CSA Group – OHS Standards

Institute for Work and Health

April 1, 2014

Outline

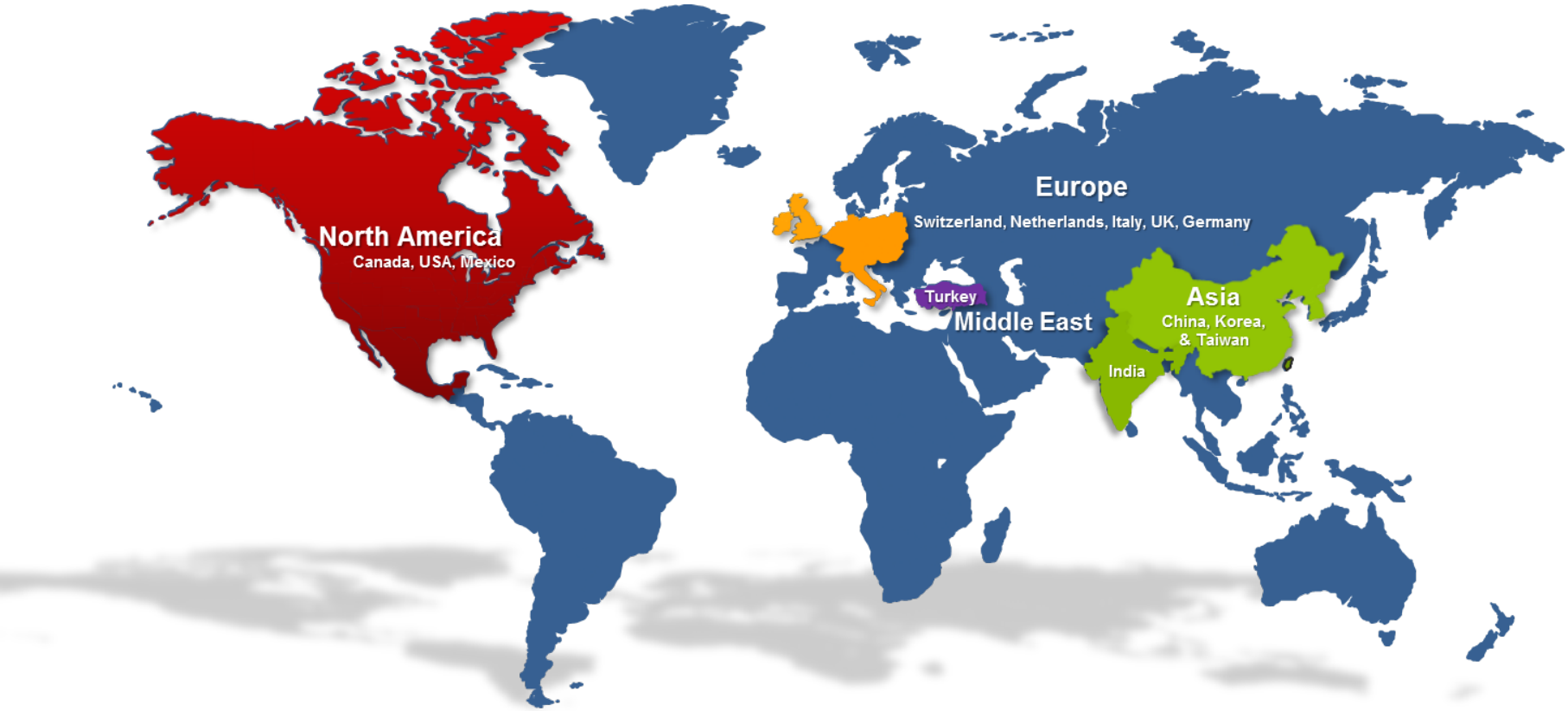
- Introduction to CSA Group
- What is a standard?
- National Standards system
- CSA Standards development
- CSA OHS Program
- Standards in Regulation
- CSA Communities of Interest
- OHS Management system standards (Z1000 series)
- Standards in action
- Q &A

Introduction to CSA Group

CSA GROUP – Key Facts

- Established in 1919
- Independent, not-for-profit
- Leader in standards development, product testing and certification, consumer product testing

Overview of CSA Group



Consumer Product Evaluation

Standards

Product Certification & Testing

CSA Group - Standards

Canadian Standards Association – a division CSA Group

54
Areas of technology

3,000
Standards and codes

8,100+
Expert committee members

Subject Areas

Main Program Areas

Electrical
Energy – Fuel Burning & Nuclear
Health and Safety
Infrastructure and Building
Environment and Climate Change
Business Management – Risk and Quality

Making strides: New standards in new fields

- Nanotechnololgy
- Northern Communities
- Water Management
- Mining
- Oil & Gas
- Sustainability
- Risk Management
- Security (1st Responders)

What is a Standard?

What is a Standard?

Stipulates (minimum) requirements for the use, safety and/or performance or design of products, processes and services.

What is a Standard?

- The term standard can have numerous meanings when used in discussions and in legislation and regulations
- Standards developed within the NSS
- Standards developed outside the NSS
  - Industry standards, codes, guidelines
  - Some very detailed and specific to the industry

What is a Standard?

