEx Secretariat
286 Sussex Street
Sydney NSW 2140
Australia**

**Tel: +61 2 8206 6940
Fax: +61 2 8206 6272
Email: chris.agius@iecex.com**



ExMC/140/R
2002-09

IECEX ASSESSMENT REPORT FOR ACB (Accepted Certification Body)

Type of Assessment:

Initial Assessment for Candidate ACB	:	X
Surveillance Assessment for existing ACB	:	--

1. OBJECT AND FIELD OF APPLICATION

1.1 Country: Canada

1.2 Name of Candidate ACB: Canadian Standards Association also known as
CSA International

1.3 Members of the Assessment Team:

Dr.-Ing. G. Arnold, Assessor (DE)
Mr. S. Halama, Assessor (FR)
Mr. L.M.J. Vries, Lead Assessor (NL)

1.3 Place and Date of Assessment:

CSA International carries out its testing and certification operations in the field of electrical apparatus for explosive atmospheres at the following 2 addresses:

178 Rexdale Boulevard
Toronto, Ontario
Canada M9W 1R3

and

1707 – 94th Street NW
Edmonton, Alberta
Canada T6N 1E6

Due to the accreditation status of CSA International the on-site assessment for ACB and ExTL has been carried out by the complete Assessment Team during 1 day in Toronto on March 4, 2002 and during 1 day in Edmonton on March 6, 2002.



**ExMC/140/R
2002-09**

1.5 Assessment References

Documents:

- i) IECEx 02 Edition 1997-10
- ii) IECEx Operational Document ExMC/100/CD
- iii) ISO/IEC Guide 65 1996
- iv) ACB/ExTL application documents dated July 6, 2001, last audits reports from the Standards Council of Canada received on November 19, 2001 and during the assessment.

1.6 Scope of Application

Product Category	Standard
<i>Electrical apparatus for explosive gas atmospheres:</i>	
General requirements	IEC 60079-0
Flameproof enclosure "d"	IEC 60079-1
Pressurization "p"	IEC 60079-2
Powder filling "q"	IEC 60079-5
Oil-immersion "o"	IEC 60079-6
Increased safety "e"	IEC 60079-7
Intrinsic safety "i"	IEC 60079-11
Non-sparking "n"	IEC 60079-15
Encapsulation "m"	IEC 60079-18
<i>Electrical apparatus for use in the presence of combustible dust:</i>	
Electrical apparatus protected by enclosure. Specification for apparatus	IEC 61241-1-1

1.7 Candidate ACB Persons Interviewed

Name	Position
<u>Toronto:</u>	
Joe Gryn	Director, Conformity Assessment
John Kalinowski	Manager Quality Assurance, Engineering Quality Assurance Certification
John Marshall	Engineering Project Manager, Engineering Quality Assurance Certification
Peter Smith	Team Coordinator, Hazardous Locations Certification
Yakov Khitrov	Senior Engineer, Hazardous Locations Product Team Certification
Bill Shao	Senior Engineer Hazardous Locations Products (Edmonton)



ExMC/140/R
2002-09

1.7 Candidate ACB Persons Interviewed (continued)

Name	Position
<u>Edmonton:</u>	
John Verwey	Operations Manager, Edmonton
Audrey Gagnon	Quality Assurance Representative
Gary Boswell	Senior Engineer Hazardous Locations Products
Bill Shao	Senior Engineer Hazardous Locations Products

Where necessary other CSA International staff assisted during the assessment.

1.8 Legal Entity of the Candidate ACB

Independent, not-for-profit organization, incorporated under Canadian Laws.

1.9 Associated Testing Laboratories

CSA International is ACB and ExTL. In Toronto as well as in Edmonton independence of testing (ISO Guide 25) and certification (ISO Guide 65) was clearly demonstrated.

