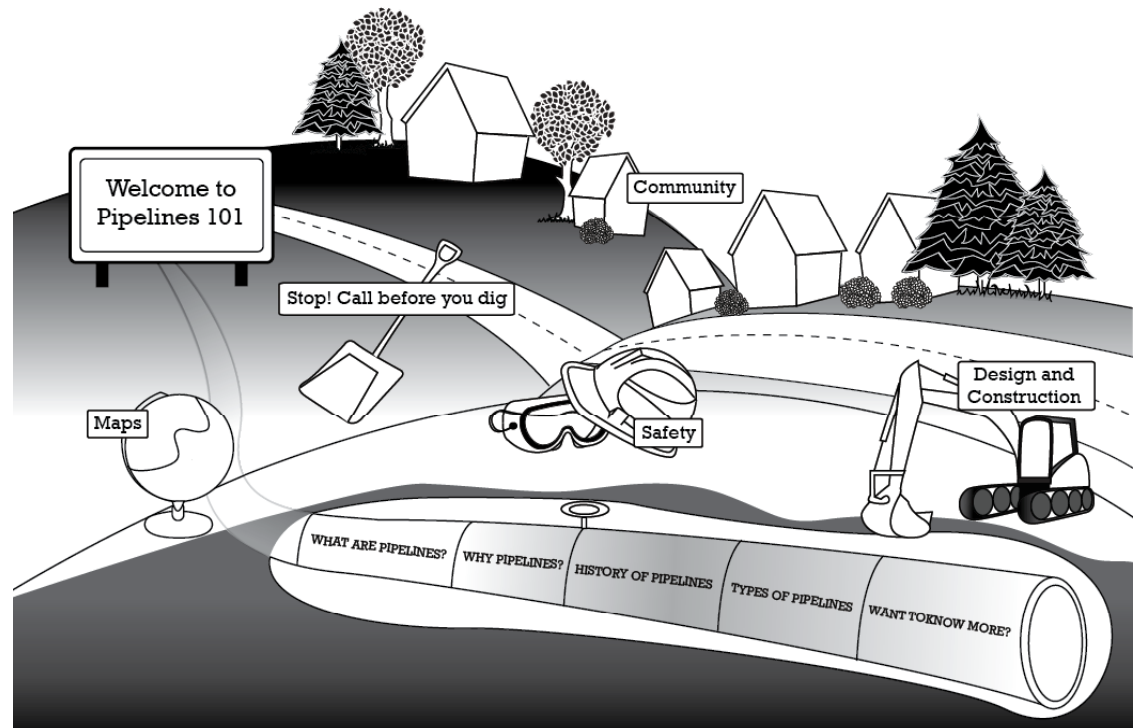


Achieving World Class Performance Through Improved Practices

March 25, 2013

Outline

- ◆ About our Industry
- ◆ Safe Pipeline Operations
- ◆ Current Industry Practices
- ◆ Industry Case Study
- ◆ Improving Practices



About our industry

- ◆ Transport 97% of the natural gas and onshore crude oil produced in Canada
- ◆ Operate 110,000 kilometres of pipeline in Canada
- ◆ Pipelines are the safest and most environmentally sound way to transport large volumes of oil and gas over land
- ◆ Federally and provincially regulated for conditions of service, safety and pipeline integrity.

CEPA has served the Canadian pipeline industry for twenty years with a primary focus on safety and operational excellence driven by the collaborative efforts of its members

CEPA members are committed to a goal of zero incidents affecting health, safety or the Environment

Member Operations in British Columbia

- ◆ Collectively operate approximately 8,300 kilometres of transmission pipeline in BC
 - Natural Gas: 6,000 km
 - Liquids: 2,600 km
- ◆ Have decades of operational experience
- ◆ Propose to invest more than 20 billion dollars in pipeline projects in BC

In 2011 collectively:

- ◆ Paid \$156.4 million in property taxes and \$38.3 million in corporate taxes
- ◆ Invested \$248 million in capital projects
- ◆ Spent more than \$30 million obtaining personnel, services, supplies and equipment from local sources

B.C. Liquids pipelines

legend
— CEPA member pipelines
..... proposed pipelines
— non-member pipelines
☞ sedimentary basin

Kinder Morgan

Pembina

CEPA provides this map “as is” for information purposes only and does not make any guarantee or warranties concerning the accuracy or completeness of the information contained in the map

B.C. Natural Gas pipelines

Spectra Energy

TransCanada

FortisBC

legend
— CEPA member pipelines
..... proposed pipelines
— non-member pipelines
★ proposed LNG Terminal
sedimentary basin

CEPA provides this map "as is" for information purposes only and does not make any guarantee or warranties concerning the accuracy or completeness of the information contained in the map



Safe Pipeline Operations

7

Oil & Refined Products

1,511,112,428,000 L

- 8,322,000 L

1,511,104,106,000 L

Natural Gas

1,775,500,000,000 M³

- 28,908,000 M³

1,775,471,092,000 M³



99.99945%



99.99837%



Transported



Spilled/Released



Transported safely

L = Litres

M³ = Cubic Metres

Source: CEPA member data

Prevention

- ◆ Good construction practices
- ◆ Effective condition monitoring and right-of-way monitoring
- ◆ Preventative maintenance
- ◆ Third-Party Damage Prevention





Current Industry Practices

10

Excellent Track Record

- ◆ Over 60 years of safe operation in Canada
- ◆ Support the polluter-pay principle
- ◆ Maintain in-house expertise, equipment and financial capacity to respond to pipeline incidents
- ◆ Culture of continuous improvement
- ◆ Transmission pipeline operators take responsibility for releases from their assets (regardless of culpability)
- ◆ Ensure proper clean up and remediation
- ◆ Regulatory monitoring and reporting post incident ensures completion