Consensus Standard: a standard developed and approved through a defined consensus process involving a broad group of affected parties or their representatives

CSA Group

Harmonized Standards

Harmonized Standards: Standards on the same subject, approved by different standards development bodies, that establish interchangeability of products, processes, and services, or mutual understanding of test results or information provided according to these standards.

Notes:

- *(1) This definition is based on the definition of "harmonized standards" in ISO/IEC Guide 2:1996, Standardization and related activities — General vocabulary.*
- *(2) Harmonized standards can still have differences in presentation and even in substance, e.g., in explanatory notes, guidance on how to fulfill the requirements of a standard, or preferences for alternatives. The term "equivalent standards" is sometimes used to denote the same concept as "harmonized standards".*

Standards vs. Law

- Standards are voluntary
  - unless adopted or referenced in legislation
- General duty clause may imply compliance with standards
- Many areas of law already addressing OHS in the workplace
- Mandatory and informative clauses in standards

Standards and the Law

Importance of Voluntary Standards

- Part of a complex regulatory environment (help organizations to comply with regulations)
- Key part of due diligence
- Support new technology & influence engineering decision-making
- Facilitate market access and acceptance
- Provide competitive advantage & best practice
- Enable social responsibility objectives – worker safety, environmental sustainability
- Adapted through regular updates
- Rely on input from experts

Why do Organizations and Governments Adopt Standards?

- Developed by independent, third party organizations, using balanced consensus based approaches.
- Best practice as defined by the experts in the subject area.
- Adopting and referencing standards in regulation is fiscally responsible (i.e. less expensive, increased flexibility)
- Harmonization internationally in a global market.
- Voluntary standards are able to address risk management objectives without adding to administrative burden to organizations.

Standards System Overview

National Standards System of Canada

Canada's network of organizations involved in development, promotion, and implementation of standards:

- Administered by Standards Council of Canada (SCC)
- 350 Organizations / 15,000 members
- Standards Development Organizations
- Certification Bodies
- Testing & Calibration Laboratories

National Standards System

- Process is open and inclusive
- Members develop technical content of standards
- Decisions are determined by consensus
- Standards are voluntary unless referenced in regulation
- Participation in international standards activity (IEC/ISO)
- Adoption of international standards where feasible

Standards System Overview

- Standards Council of Canada (SCC) accredits standardization organizations in Canada and serves as Canadian member body to ISO and IEC

- CSA Group accredited by both SCC and ANSI (US)

- CSA manages mirror committees to ISO &IEC and also manages a number of key International Secretariats

- 6 Standards Development Organizations accredited to develop standards in Canada, each with a unique *subject area recognition*
    - CSA Group
    - BNQ
    - CGSB
    - ULC
    - UL (US based)
    - ASTM International (US based)

CSA's Subject Area Recognition

Management Systems
- Quality Management and Auditing, Risk Management

Construction and Infrastructure
- Building Products and Systems, Components & Structures, Masonry & Steel, Plumbing

Electrical
- Installation and Safety Codes, Products and Components, Distribution and Generation , Engineering , Electro-Magnetic Compatibility

Energy
- Petroleum & Natural Gas Industry Systems, Gas & Fuel Burning Equipment
- Alternative Energy Vehicles, Energy Efficiency, Renewable Energy
- Nuclear

Environment
- Environmental Performance and Management,
- Life Cycle Analysis and Product Labelling

Health Care and Medical Devices
- Facilities Engineering, Patient Care and Safety, Infection Control, Sterilization and Device Reprocessing, Blood and Tissue, Medical Labs

Worker and Workplace Safety
- Ergonomics, Electrical Safety, Management Systems, Equipment & Machine Safety, Fall Protection, Personal Protective Equipment

Technical Safety
- Pressure Vessels, Elevators and Lifting Devices, Transportation

Public and Community Safety
- Injury Protection, Accessibility, Emergency Preparedness

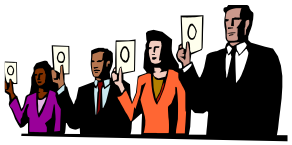
International Standards System

ISO – International Organization for Standardization

- Worldwide federation of 114 national standards bodies (and other member categories)
- Covers standardization in all fields except electrical and electronic engineering; responsibility of partner organization IEC – International Electrotechnical Commission.

CSA Standards Development

Key Elements of Accredited Process at CSA

People 	• Balanced, multi-stakeholder committees of national experts. • Training for chairs and members. • Partnerships in pursuit of common goals.
Process 	• Consensus-based decisions. • Public review ensures transparency and access. • Accredited process ensures credibility.
Product 	• Technical rigor through balanced participation, • Consensus and CSA standards-writing expertise. • CSA or CSA/National Standard of Canada documents systematically maintained/updated.