1.10 Associated Certification Functions

Building Products and Structures
Electrical Products and Structures
Fuel-Burning and Handling Equipment
Health Care Technology
Plumbing, Sewage Handling and
Piping Products
Recreational and Occupational
Health and Safety
Energy Efficiency verification Service
Water Quality
Windows and Doors

1.11 National Marks and Certificates

When a product is in compliance with the CSA standards a Certificate of Compliance is issued which gives permission to use the CSA mark. Periodic follow-up inspections form part of the Licensing Agreement for all customers who have been authorized to represent their products as CSA certified.

1.12 Financial Support

Self-supporting by testing and certification fees.



**ExMC/140/R
2002-09**

1.13 History

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

1.14 Standards Accepted

See 1.6 above.

1.15 National Differences to IEC Standards

The following national standards have been developed (standards that show an * have national differences which are described in the standard itself):

IEC Standard	National Standard
IEC 60079-0	CAN/CSA-E60079-0 *
IEC 60079-1	CAN/CSA-E60079-1
IEC 60079-1A	CAN/CSA-E60079-1A
IEC 60079-2	CAN/CSA-E60079-2 *
IEC 60079-5	CAN/CSA-E60079-5
IEC 60079-6	CAN/CSA-E60079-6
IEC 60079-7	CAN/CSA-E60079-7
IEC 60079-11	CAN/CSA-E60079-11 *
IEC 60079-15	CAN/CSA-E60079-15
IEC 60079-18	CAN/CSA-E60079-18 *
IEC 61241-1-1	CAN/CSA-E61241-1-1 *

2. ORGANISATION

2.1 Names, Titles and Experience of the Senior Executives

Name	Title	Experience
<u>Toronto:</u>		
Irma Vescan	Director, Canadian Operations	25 years in testing and certification
Nick Alfano	Operations Manager, Electrical Equipment & Inspections	20 years in field services
<u>Edmonton:</u>		
Irma Vescan	Director, Canadian Operations	25 years in testing and certification
John Verwey	Operations Manager	2 years in testing and certification and 20 years in hazardous materials/pressure vessel industry



ExMC/140/R
2002-09

2.2 Name, Title and Experience of the Quality Management Representative

Name	Title	Experience
<u>Toronto:</u>		
John Kalinowski	Manager, Quality Assurance, EQA Certification	10 years in Quality Assurance
<u>Edmonton:</u>		
Audrey Gagnon	Quality Assurance Representative	9 years in Quality Assurance

2.3 Name and Title of Nominated Principal Contact

Name	Title	Comments
Joe Gryn	Director, Conformity Assessment	

2.4 Name and Title of Signatories for Certification

Name	Title	Comments
<u>Toronto:</u>		
Nick Alfano	Operations Manager, Electrical Equipment & Inspections	
<u>Edmonton:</u>		
John Verwey	Operations Manager Edmonton	

2.5 Other Employees in ACB activity

Name	Title	Responsibility
--	--	--

2.6 Organisational Structure

The total number of number of employees within the CSA Group and within CSA International are 1100 and 670 resp. The number of employees in the Hazardous Locations Team in Toronto and in Edmonton are 28 and 21 resp. The organization diagrams are shown in Annex 1.

2.7 Administration

2.7.1 Administrative Structure
See 2.6

2.7.2 Terms of Reference of the Governing Board
The Terms of Reference are included in the Policies and Practices Manual.



**ExMC/140/R
2002-09**

3. RESOURCES

CSA International has all necessary resources for its operation in-house, including personnel trained and experienced in factory inspections and quality audits.

