CSA Group Overview

Ontario Energy Board
Energy East Stakeholder Forum

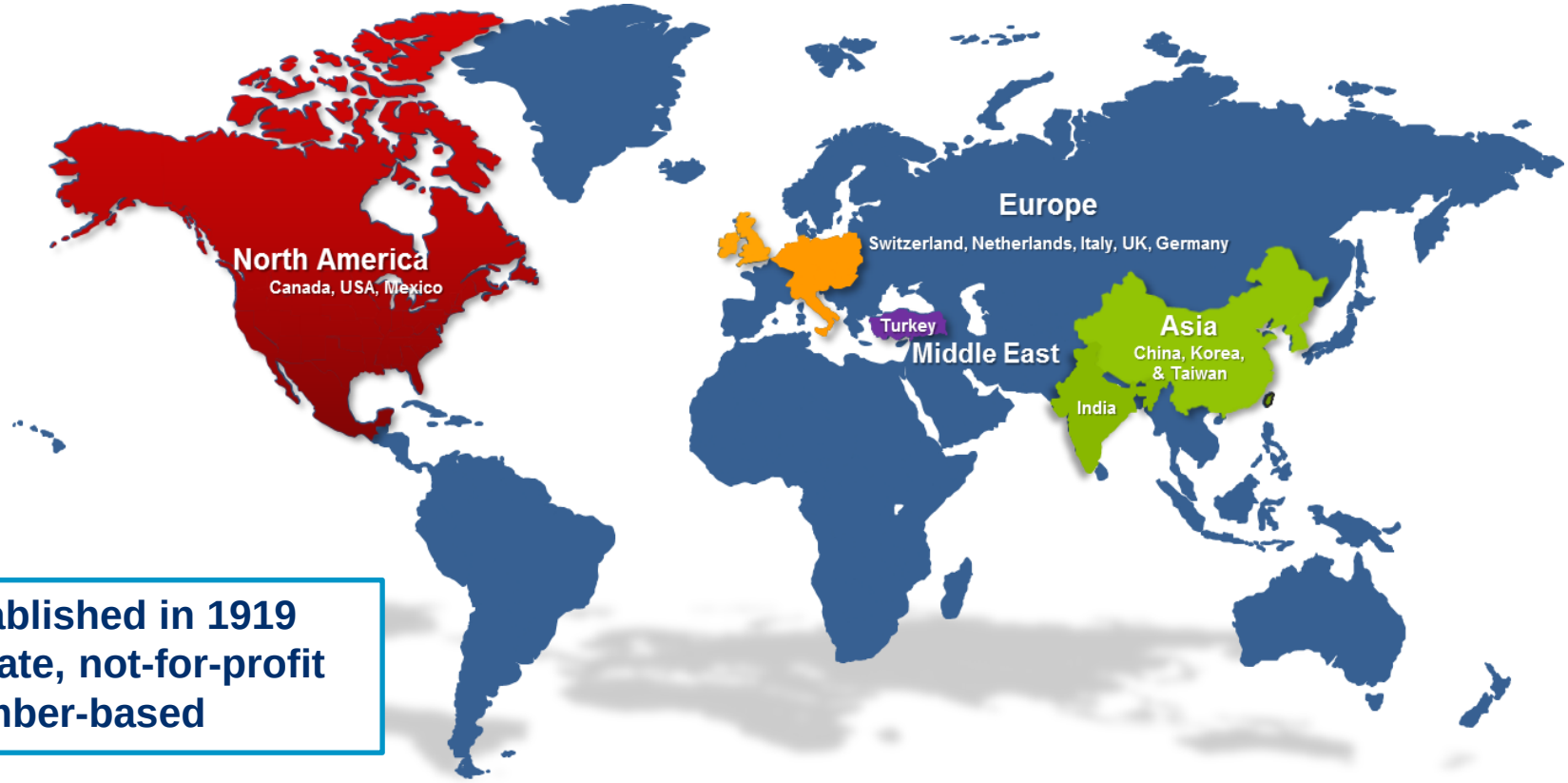
January 29 & 30, 2015
Ottawa, Ontario

CSA Group

Agenda

- Who is CSA Group?
- What is the value of standardization?
- How is a standard developed, and by whom?
- How can the public get involved?
- When does a standard become enforceable?
- Which CSA standards are related to oil & gas pipeline safety, and who uses them?