Committee Hierarchy

Committee Participation

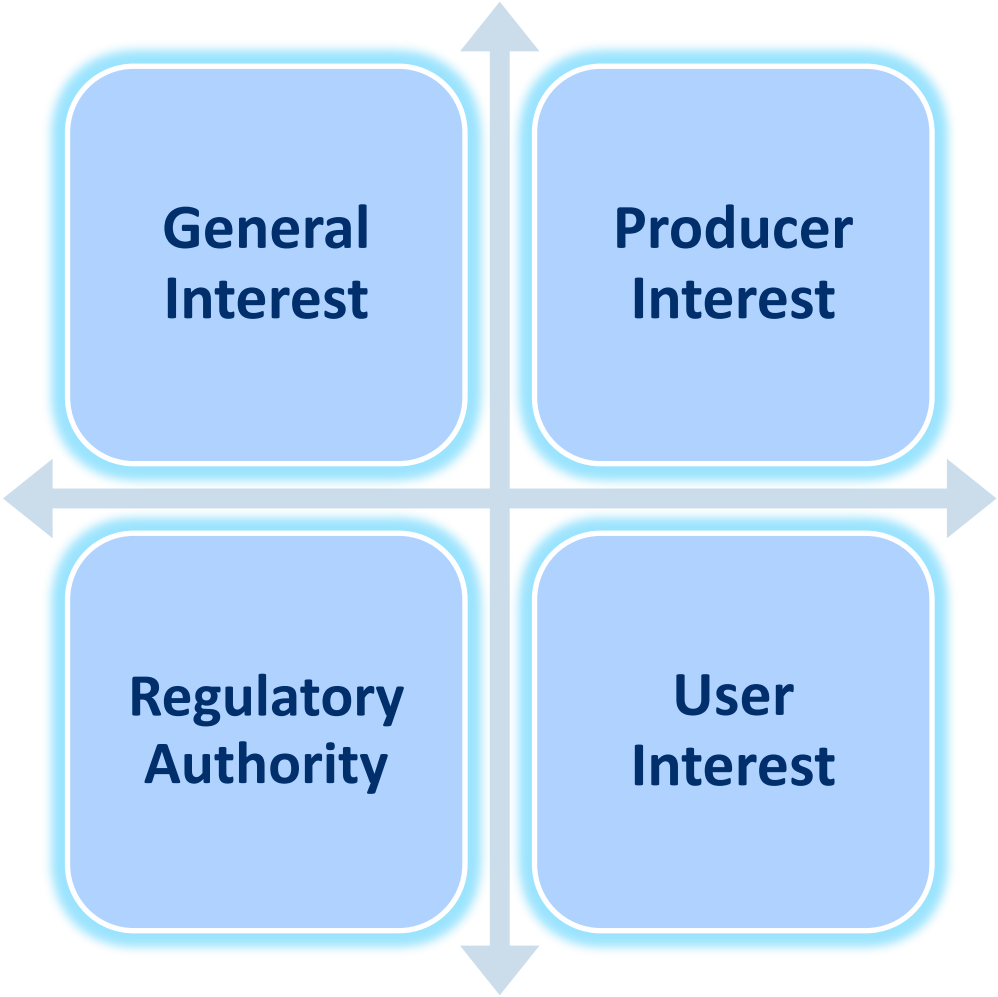
- Any individual who has technical expertise or interest, and is able to actively participate in committee activities shall be eligible for appointment.
- Not restricted to Canadians.
- Relevant stakeholder groups will be represented in the matrix.
- Committee size is determined so that all necessary interests are represented in a balanced fashion, yet effective functioning is possible.

Matrix

- Total membership of the Committee in terms of categories, not affiliations
- Each category expressed with a minimum and maximum
- The intent is to ensure all points of view are represented in reasonable proportion, and that the proportion is maintained
- The largest category cannot outvote the two smallest categories

Committee – Balanced Matrix

- Typical interest categories include:



Standards Development Directives

CSA Directives and Guidelines Governing Standardization

Part 1 – Participants/Organizational Structure
Part 2 – Development Process
Part 3 – Drafting and Presentation

Standards Development Process

REQUEST / EVALUATION / AUTHORIZATION → ASSIGN TO COMMITTEE → NOTICE OF INTENT → MEETINGS / DRAFT → PUBLIC REVIEW

TC REACHES CONSENSUS → PRE-APPROVAL EDIT → TECHNICAL CONTENT APPROVAL → PROCEDURAL APPROVAL

FINAL EDIT / PUBLICATION → DISSEMINATION → MAINTENANCE

New standard, revise existing / new edition, amendment, formal interpretations, withdrawals, reaffirmations

Committee - Definition of Consensus

“*Consensus* - Substantial agreement. .. more than a simple majority, but not necessarily unanimity.”

Benefits of Consensus Standards

- Coordinated, **credible** approach
- Ongoing mechanism to **prioritize** standards needs and initiate work on gaps
- **Open** process (public review, stakeholder engagement) provides a mechanism for managing stakeholder input and encouraging participation and dialogue
- **Sustainable** process – dissemination of documents, regular reviews & ongoing maintenance of documents
- Can be aligned to **Strategic Objectives** of regulatory bodies and partner agencies
- **Responsive** to changing landscape, new technology & harmonization needs
- Can be **recognized** by jurisdictions and other authorities (flexible to accommodate specific provincial, territorial requirements/initiatives)
- Potential for gaining **additional support** from other levels of government, the business community, labour, and other stakeholders

New Deliverables

CSA Group to introduce new deliverables:

- Marketplace requests for faster process
- Non – accredited process
- Maintain multi-stakeholder engagement & openness