4. COMMITTEES

IECEX MC

IECEX TAG

IECEX WG 4

and the following technical committees:

C232 (145) Electric Motors for Use in Hazardous Locations

C232 (152) Combustible Gas Detection instruments

COMMITTEES (continued)

C232 (157) Intrinsically Safe Equipment for use in Class I, Groups A,B,C and D Hazardous

C232 (213) Electrical Equipment for Use in Class I, Division 2 Locations

C231 (138) Heating Cables for Use in Hazardous Locations

C231 (159) Plugs and Receptacles for use in Class I, Groups A,B,C and D, Class II

C231 (174) Cables and Cable Glands for Hazardous Locations

C231 (230) Tray Cable

C231 (137) Lighting Fixtures for Use in Class I, II and III Hazardous Locations

C232 (22) Electrical Equipment for Flammable-Liquid Dispersers

C232 (25) Enclosures for use in Class II Groups F and G Hazardous Locations

C232 (30) Explosion-Proof Enclosures for use in Class I, Hazardous Locations

C235 (0.5) Threaded Conduit Entries

5. CERTIFICATION OPERATIONS

5.1 National Approval/Certification Methods

CSA Certification is accepted in all provinces and Territories of Canada. The certification program type used by CSA International in Certification System No. 3, as described in ISO/IEC publications. It comprises testing of product samples submitted by the manufacturer, issuance of a certificate granting the use of the CSA certification mark on compliant products, followed by subsequent factory surveillance. The use of the CSA mark requires an agreement between CSA and the applicant. The factory surveillance involves periodic factory visits and a thorough comparison of the manufactured products to those initially certified, based on a detailed descriptive report.

5.2 Certification Policy

CSA Certification Policy requires that certified products must comply in full with Canadian Standards (for the Canadian market) and that the certification services be provided to all



**ExMC/140/R
2002-09**

applicants in an open, non-discriminatory manner and in accordance with published certification procedures.

5.3 Staff Work Instructions

Detailed activity guidelines which list staff work instructions are in Divisional Quality Documents (DQD's) at 400 Level (see item 14) and are operated accordingly.

5.4 Application for Certification

The procedures are in DQD 050 and are operated accordingly.

6. STATISTICS

Certificates issued during the past 2 years:

	<u>Toronto</u>	<u>Edmonton</u>
flameproof d	120	300
intrinsic safety i	100	300
increased safety e	15	15
oil filled o	0	1
powder filled q	0	0
encapsulation m	20	20
non-sparking n	20	200
pressurized p	30	30
apparatus for dusts	200	45

7. DOCUMENTATION

7.1 Document and Change Control

The procedures are in DQD 050, Section 6.0 and are operated accordingly.

8. RECORDS

The procedures are in DQD 050, Section 12.0 and DQD 335 and are operated accordingly. All records are kept in cabinets in a protected central archive.

9. CONFIDENTIALITY

The procedures are in DQD 050, Section 12.0 and in DQD 335, Section 4.3 and are operated accordingly.

10. PUBLICATIONS

The updated list of certified products is published on the website:
<http://www.csa-international.org/product/>



ExMC/140/R
2002-09

11. APPEALS

The procedures are in DQD 050, Section 18.0 and in DQD 335, Section 4.3 and are operated accordingly.

12. NATIONAL ACCREDITATION

CSA International is accredited by the Standards Council of Canada to (ISO/IEC Guide 65 (CAN-P-3). The SCC certificate is shown in Annex 2. Since it is not shown on the certificate, additional evidence has been provided by SCC that the accreditation of CSA International as a certification body applies to the corporation as a whole, including the Edmonton location.

13. RECOGNITION AND AGREEMENTS

CSA International has an agreement with the following testing and certification bodies that is based on mutual acceptance of construction evaluation and test results:

United Kingdom	: EECS, SCS
Germany	: PTB
The Netherlands	: KEMA Quality B.V.
France	: LCIE

14. QUALITY MANUAL

The Quality Management System complies with ISO/IEC Guide 65. The following documentation system is maintained:

At Corporate Level (CSA Group):

1. Corporate Quality Management System Manual
2. Policies and Practices Manual (DQD 030)

At CSA International Level (Division Testing and Certification):

3. Quality Management System Manual (DQD 050)
4. DQD 000 Level – Manuals and Indexes
5. DQD 100 Level – Engineering Policy Supplements
6. DQD 200 Level – Certification Division Programs and Services
7. DQD 300 Level – Guidelines for Quality and Technical activities
8. DQD 400 Level – Detailed Activity Guidelines
9. DQD 500/600 Level – Forms, Templates and Data

15. INTERNAL AUDIT AND PERIODIC REVIEW

The procedures are in DQD 050, Section 14.0 and operated accordingly.

