# **Enbridge Safety Report to the Community**

The world's largest and longest crude oil pipeline system, transporting over

2.2M barrels per day.





Enbridge moves the energy we all count on to where we need it: our homes, businesses and communities near and far. Life takes energy and our job is to move the energy you need as safely as we possibly can.



We have 602

professionals dedicated to protecting the safety of our employees and contractors and maintaining the long-term fitness of our pipeline systems.

#### More than

We ran more than

3/0

drills, exercises and equipment deployments in 2014 to test and sharpen our emergency preparedness. /p.6





We generate



of renewable energy from wind, solar and geothermal facilities across North America. Enough to power 550,000 homes. /p.12



and incident response equipment between 2012 and 2014. /p.6

in grants to community emergency response agencies since 2002. /p.13





Our natural gas pipeline systems transport more than 6 billion cubic feet of natural gas across Canada and the United States each day. /p.5



# More than **2 million**

customers connected to our gas distribution system in Ontario, Quebec, New Brunswick and New York State. /p.5

#### **More than**

employees and contractors across North America. /p.2







#### Safely delivering energy across North America

We understand that life takes energy, and we're proud to transport, generate and distribute the energy that helps fuel your quality of life every day.

We transport energy, operating the world's longest crude oil and liquids

transport energy, operating the world's longest crude on and liquids transportation system, natural gas systems that extend from British Columbia to the Gulf of Mexico, and electrical power transmission systems.

We generate renewable energy, with growing interests in renewable and green energy technologies including wind and solar energy and geothermal.

We distribute energy, owning and operating Canada's largest natural gas distribution company, and providing service to more than two million customers in Ontario, Quebec, New Brunswick and New York State.

We know that, like us, the landowners along our pipelines and all our neighbors in the areas where we operate care deeply about safety of their communities and the environment. That's why we work with them and listen to their input, so that we can make our operations and projects even safer.

Together our team of more than 11,000 employees and contractors across Canada and the United States strives to transport, generate and distribute the energy North America counts on as safely and reliably as possible, every day.

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Enbridge also produces an annual Corporate Social Responsibility (CSR) report which provides information on our performance, including our environmental impact, innovation, and economic and community benefits. Please view our 2014 CSR Report online at csr.enbridge.com

#### **Our Safety Story**

# Because Safety Matters

**Life takes energy**, and Enbridge delivers that energy to help fuel people's lives. Every day we move millions of barrels of oil and billions of cubic feet of natural gas, and we generate 1,600 MW of renewable power that makes modern life possible in Canada and the United States. We strive to deliver the energy you and your neighbors across North America rely on, as safely as we can, without incident, while minimizing our environmental impact.

Every member of our team is passionate about safety, and the Enbridge Safety Report to the Community highlights our approach. It gives an overview of our performance in 2014, so that you can judge for yourself how we are meeting our commitment to keep you and your neighbors in the communities where we operate safe, as well as protecting the health and safety of every member of our team and the environment.

Our Safety Report to the Community is also about accountability, which means that in these pages and online at enbridge.com, we'll show you where our safety performance was strong and improving, and how we are focused on being even safer in the future. We'll also share where our safety performance was not strong enough, despite our efforts to be as safe as we can be and as safe as you expect.

Please take a few moments to learn more about our 2014 safety performance delivering the energy you count on, and what we are doing to be even safer, now and in the future.



Sincerely,

& Marso

Al Monaco, President and CEO

At Enbridge, safety is driven by people, members of our team working alongside individuals and groups out in the community who care about the health and well-being of those around them and the environment. Throughout this report you'll find stories from some of those people, highlighting just a few of the ways we strive to deliver the energy we all rely on as safely as we can.

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#### Walter's Story

### peline pection ns Basics



In 2014 we completed 205 in-line inspections across all of our systems, sending sophisticated tools through our pipelines to check on their condition from the inside. But what does an in-line inspection involve?

Walter Kresic, Enbridge's Vice President in charge of monitoring and managing the health of our liquids pipelines, talks about in-line inspections, one of the important tools we use to keep our systems in excellent condition.

"On our crude oil pipeline systems the process of doing an in-line inspection involves dozens of people," Walter says. "From field personnel and our control center operators to the extended teams who oversee the health of our pipelines, and the external partners we work with to continually refine and improve the sensitivity and accuracy of the tools we use to ensure our systems are in top shape."

While each in-line inspection is unique, a typical one is planned months in advance. Before we run our inspection tools through a section of pipeline, we must first run other tools to clean and prepare the pipe so it is ready to be scanned from the inside out.

Only then can an in-line inspection take place. The tools, which use ultrasound or a technology similar to that found in a medical MRI scanner, is introduced to the pipe and is propelled along by the oil flowing through the system.

"The oil in our systems moves at between 2.5 and 5 miles (4 and 8 km) per hour, about as fast as a person walks, so it can take days or even weeks for an in-line inspection tool to travel along the pipeline. All the while it is scanning the pipe from the inside, collecting and storing a huge amount of information about the condition of the pipeline on a millimeter-by-millimeter basis," Walter says.