3 Types of deliverables

- Workshop Agreement
- Express Document
- Private specification

Training	Personnel Certification	Job Aids
Seminars	Examination	Handbooks
Online Courses	Record Management	Calculators
Customized Training	Recertification	Templates
help *understand and implement* standards	*certify* consistent skill sets	help *apply* standards

CSA OHS Program

CSA OHS Program

170+ CSA OH&S standards:

- 60 active Technical Committees
- over 750 expert volunteers
- Staff Team – 6 Project Managers
- market leader in North America
- harmonization – over 50 adopted/endorsed stds
- Supplementary /Learning Products to help with implementation
- OHS View Access website for standards cited in regulations
- Certification Programs for selected OHS products
- Strategic Partnerships – e.g. CCOHS, WSPS

Subject Areas

OCCUPATIONAL HEALTH & SAFETY

Over 170 standards & over 50% referenced in legislation/regs

Personal Protective Equipment
OHS Management Systems
Machinery and Equipment
Construction Safety
Workplace Electrical Safety

Ergonomics
General Workplace Safety
Mining
Emergency Mgt

New Standards

- **Z1004 -** Workplace ergonomics - A management and implementation standard
- **Z12885 -** Nanotechnologies - Exposure control program for engineered nanomaterials in occupational settings
- **CAN /CSA-Z1003-12/BNQ 9700-803/2012** - Psychological Health and Safety in the Workplace — Prevention, promotion and guidance to staged implementation
- **Z1001** - OHS Training
- **Z463** - Electrical maintenance

Recently Published New Editions

- **Z1600** - Emergency management
- **Z275.5** - Diver training
- **Z460** – Control of hazardous energy – Lockout and other methods
- **Z107.56** - Hearing conservation
- **B51** – Boiler, pressure vessel and pressure piping code
- **B52** – Mechanical refrigeration code
- **ASME A17.1/CSA B44** - Elevator code
- **CSA B44.1/ASME A17.5** - Elevator electrical equipment
- **Z98** – Passenger ropeways
- **Z259.2.2** - Self-retracting devices

New Standards Under Development

- **Z1005** – Incident investigation and prevention *(Under development)*
- **Z1007** – Management of occupational hearing conservation programs *(Coming soon!)*
- **Z16602** – Chemical Protective Clothing *(Coming soon!)*

New Projects

- Ground Search and Rescue Competency Standards
- Special Project on Paramedic Services in Canada

New Editions Under Development

- **Z434** - *Industrial robots and robot systems*
- **Z412** – *Office Ergonomics*
- **B335** – *Lift trucks*
- **B354** – *elevating work platforms*
- **Z1000** – *Occupational Health and Safety Management*
- **PPE** – *Z195 (protective footwear), Z94.1 (headware), Z94.3 (eye and face protection), Z94.4 (respirators), Z96 (high vis apparel)*
- **Z91** – *Suspended Equipment Operations*
- **C225** – *Vehicle mounted aerial devices*
- **Z259 series** – *Fall protection*

Current Projects supported by OHS regulatory agencies

4 main areas of focus:

1. **Elevation Hazards**
- **B167** – Overhead Travelling Cranes
- **B335** – Lift Trucks
- **Z248** – Tower cranes
- **Z797** - Scaffolds

2. **General Health and Safety Management**
- **Z1000 -** Occupational Health and Safety Management Systems
- **Z275.1** - Hyperbaric Facilities
- **Z412** – Office Ergonomics
- **Z1006** – Confined spaces
- **Z275.2** – Diving code

