A changing landscape: the pipeline industry in Canada

Coral Lukaniuk, P.Eng.
Director, CEPA Integrity First®

October 18, 2016
Canadian Energy Pipeline Association (CEPA) overview
CEPA members

Access Pipeline Inc.
Alliance Pipeline Ltd.
ATCO Pipelines
Enbridge Pipelines Inc.
Inter Pipeline Ltd.
Kinder Morgan Canada
Pembina Pipeline Corporation
Plains Midstream Canada
Spectra Energy
TransCanada PipeLines Limited
TransGas Limited
Trans-Northern Pipelines Inc.

aboutpipelines.com
Transmission pipelines

Canadian Crude Oil Facts
- Production: 3.9 million barrels/day
- Exports: 3.0 million barrels/day
- Value of Exports: $56.8 billion
2015 data

Canadian Natural Gas Facts
- Production: 15 billion cubic feet/day
- Exports: 7.8 billion cubic feet/day
- Value of Exports: $9.8 billion
2015 data

Liquids pipelines

Natural Gas Pipelines

Map showing transmission pipelines in Canada.
Pipeline industry vitals

- Over 60 years in Canada
- Highly regulated industry
- Transports 97% of the natural gas and onshore crude oil produced in Canada
- ~130,000 km
- ~130,000 kilometres of pipeline in Canada and the U.S.
- Safe and environmentally sound

aboutpipelines.com
TRANSMISSION PIPELINES IN CANADA TRANSPORT 3.3 MILLION BARRELS OF OIL PER DAY

Pipelines — energy highways
Pipelines are critical infrastructure
Full support - Policy Statement

We the members of CEPA are dedicated to continuing the development of a safe, socially and environmentally sustainable energy pipeline industry for all Canadians.

We commit ourselves to advancing a safety culture aimed at protecting the health and safety of our communities, our workplaces and the environment everywhere we operate.

- Signed by the CEPA Board of Directors, 2014
## What is CEPA Integrity First?

CEPA Integrity First® is an industry-led program established by the Canadian Energy Pipeline Association (CEPA) to continuously improve in the areas of safety, environment and socio-economics.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Mission</th>
</tr>
</thead>
<tbody>
<tr>
<td>To improve Canadians' trust and confidence in the pipeline industry</td>
<td>To continuously improve industry safety and performance</td>
</tr>
</tbody>
</table>
CEPA VISION:
A safe, socially and environmentally sustainable energy pipeline industry for Canadians

CEPA INTEGRITY FIRST PURPOSE:
To improve Canadians' trust and confidence in the pipeline industry

Goals

1. Adoption
2. Improvement
3. Credibility

Safety
Environment
Socio-economic

aboutpipelines.com
Principles and priorities

**Priorities**

- Emergency management
- Pipeline integrity
- Control room management
- Worker safety
- Damage prevention
- Pipeline safety communications

**Priorities**

- Land management
- Air emissions
- Water protection
- Wildlife protection
- Noise mitigation

**Priorities**

- Land use and access
- Economic benefits
- Aboriginal relations
- Workforce management

Ensuring safe communities and workplaces

Minimizing the impact on the environment and biodiversity throughout every phase of pipeline operations

Creating lasting social and economic benefits to communities, regions and countries where we operate

aboutpipelines.com
Building credibility

Our commitment to Canadians is to reach zero incidents in the transmission pipeline industry. It’s about taking our practices beyond regulation and focusing on continuously improving our operations to build the public’s trust and confidence in our ability to transport oil and gas products safely.

1. DEVELOPING THE PROGRAM

2. BUILDING FAMILIARITY

3. FOSTERING CONFIDENCE

4. IMPROVING CONTINUOUSLY

5. DEMONSTRATING ADVANCEMENTS

BUILDING CREDIBILITY IS ABOUT:

- Telling the truth
- Responding to questions and concerns in a timely manner
- Listening to concerns and addressing them
- Providing relevant, transparent information about operations
- Openly sharing our strengths and areas for improvement
Integrity First Cycle

1. Integrity First priority identification
2. Guidance document design and development
3. Self-assessment
4. Third party verification
5. Action planning for continuous improvement
6. Reporting
Integration
Approach

- Iterative process
- Review and analysis
- Engagement at various stages
Integrity First Categories

- Context of Organization
- Leadership
- Planning
- Support
- Operations
  - Key focus areas
- Performance Evaluation
- Improvement

Sustainable foundation

CEPA integrity first®

aboutpipelines.com
Alignment

Act
Improvement

Plan
Context of Organization
Leadership Planning

Check
Performance Evaluation

Do
Support Operations

CEPA integrity first®

aboutpipelines.com
Integration: Integrity First Mapping

The maturity themes for the categories have been mapped to various regulations/standards.