Overview of CSA Group



- Established in 1919
- Private, not-for-profit
- Member-based

Consumer Product Evaluation

Standards

Product Certification & Testing

CSA Standards

Energy

Electrical Distribution

Health & Safety

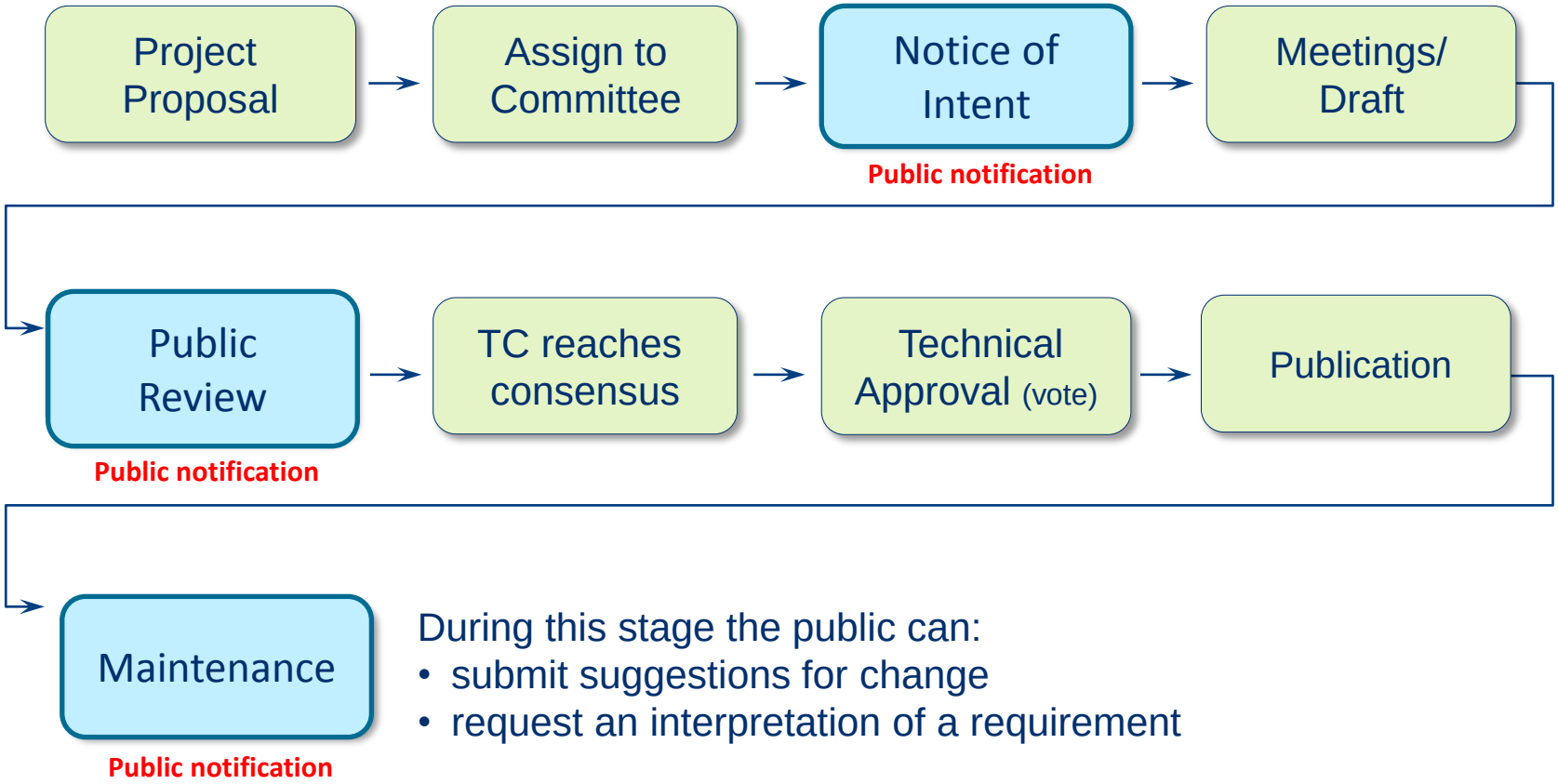
Sustainability

- Accredited in Canada and U.S.
- Partner with industry, regulators, government, academia and consumers
- Members volunteer their time and develop standards
- Reputation as honest broker (e.g. accredited process, consensus approach)
- Experience with sensitive topics (e.g. Privacy, Nuclear Safety, Mental Health)
- Major role in emerging technologies (e.g. Electric Vehicles, Nanotechnology)
- Offer training, education and certification to over 6,000 people per year

Standards Development Methodology

- CSA members develop standards content; staff facilitates the accredited development process
- Decisions are made by consensus and balanced stakeholder representation
- Committee members are selected to represent various interest groups most likely to be affected by the standard