16. COMPLAINTS

See item 11.



ExMC/140/R
2002-09

17. WITHDRAWAL AND CANCELLATION OF CERTIFICATES

The procedures are in DQD 427.01 and operated accordingly.

18. SPECIAL FACTS TO BE NOTED

None.

19. RECOMMENDATION

Based on the findings from the document review and both on-site visits the assessment team recommends full acceptance of the candidate certification body as IECEx ACB for the product standards applied as shown in Item 1.6 of this report.

LIST OF ANNEXES

Annex 1: Organization diagrams.

Annex 2: ISO/IEC 65 certificate from the Standards Council of Canada for Toronto (Rexdale) and Edmonton.

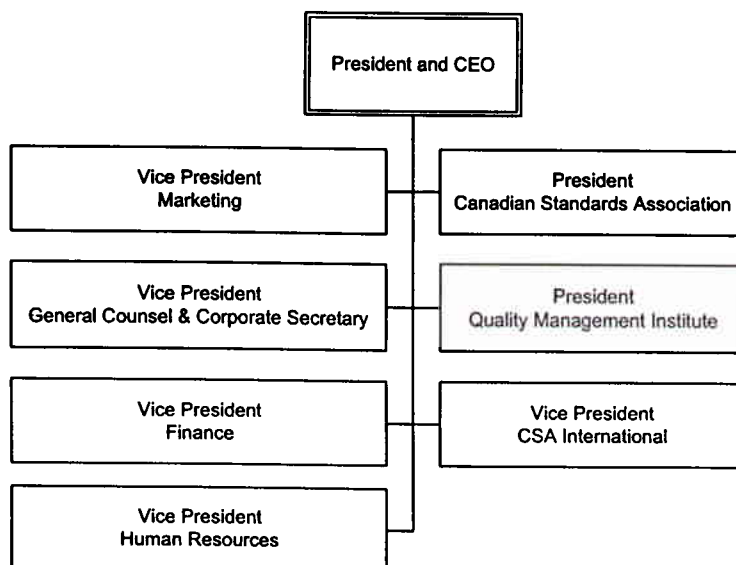
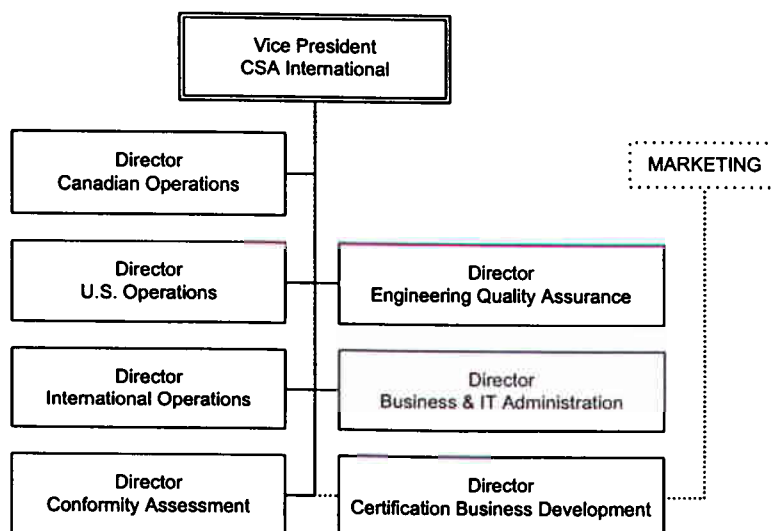
Annex 3: Comments from the Lead Assessor Mr Bert Vries