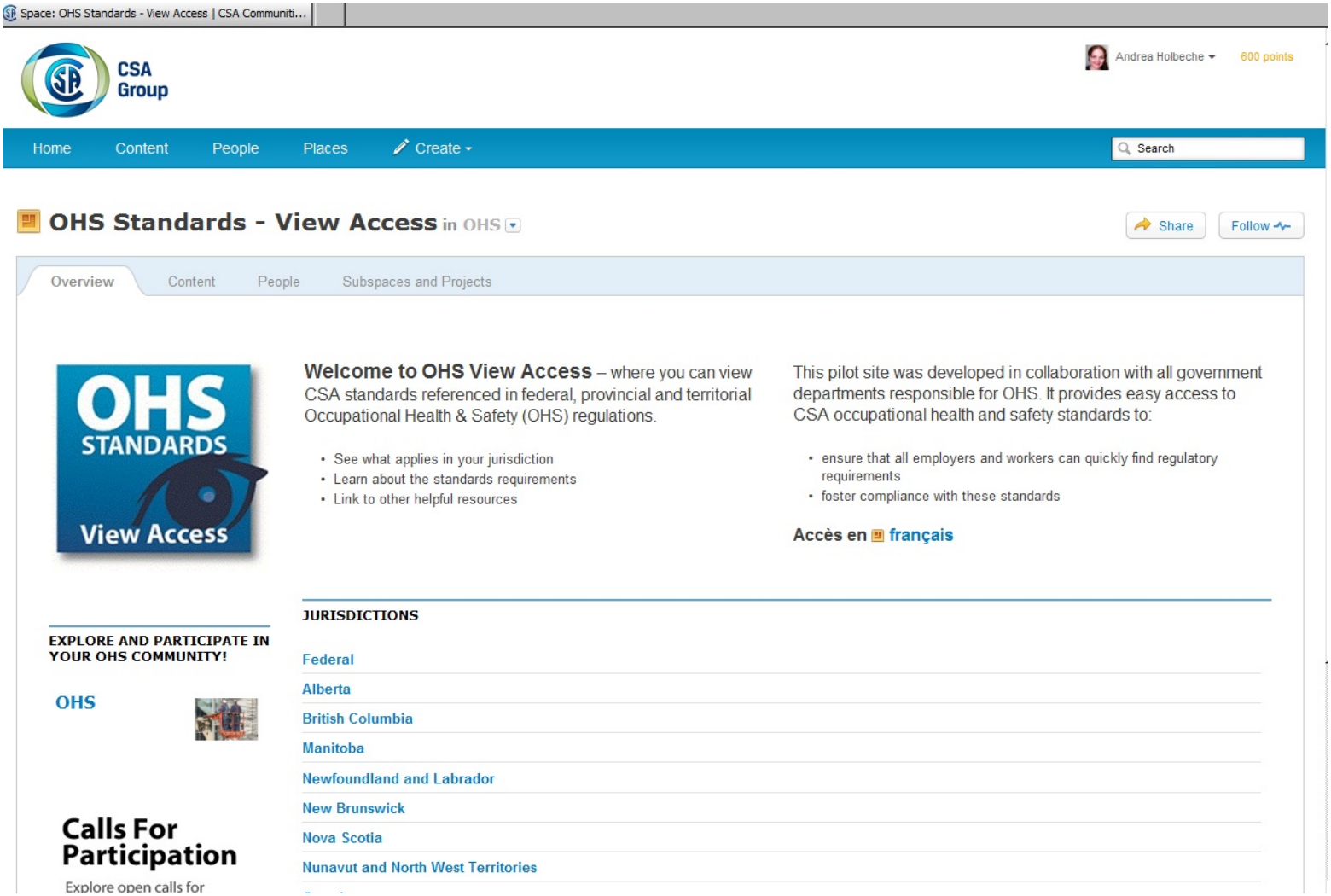
3. **Machine Safety**
- **Z460** – Control of Hazardous Energy – Lockout and other methods
- **Z434** – Industrial Robots and Robot Systems
- **Z432** – Safeguarding
- **Z142** – Power-press operation

4. **Personal Protective Equipment**
- **Z195** – Protective Footwear
- **Z94.1** – Industrial Headwear
- **Z94.3** – Eye and Face Protection

Standards in Regulation - OHS View Access

- Originally launched as pilot in Oct. 2008
- Sponsored by OHS regulatory authorities
- View only access to OHS standards referenced in legislation and current edition of standards
- Sign-up required (no cost)
- Downloadable versions available for purchase
- Migrated to new CSA Communities of Interest Platform with new features including a search function

OHS View Access Solution



OHS View Access Solution

Ontario in OHS Standards - View Access

Share | Follow

Overview | Content | People | Subspaces and Projects

Note: Each Canadian jurisdiction determines for itself which standard or standard's edition will be referenced in its own OHS regulations. The "CSA Standards Referenced in OHS Regulations" table is updated annually so you are encouraged to contact your chosen jurisdiction to confirm that the reference to standards is up to date. Access to the current legislation and contact information can be found at the following:
http://www.labour.gov.on.ca/english/hs/pubs/csa/

OTHER JURISDICTIONS

- Federal
- Alberta
- British Columbia
- Manitoba
- Newfoundland and Labrador
- New Brunswick
- Nova Scotia
- Nunavut and North West Territories

Jurisdiction	Standard	Language	Title	Edition Referenced	Current Edition
Ontario	B137 SERIES-09	English	Thermoplastic pressure piping compendium (Consists of B137.0, B137.1, B137.2, B137.3, B137.3.1, B137.4, B137.4.1, B137.5, B137.6, B137.8, B137.9, B137.10, B137.11 and B137.12)		2009 Buy
Ontario	B137.0-M1981	English	Definitions, General Requirements and Methods of Testing for Thermoplastic Pressure Piping	1981 Buy	
Ontario	B137.0-M86	English	Definitions, General Requirements and Methods of Testing for Thermoplastic Pressure Piping	1986 Buy	
Ontario	B137.3-M1981	English	Rigid Poly (Vinyl Chloride) (PVC) Pipe for Pressure Applications	1981 Buy	
Ontario	B137.3-M86	English	Rigid Poly (Vinyl Chloride) (PVC) Pipe for Pressure Applications	1986 Buy	
Ontario	B167-08	English	Overhead travelling cranes - Design, inspection, testing, maintenance, and safe operation		2008 View | Buy
Ontario	B167-1964	English	General Purpose Electric Overhead Travelling Cranes	1964 View | Buy	
Ontario	B335-04 (R2012)	English	Safety Standard for Lift Trucks		2004 View | Buy
Ontario	B335-94 (R2003)	English	Industrial Lift Truck Operator Training	1994 View | Buy	
Ontario	B352.0-09	English	Roll-over protective structures (ROPS), falling object protective structures (FOPS), operator protective structures (OPS), and tip-over protective structures (TOPS) for mobile machinery - General Canadian		2009 View | Buy

