



Pipeline Safety



Photo courtesy of Alliance Pipeline

The transmission pipeline industry in Canada has a world-class safety record, and we are proud of our many accomplishments that have earned us this reputation.

The industry's safety record is a demonstration of our members' steadfast commitment to operating their pipeline systems in a way that safeguards workers, the public and the environment. Safety is our industry's highest priority, and will always lie at the core of everything we do.



Photo courtesy of Alliance Pipeline

As an industry we take our responsibility for safety seriously. We are proud of our many accomplishments, however, we understand improvements can always be made. We are committed to continuous improvement, and will focus our efforts in the following areas:

- Collaborate beyond our own industry with all key stakeholders in the proactive development of effective regulations, laws and standards to improve pipeline safety.
- Advance a one-call system to reduce unintended damage and risk to public safety.
- Promote the development of new solutions and operational technologies.
- Increase and share knowledge to ensure pipeline operators have continued access to best practices as those practices improve over time.
- Communicate openly and honestly with the public about pipeline safety and our industry practices and performance.



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CANADIAN ENERGY PIPELINE ASSOCIATION





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Energy is fundamental to our personal and economic well-being

- Canadians rely on natural gas and products made from crude oil to meet more than two-thirds of their energy needs each and everyday.
- 94% of all Canadian transportation energy comes from petroleum products.
- Natural gas meets more than half of our residential energy needs and almost half of the energy needed to run our industries.
- The value of Canadian exports of crude oil and natural gas was almost \$60 billion in 2009.

Pipelines - safe and efficient energy highways

- The oil and natural gas transmission pipeline system (the energy highways) in Canada extends more than 100,000 kilometres, which is enough to circle the earth about two and a half times.
- These energy highways move approximately 1.2 billion barrels of liquids products (crude oil and refined petroleum products) and 5.5 trillion cubic feet of natural gas each year.
- Transmission pipelines in Canada transport approximately 3 million barrels of crude oil to markets across North America everyday.
- Pipelines are the only feasible and safest means of transporting large volumes of crude oil and natural gas over land.
- To move this volume of crude oil by road or rail would require an additional 15,000 tanker truck loads or 1,500 rail cars each day.
- Large scale transportation of natural gas by tanker truck or rail is not feasible.
- Underground pipelines are inherently safer than other modes of transportation.
- Crude oil pipeline transportation has a lower input energy requirement and smaller carbon footprint than other transportation modes.

Our pipelines have a world-class safety record

- Good safety and environmental performance go hand-in-hand.
- CEPA member companies have built an outstanding pipeline system to transport energy to markets throughout North America in the safest and most environmentally sound way.
- Significant failures on transmission pipelines are extremely rare and the number is declining.
 - Based on recent NEB data, ruptures on federally regulated pipelines during the eight-year period from 2001 – 2008 averaged less than one per year; a decline of more than 60% from the previous eight years.
- Between 2002 and 2009
 - Significant failures on CEPA member pipelines declined despite a 27% increase in the number of kilometres of pipeline.
 - There were no fatalities associated with these failures.
 - The average annual volume released from pipelines transporting liquid products was just two litres for every million litres transported – 99.9998% of the product was transported safely.
 - All leaks were completely cleaned up, usually within days of their occurrence, with no residual health or environmental effects.

How we do it

- Our members companies:
 - Collectively spend more than \$1.6 billion each year to ensure that crude oil and natural gas are delivered safely and efficiently.
 - Have in place management systems and pipeline integrity programs that are reviewed and audited by internal experts and pipeline regulators.
 - Monitor their pipelines 24/7 from remote control centres across the country, equipped with sophisticated, computerized sensing and control systems, including automatic leak detection alarms and automatic shut-off devices.

- Conduct regular visual surveys of pipelines by aerial and ground patrols.
 - Deploy sophisticated “in-line” inspection tools (pigs) that inspect pipelines from the inside to identify changes such as dents or wall thinning that could threaten the integrity of the pipeline.
 - Conduct comprehensive internal inspections of 100% of their pipelines every five years at a minimum.
 - Immediately activate emergency response plans once the control centre identifies a problem, including dispatching crews and emergency services to confirm, pinpoint and secure the area, and ensure the public is out of harm’s way.
 - Respond immediately to pipeline leaks, using the best available technologies to restore pipeline systems and protect the environment.
 - Implement preventative maintenance programs including regular pipeline inspections, excavations, repairs and replacements.
 - Apply and share best operating practices.
- On behalf of our members, CEPA:
- Supports and participates in research and development into safety-related areas such as construction techniques, pipeline integrity and corrosion prevention.
 - Co-organizes the International Pipeline Conference (IPC), a biennial conference that is internationally renowned as the world’s premier pipeline conference. IPC 2010 gathered 1,200 engineers from around the world to discuss and debate more than 400 technical papers.
 - Works with regulators, third-party contractors and the public to enhance the effectiveness of damage prevention initiatives along pipeline rights-of-way.