CSA INTERNATIONAL
DIVISIONAL QUALITY DOCUMENTS

Rev. 2001-11-30

Page 9 of 94

QUALITY MANAGEMENT SYSTEM MANUAL

DQD NO.
050CSA Group 1100 employees
Executive TeamCSA International 670 employees

CSA International Certification & Testing Canadian Operations

effective October 2001

Rob Griffin
President & CEO
↳ 670 employees
↳ Division Level

Rob Fennell
Vice President, Certification

Irma Vescan
Director, Canadian Operations

Nick Alfano
Operations Manager,
Toronto

Ted Greenberg
Operations Manager,
Toronto

Terry Thom
Operations Manager,
Toronto

Ray Fadavi
Operations Manager,
Toronto

John Verwey
Operations Manager,
Edmonton

Terry Nagy
Operations Manager,
Richmond

Alain Ste-Marie
Operations Manager,
Pte. Claire



Effective March 04, 2002

Toronto

**Operations Manager,
Elec. & Inspections**
Nick Alfano

Team Coordinator
Gabriel Lipka

②

Team Coordinator
Brian Harmer

③

Team Coordinator
Peter Smith

④

**Special Acceptance
Technologist**
Jim Robinson

⑤

Team Coordinator
Marvin Thwaites

⑥

Team Coordinator
Oreste Simonetta

⑦

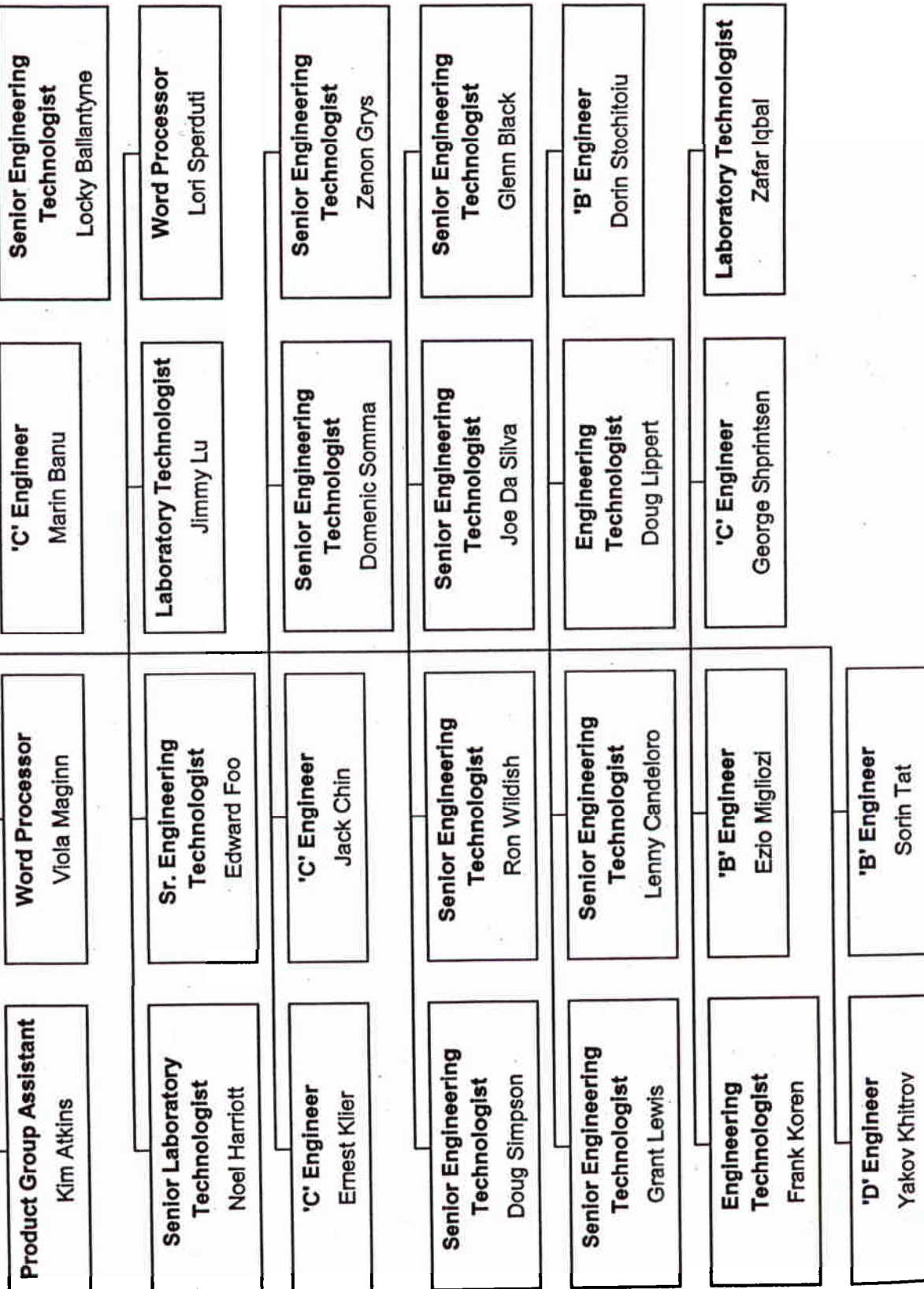
**Secretary to Operations
Manager**
Kara Kocus