CSA Communities of Interest

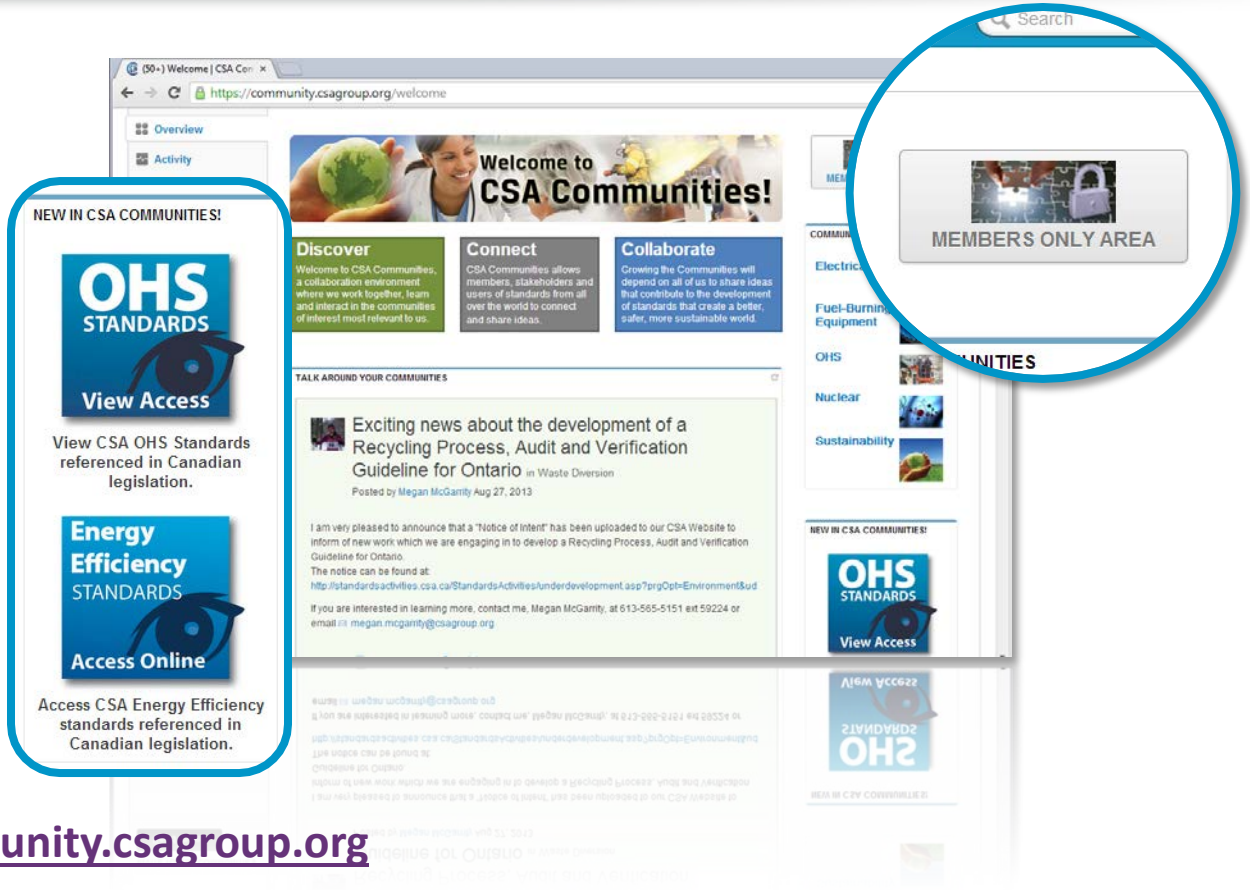
Creating Communities of Interest

Enhance collaboration and communication between CSA staff and members, among members and among users of standards…