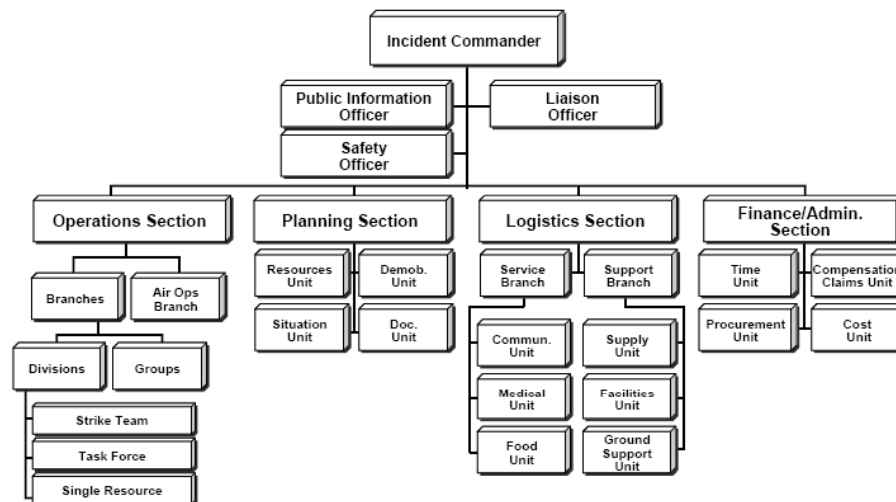
Spill Response Planning and Training

- ◆ Emergency response plans and procedures audited by regulators
- ◆ Equipment stored at key locations along the ROW
- ◆ Table-top and field exercises held to ensure readiness and training
- ◆ Including external first responders, regulators, and other government



Incident Command System (ICS)

- ◆ Ensures effective communication between all stakeholders
- ◆ Improves efficient use of critical resources
- ◆ In British Columbia, the BC Emergency Response Management System (BCERMS) has already been developed to ensure ties between industry, regulators, and other government agencies



Co-operation - WCSS



- ◆ “WESTERN CANADIAN SPILL SERVICES LTD. (WCSS) embodies the petroleum industry's commitment to spill preparedness and environmental protection.”
- ◆ Companies in each Co-op area support planning, training, equipment readiness, and R&D to improve spill response capability
- ◆ Already operating in north-eastern BC
 - Possible expansion into the rest of BC?

14



Case Study

Incident Example
2007 Westridge Incident

15

Overview

- ◆ July 24, 2007 at Inlet Drive, Burnaby
- ◆ Crude oil loading line between Burnaby Terminal and Westridge dock
- ◆ Line punctured in multiple locations by an excavating contractor installing a sewer line
- ◆ Approximately 1700 barrels released to the environment
- ◆ Worst spill on Trans Mountain in the last 50 years

Response and Remediation

- ◆ ICS structure was implemented immediately following the line strike
- ◆ Unified command structure included Kinder Morgan, BCMOE, NEB
- ◆ ICS in place for approximately 2 week, then moved into remediation project phase
- ◆ Response and remediation was complicated by the fact that a portion of the oil migrated to Burrard Inlet via the storm sewer system
- ◆ Kinder Morgan accepted full responsibility for response and clean-up and deployed resources immediately
- ◆ Kinder Morgan paid for all cleanup and remediation costs
- ◆ Clean-up and remediation was done to the complete satisfaction of residents, the city, and the regulators

Clean-up Pictures



Clean-up Pictures



Lessons Learned

- ◆ Kinder Morgan has implemented a dedicated Pipeline Protection department
 - Instituted more rigorous requirements for parties working near our lines
- ◆ Stricter enforcement of damage prevention regulations is required
- ◆ ICS is an effective tool to manage major incident response, cleanup and remediation
- ◆ Pipeline companies have effective management systems for response, clean-up, and remediation
- ◆ Need to continue to improve early leak detection and improve methods for clean-up and remediation



Improving Practices

21

Leak Detection

- ◆ Leak detection and control room management are priorities for CEPA companies
- ◆ Improved technologies for ground and aerial detection being tested
- ◆ In-line leak detection tools being evaluated
 - ILI is a focus of significant R&D effort



National Standards

- ◆ Ensure consistent, auditable level of preparedness and response capability
- ◆ Canadian Standards Association (CSA) is a leader in national technical standards
- ◆ CEPA supports CSA Z246.2 – a National Emergency Response Standard that is currently in development

Net Environmental Benefit Analysis Approach (NEBA)

- ◆ Consideration of the environment and the public for different remediation and restoration activities to minimize impacts
- ◆ Actions typically considered alone or in combination:
 - Leaving the spilled product in place
 - Physical or chemical site remediation
 - Improving ecological value through on- or off-site methods that do not focus exclusively on product recovery
- ◆ Similar goals as a Natural Resources Damage Assessment but a NEBA is initiated earlier in the process to include consideration of recovery operations
- ◆ Simplified Example: Cleaning contaminated shoreline
 - High-pressure, hot water with cleaning chemicals
 - Lower-pressure, warm water with no chemicals

Effective Government Oversight

- ◆ Required expertise
- ◆ Single-point of contact or lead agency
- ◆ Harmonization between regulators
- ◆ Minimize duplication of effort
- ◆ Ability to be a coordinator across multiple industries

Concluding Remarks

◆ CEPA members:

- Have excellent safety performance exceeding 99.9%
- Take responsibility for spill response and remediation
- Ensure the right training and equipment are in place
- Support continuous improvement of spill response and remediation
- Participate in Spill co-operatives to augment internal capabilities

For more information please contact:

The Canadian Energy Pipeline Association

(403) 221-8777

aboutpipelines.com