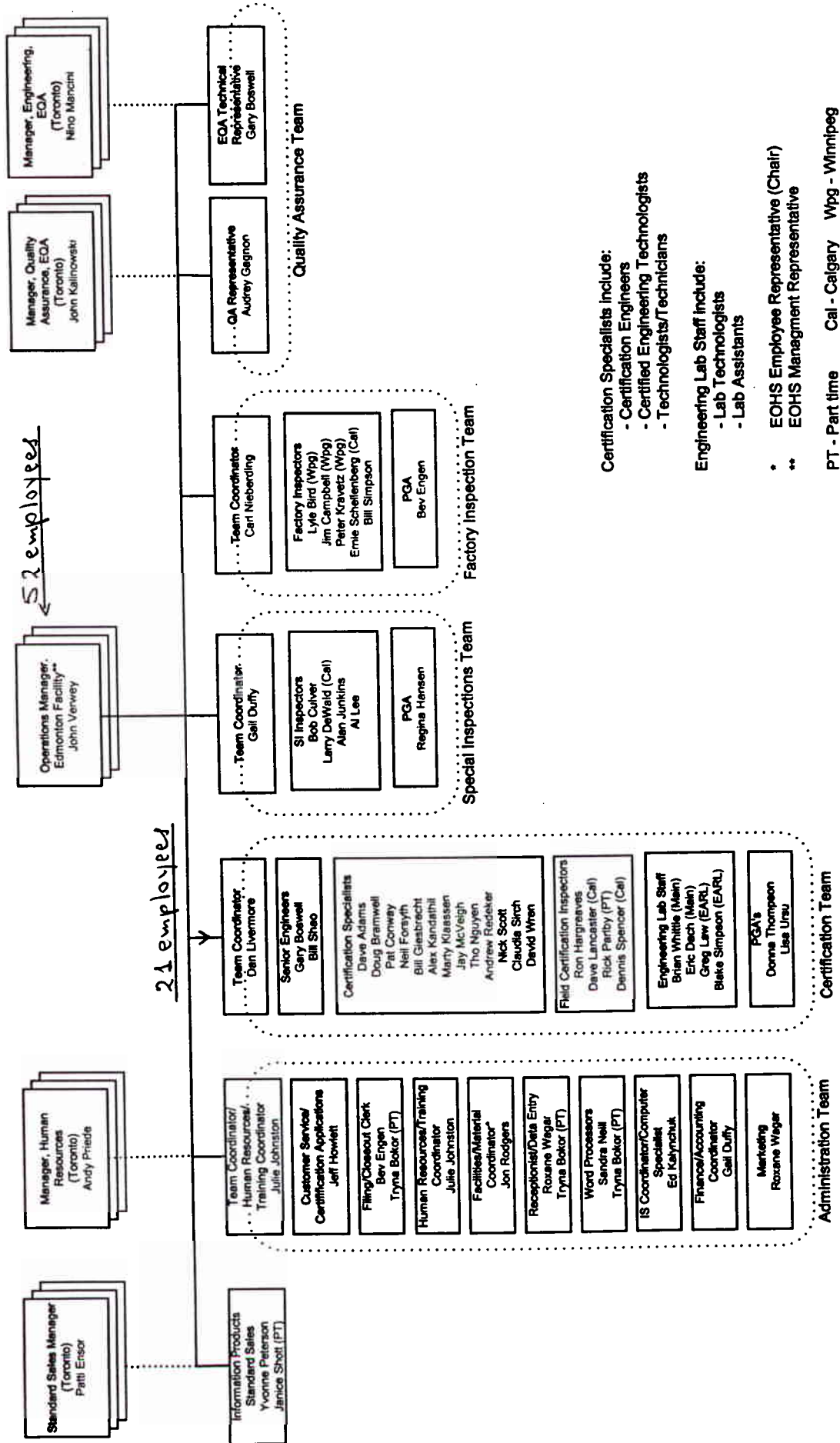
4

Team Coordinator
Peter Smith

Toronto (27 employees)