<table>
<thead>
<tr>
<th>Categories</th>
<th>OPR</th>
<th>CSA Z662-15</th>
<th>ISO 9001</th>
<th>ISO 14001</th>
<th>OHSAS 18001</th>
<th>API 1173*</th>
<th>OSHA 1910.119</th>
<th>AB-512</th>
<th>Maturity Theme(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Improvement</td>
<td>6.1, 6.5(1)</td>
<td>3.1.2(h), A.10</td>
<td>10.1, 10.3</td>
<td>10.1, 10.3</td>
<td>4.5.3.2</td>
<td>11.2</td>
<td></td>
<td>4.21</td>
<td>The degree to which management systems are leveraged to drive cultural change</td>
</tr>
<tr>
<td></td>
<td>(w), (x),</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(u), 6.6(1)(b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*49 CFR Part 192 and 49 CFR Part 195 were also reviewed but they are limited in scope and application.
Alignment Example #1: OPR

<table>
<thead>
<tr>
<th>CEPA Integrity First</th>
<th>OPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 5. Operations</td>
<td>6.5(1)(i)</td>
</tr>
<tr>
<td>Maturity Theme 5A</td>
<td>Management System Processes**</td>
</tr>
</tbody>
</table>

"The maturity of the application and evaluation of the management of change process occurs at increasingly broader organizational levels."

"The company shall have an established, implemented and effective process for identifying and managing any change that could affect safety, security or protection of the environment, including any new hazard or risk, any change in...." **

### Alignment Example #2: CSA Z662

<table>
<thead>
<tr>
<th>CEPA Integrity First</th>
<th>CSA Z662</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 4. Support</td>
<td>3.1.2(C)(iii)</td>
</tr>
<tr>
<td>Maturity Theme 4D</td>
<td>Safety and loss management systems**</td>
</tr>
<tr>
<td>&quot;The maturity of processes associated with the contractor selection.”</td>
<td>&quot;a process for the management of resources, including: contractor selection and performance monitoring that ensures services are performed in a manner that conforms to the requirements of the safety and loss management system” **</td>
</tr>
</tbody>
</table>

** Excerpt from: CSA Z662-15 Oil and gas pipeline systems (Last amended on June, 2015), p. 81
Involvement considerations

Considerations:
- Program maturity
- Management system maturity
- Organizational structure
Implementation
Integrity First Cycle

1. Integrity First priority identification
2. Guidance document design and development
3. Self-assessment
4. Third party verification
5. Action planning for continuous improvement
6. Reporting

Change Management & Communications
Coaching

aboutpipelines.com
Guidance documents

Based on the priorities identified, subject matter experts from CEPA member companies develop guidance documents for each area.
Terms and Glossary

Guidance → Maturity Theme(s)
Outlines what is required to progress through the maturity scale

Integrity First Category
Category Identifier
Criteria

CEPA integrity first®
aboutpipelines.com
Maturity levels

4 Foundation
3 Continually Improving
2 Proactive
1 Leading
Self-assessment leads to action

- Member companies taking initiative to continuously improve

- Industry continuously improving through CEPA workgroups and networks
  - Potential improvement areas
  - Opportunities to share leading practices

- CEPA Integrity First continuously improving
Third Party Verification

• Verification will take place after the 2nd self-assessment and thereafter
• Verifier(s) will independently:
  ◦ Evaluate a member company’s self-assessment results/process for a given priority area(s)
  ◦ Assess the broader adoption of the Integrity First program
Continuous improvement

• CEPA reviews the results with the self-assessment leads to prioritize where to share leading practices and where industry can collaborate to address potential improvement areas; action plan is finalized and approved by the working group or knowledge network

• The identified areas for improvement are provided to CEPA’s Safety and Engineering team to support the work group or knowledge network during its improvement cycle

aboutpipelines.com
Reporting overview

• **Self-assessment**
  ◦ A detailed report will be distributed to the company self-assessment (SA) leads approx. six weeks after the results are submitted; summary report distributed to leadership

• **Verification**
  ◦ Third party verifier(s) provides a verification report to the member company; member company submits a summary/verification statement of those results to CEPA for continuous improvement and consolidation for public reporting

• **External reporting**
  ◦ CEPA will continue to share balanced information on Integrity First in various formats including the CEPA Performance Report
  ◦ Each member company will determine what is appropriate for its own reports
Dispel the myths

Integrity First is a pipeline integrity improvement program.

Integrity First is another management system.

Integrity First focuses on improvement in numerous priority areas including pipeline integrity.

Member companies use management system(s) and Integrity First has been designed to integrate with numerous systems allowing for company and industry improvement.
Integrated for excellence
What our members are saying

Integrity First

“enables sharing of lessons learned/pitfalls to avoid”

“facilitates industry collaboration”

“helps to increase regulator and public confidence”

“provides a consistent approach”

“enables forward planning and documentation”

“allows focus on meaningful priorities”

From a self-assessment workshop attendee.
Timeline

2010
- High Profile Incidents
- Media spotlight on Industry
- Marshall, MI
- Sun Bruno, CA

2012
- CEPA Formally Launches Integrity First
- Principles and priorities developed

2014
- CEPA Members Commit to Integrity First
- External Advisory Panel established
- Self-assessment initiated

2016
- Implementation and Integration
- Integrity First becomes a condition of CEPA membership (2015)
- Long-term implementation formalized
- Third-party verification introduced

2020 and Beyond
- Goals: Adoption Improvement Credibility
Acknowledgements

- Integrity First Steering Committee – provide the strategic direction
- Integrity First Champions – are change agents to embed Integrity First within their companies
- Management Systems Knowledge Network – experts come together with variable experience in management systems
- External Advisory Panel – external critics
Speaker contact information

Coral Lukaniuk
Director, CEPA Integrity First®

Canadian Energy Pipeline Association
Phone: 587.293.2970
Email: clukaniuk@CEPA.com