Standards Development Process



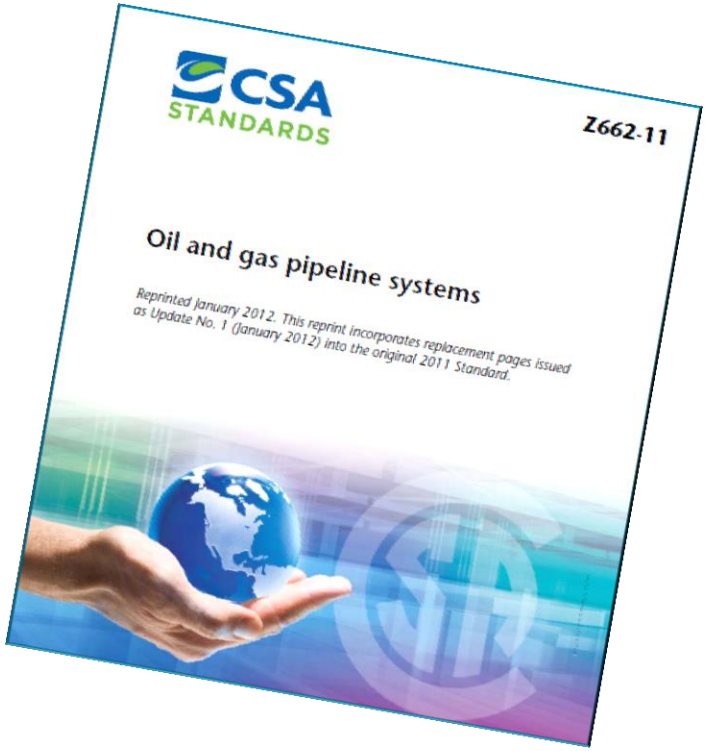
During this stage the public can:

- submit suggestions for change
- request an interpretation of a requirement

Petroleum & Natural Gas Program

Pipeline Standards in Canada

- Canada operates some of the safest pipelines in the world because pipelines need to meet rigorous technical standards
- CSA standards are continually reviewed and updated to incorporate technological advancements and best practices
- Z662 contains 500+ pages of prescriptive and performance-based technical requirements
- Z662 takes a lifecycle approach; it covers the design, construction, operation and maintenance of pipelines, along with requirements for safety management systems



Z662 Technical Committee (TC)

- Over 250 expert volunteer committee members
- Membership includes a balanced matrix:
  - suppliers
  - fabricators
  - transmission users
  - distribution users, general interest groups
  - regulators at the federal and provincial levels

- There are 10 Technical Subcommittees (TSCs) with various working groups under each of these TSCs
- TC and TSC representatives participate internationally at ISO TC67/SC2

Regulation & Compliance

- In Canada, federal and provincial pipeline regulations incorporate the Z662 Standard by reference, thus giving it the force of law
- Z662 is referenced by oil and gas pipeline and facility regulators, including:
  - National Energy Board (for pipelines crossing provincial or international borders), and
  - Ontario, British Columbia, Alberta, Saskatchewan, Manitoba, Quebec, New Brunswick and Nova Scotia

Regulation & Compliance

- The timing of regulatory adoption following publication varies between regulators
  - NEB adopts Z662 upon publication, as do several provincial regulators. Other jurisdictions adopt after further review.
- Regulators may choose to reference Z662 as published or with modifications through regulations, such as:
  - In Ontario, TSSA adopts Z662 by reference, with amendments (e.g. additional clause on emergency communication meetings)
  - Alberta and Saskatchewan require that the recommended leak detection requirements contained in Annex E of CSA Z662 are mandatory for liquid hydrocarbon pipelines

Pipeline Integrity Management – Z662

- CSA Z662 makes it ***mandatory*** for operator companies to have a Pipeline Integrity Management program
  - Ensures integrity management is considered from a complete life cycle perspective
- Engineering assessments are required
- Conditions to be considered include:
  - Mechanical damage
  - Corrosion
  - Stress corrosion cracking
  - Coating damage

Security & Emergency Management

- Two key standards in CSA's portfolio cover security & emergency management for Canada's oil and gas industry:
  - Z246.1-13, *Security management for petroleum & natural gas industry systems*
  - Z246.2-14, *Emergency preparedness and response for petroleum & natural gas industry systems*

- The new Z246.2 helps organizations develop an emergency preparedness and response program to:
  - ✓ provide greater safety for workers
  - ✓ establish best practices that are consistent across Canada
  - ✓ help protect people, property and the environment

Coatings

- Published the first CSA standard on coatings for steel pipe in 1986, and currently develop and publish a series of standards on *plant-applied* external coatings for steel pipe (Z245.20)
- In 2014, published a new standard on *field-applied* coatings
- Z245.30 was developed in response to industry needs to address the quality of anti-corrosion coatings applied in the field during pipeline construction and operations

- ✓ Provides guidance to minimize integrity-loss for pipeline systems
- ✓ Includes requirements for coatings for girth welds, valves and flanges
- ✓ Covers the repair of damaged plant-applied coatings in the field

Pipeline Human Factors

- Feedback from industry identified an immediate need for a document to provide guidance on human factors for the pipeline industry
- Work will commence this month, publication by Fall 2015

- The document will provide an overview of the tools and techniques for human factors assessment and mitigation along the lifecycle of a pipeline, and help establish benchmarks for human error
  - e.g. human-machine interface, SCADA automation systems in pipelines

Damage Prevention – CSA Z247

- New CSA standard Z247, *Damage prevention for the protection of underground energy and utility networks,* will establish best practices around damage prevention
- Scheduled to publish in May 2015
- Offers standardized language and process to locate and mark underground infrastructure
- Scope includes excavation and backfilling, documentation, auditing, training and competency

Join the Conversation!

https://community.csagroup.org

Thank You!

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