CSA International Edmonton Facility Quality Management Organization Chart



Annex 1, 5/6

CSA INTERNATIONAL
DIVISIONAL QUALITY DOCUMENTS

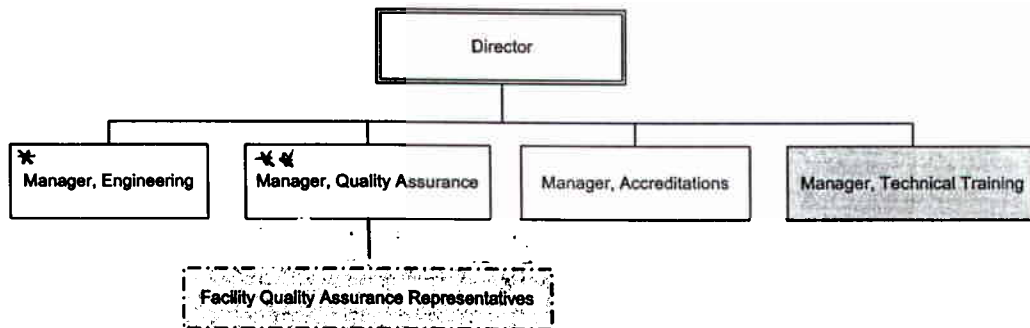
Rev. 2001-11-30

Page 10 of 94

QUALITY MANAGEMENT SYSTEM MANUAL

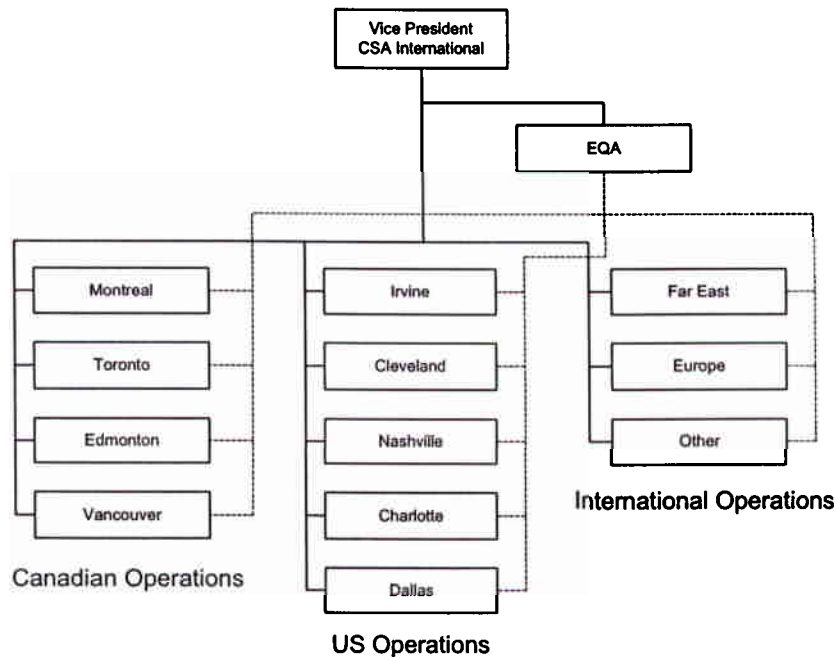
DQD NO.
050

Engineering Quality Assurance



* Nino Mancini
** John Kalinowski

CSA International
Divisional System for Quality Assurance and Engineering



Legend

----- Engineering Quality Assurance accountability
 _____ Direct reporting

CERTIFICATE OF ACCREDITATION



CERTIFICAT D'ACCRÉDITATION

Canadian Standards Association

178 Rexdale Boulevard, Rexdale, Ontario

*having been assessed under the authority of
the STANDARDS COUNCIL OF CANADA (SCC) Act
and found to comply with the criteria established
by the Council is hereby recognized as an*

**ACCREDITED CERTIFICATION
ORGANIZATION**

*in specific subject areas as identified in the Council
document Directory of Accredited Certification
Organizations CAN-P-1505*

*ayant été soumis à une évaluation selon la
Loi sur le CONSEIL CANADIEN DES NORMES (CCN),
et ayant été trouvé conforme aux
critères établis par le Conseil est de fait reconnu*

**ORGANISME DE CERTIFICATION
ACCREDITÉ**

*dans les domaines d'activité particuliers spécifiés dans
le document du Conseil Répertoire des organismes de
certification accrédités CAN-P-1505*



Issued on: 1993-10-05
Émis le :

Georges Ouellet
President / Président

Assessment performed according to the Criteria and Procedures for Accreditation
of Certification Organizations (CAN-P-3)

Évaluation effectuée conformément aux Critères et méthodes d'accréditation
des organismes de certification (CAN-P-3)