Communities of Interest

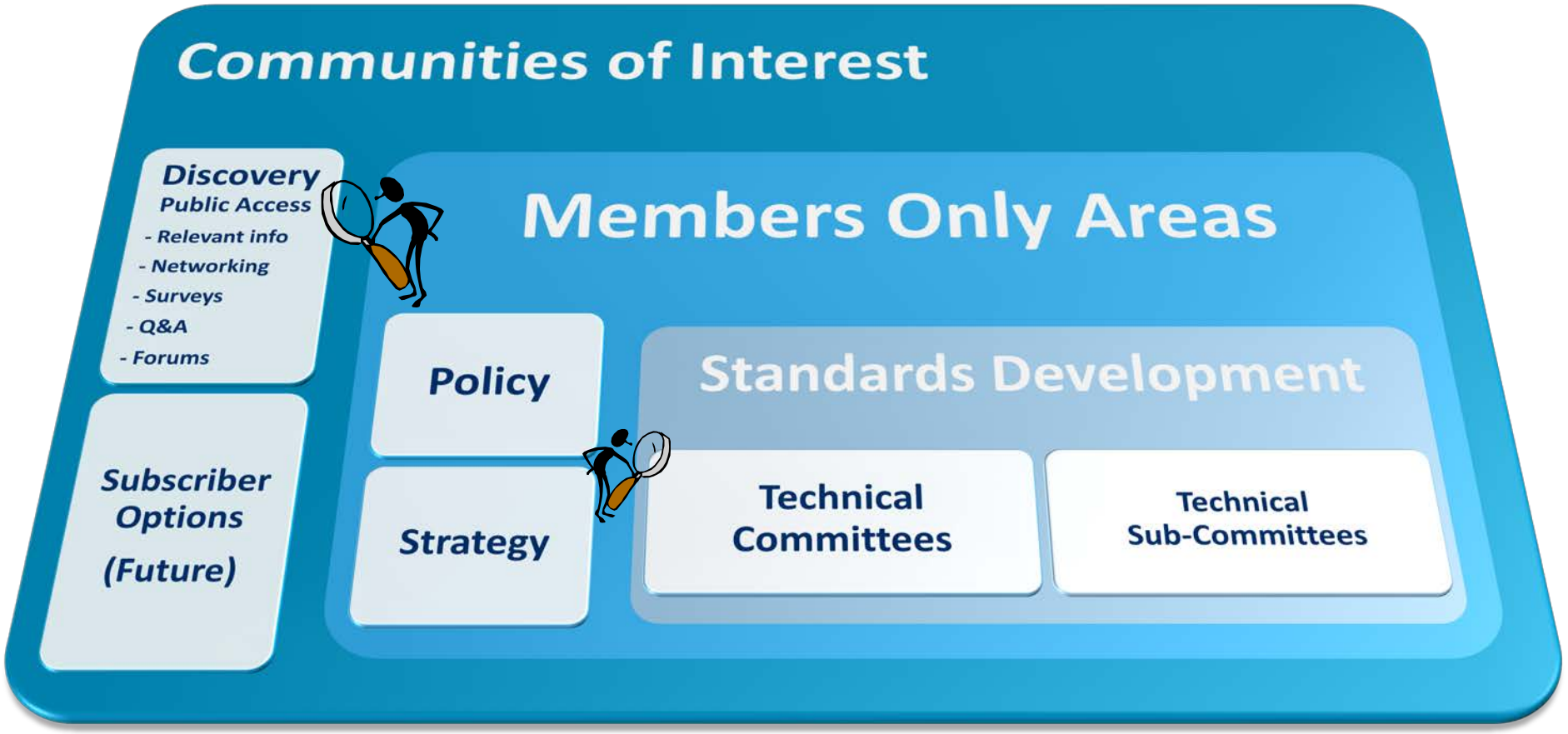
- **Collaborative, virtual ecosystem** supporting member networking and communication (even during periods of committee inactivity) including public & private discussion forums. Share ideas and areas for improvement
- **Personal member dashboard** (customizable views and content – calendars, open ballots, tasks, etc.)
- **Ad-hoc polls and surveys** to crowd-source ideas & new business
- Expanded **access** options – easy on-line access to Standards information and resources

Communities of Interest



- https://community.csagroup.org
- **Total COI registered users: 18,000+** (members, staff, public users)