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 retourné sur demande; toute reproduction est interdite sauf lorsque le CCN a autorisé sa reproduction par écrit.



Annex 3 Further comments from Lead Assessor

Concerning the CSA reports.

1. On the first page of both reports I included that the "complete assessment team" carried out the audit during 1 day in Toronto (3 man-days) and 1 day in Edmonton (3-man-days).

2. The accreditation certificates I attached to both reports were the certificates I received at the time of the assessment. Since it was not clear from the scope how detailed Ex-equipment was assessed I decided as lead-auditor (with acceptance from Joe Gryn) that all members of the assessment team should carry out the ACB- and ExTL assessment. Since there are 2 locations the assessment took 6 man-days.

Concerning the scope of the certificates:

- I mentioned in my ExTL report that accreditation against the ISO/IEC 17025 was expected at the end of this year for both locations. The scope of this accreditation for Edmonton sent by Joe shows all relevant Ex-activities. If the scope for Toronto also shows this Ex-activities under the ISO/IEC 17025 accreditation, in my opinion only a 5-years re-assessment will be necessary for the ExTL part.

- Construction evaluation, testing and review are carried out under the ExTL accreditation. The certification manager for Toronto and Edmonton are both Operations Managers. Their certification activities fall under the scope of the ISO Guide 65 accreditation and have been checked during the initial assessment. Since 99% of the Ex-work is carried out under the ExTL accreditation, in my opinion there is no need for annual surveillance audits for the ACB part if the ISO 65 certificate does not show a detailed scope like the ISO/IEC 17025 accreditation.