Perspective on Access & Interaction



Communities of Interest

Links to events

Promote/disseminate research

Solicit ideas for research

Publish white papers

Ad hoc polling and survey tools

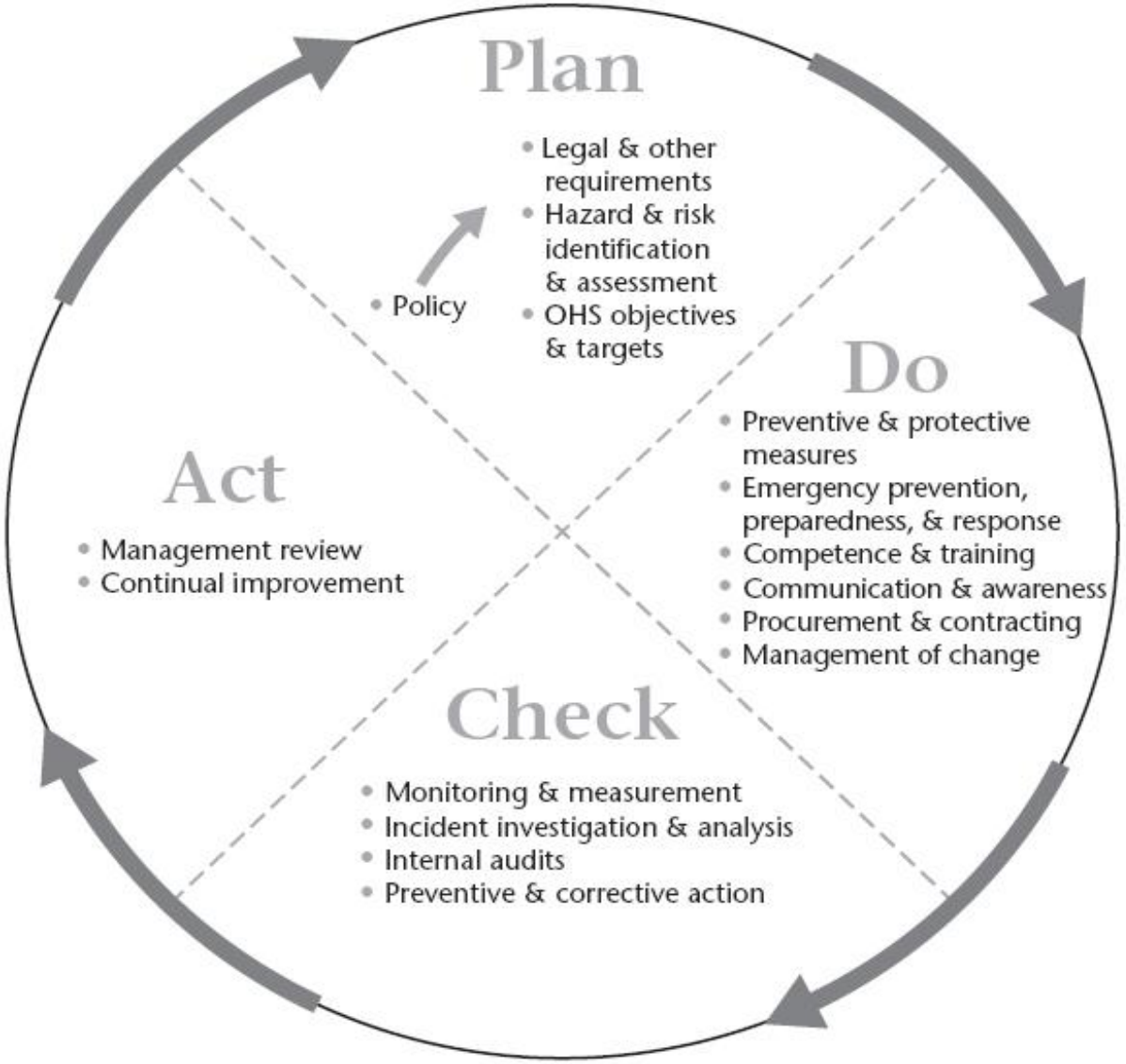
OHS view access

OHS Management System Standards

OHS Management System Standards

- **Z1000** – Occupational health and safety management
- **Z1001** – OHS training
- **Z1002** – OHS hazards and risks
- **Z1003** – Psychological H&S in the workplace
- **Z1004** – General workplace ergonomics
- ***Z1005*** *– Incident investigation and prevention* (Under development)
- **Z1006** – Management of work in confined spaces
- ***Z1007*** *– Management of occupational hearing conservation programs (Coming soon!)*

CSA Z1000 System Model



Z1001 OHS Training

- Specify requirements for managing OHS training, development and delivery of training, and qualification of providers
- Provides guidance for both employers and training providers
- Annexes provide guidance on young workers
- Publication: Spring 2013

Z1002 OHS Hazards and Risks

- Key foundation standard
- Clarifies terminology
- Provides overall framework and processes
- Wide application
- Addresses transfer of risk
- Guidance on how to chose appropriate risk assessment methods
- Requirements for effective risk reduction

Z1003 Psychological H&S in the Workplace

- Commissioned by the Mental Health Commission of Canada
- Support from Government of Canada, Bell Canada and GWL
- Developed in collaboration with BNQ
- Addressing prevention of psychological harm to health of workers and promotion of psychologically healthy workplaces
- Publication: January 2013
- Currently available as a download at no cost for 1st edition

Z1004 - Workplace Ergonomics

- Can help businesses of all sizes and types in the integration of appropriate ergonomic processes and procedures within their occupational health and safety program
- Guidance on how to optimize work system design, contributing to enhanced productivity and worker well-being
- Extensive annex materials

Standards in action

Z412 Office Ergonomics

- Designed to be a user-friendly guidance document
- Practical tools and information
- Currently, new edition is under development
- New edition will be aligned with Z1004 General Workplace Ergonomics but suitable for referencing in regulations and/or policy directives

Z275 Diving Standards

- Suite of National Standards covering diving competency, training & high risk environments:
  - Z275.2-11 - Occupational safety code for diving operations
  - Z275.3-09 - Occupational safety code for work in compressed air environments
  - Z275.4-12 - Competency standard for diving, hyperbaric chamber, & remotely operated vehicle operations
  - Z275.5-05 (R2012) - Occupational Diver Training
  - Z275.6-11 - Unexploded explosive ordnance (UXO) and munitions diving
- Referenced in provincial regulations. Comprehensive, sustainable & national solution
- Basis of certification through Canadian Diver Certification Board ; foundation for training courses through Colleges and Training Providers across the country
- Challenges : funding & reliance on group of dedicated volunteers

Z151 Truck mounted concrete pumps

- Project was initiated at the request of WorkSafeBC
- Supported by regulatory advisory council
- Prepared in response to an increased number of incidents, resulting from equipment failures and power line contacts, involving truck-mounted concrete pumps.
- Intended to facilitate a consistent level of safety for those who work in and around concrete pumps.

Summary

- Standards are **voluntary,** unless adopted or referenced in legislation
- **Accredited** - CSA is an accredited SDO, and uses a consensus-based process
- **Sustainable** process – dissemination of documents, regular review, ongoing maintenance
- **Responsive** – prioritizes standards needs/gaps; respond to new technology, and harmonization needs. New standards/editions developed based on input from variety of stakeholders (research, regulatory, user, etc)
- **Adaptable** – can be aligned to strategic objectives of regulatory bodies and partner agencies; flexible to accommodate specific provincial, territorial requirements/initiatives.

Thank you

For more information please contact:

Andrea Holbeche, MSc, P. Eng
Project Manager, CSA Standards (OHS)
andrea.holbeche@csagroup.org
416-747-2332