"Further down the line we retrieve the A typical inspection, tool and download the inspection data. Our expert engineers and external planning to when we specialists then pore over this data, completing a preliminary review within hours to quickly identify anything that and analyzed the data requires immediate action, followed up by a deeper analysis over the following weeks and months, to identify and locate features within the pipeline that require **12** months. closer attention over the longer term.<sup>3</sup>

from when we first start have completed the run costs millions of dollars and takes approximately

All told, Walter says, a typical inspection, from when we first start planning to when we have completed the run through the pipe, analyzed the data and passed along our findings to the pipeline maintenance teams, costs millions of dollars and takes approximately 12 months.

"Each in-line inspection is a big, complex job involving many people and lots of resources," says Walter. "Across Enbridge we've done nearly 700 of them in the last three years because it's an important part of how we keep our pipelines in great shape and operating safely.



Walter Kresic Vice President of Pipeline Integrity, Enbridge Liquids Pipelines

# **Our Performance** at a Glance

In 2014 we safely delivered more than 2.4 billion barrels of crude oil from where it is produced to the refineries in Canada and the United States. There, it is made into the everyday energy sources we all need, such as gasoline, diesel and jet fuel, and the key ingredients for products that are vital to our way of life, including computers and mobile devices, clothing, medications and fertilizer for food production.

#### **Natural gas pipelines** and processing

Our natural gas pipelines and processing business transports more than 6 billion cubic feet of natural gas every day-totaling more than two trillion cubic feet a year-as well as natural gas liquids such as propane and butane.

In 2014 we had three federally reportable natural gas releases, totaling about 78 million cubic feet and three liquid spills totaling less than 2.5 barrels, with 2.38 barrels spilled in one of our facilities and four ounces spilled off Enbridge property.

#### **Gas distribution**

Our gas distribution business provides reliable natural gas service to more than 2 million customers in Ontario, Quebec, New Brunswick and New York State.

In 2014 we safely delivered more than 460 billion cubic feet of natural gas to those customers. During that time we had one significant incident which resulted in very minor property damage.

#### **Crude Oil Pipelines**

2,405,421,468 oil safely delivered in 2014 Total barrels spilled in 2014 (0.0001%) Barrels spilled within our facilities in 2014

Barrels spilled outside of Enbridge's property in 2014

Barrels of crude

#### 74 Leaks in 2014

Last year we had 74 leaks on our system in which we spilled 2,921 barrels. In 71 of those incidents a total of 2,807 barrels of oil spilled was completely contained within our facilities and cleaned up with little or no environmental impact. In three incidents a total of 114 barrels were spilled on our pipeline rights of way or outside of our properties. In all cases, we reported the spills to regulators, responded rapidly and safely cleaned up the impacted areas.

2,921

2,807

#### Our growing team of safety professionals



#### Since 2010 we've arown alth. Safetv & team of expert vironment profess

#### Understanding the 74 leaks on our crude oil pipelines system in 2014



by nearly 300%. Every member of the Enbridge team strives to safely deliver the energy you count on and our Health, Safety & Environment professionals help to make this happen.

#### In-line inspections

In 2014 we completed more than 200 in-line inspections on our crude oil and natural gas pipelines and distribution systems. These inspections allow us to monitor the physical condition of the pipelines from the inside, using sophisticated tools to gather the information we need to keep our systems healthy and in excellent condition. Over the past three years we've completed nearly 700 in-line inspections on our systems.



#### Keeping our systems in top shape

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We have 332 employees across our company directly involved with managing and ensuring all our systems are in excellent shape so that they can operate safely and reliably.

For more information on safety, visit enbridge.com/safety

# **How We Prepare**

Our first goal is always to prevent incidents before they happen, but if they do we are ready to respond safely and effectively, in partnership with local first response agencies and regional and national authorities.

#### Practice, practice, practice

Responding to an incident in an emergency can be challenging, that's why we practice, over and over again, to make sure that our systems, people and plans are ready for action. In 2014, thousands of members of our team participated in more than 370 drills, exercises and equipment deployments in our operations across North America.

#### **Training together**

Responding to an incident is complex, and may involve many first response agencies. We invite local, regional and national first responders to observe and participate in our emergency response drills so that we can all work together safely and efficiently if an incident occurs. We also offer free online pipeline incident response training to thousands of first response agencies across Canada and the United States. EMERGENCY RESPONSE EXERCISE IN PROGRESS



#### Planning

We have emergency response plans in place for all of our operations so that we are well prepared in the event of an incident. We regularly review, share and test our plans to ensure that they are up-to-date and to make them better.



#### Shared approach

We've trained more than a thousand members of our team in the Incident Command System, a common approach to managing incident response used across North America. This is another way we ensure that our response is coordinated, safe and effective.



**ÉÉNBRIDGE** 

#### Equipment and supplies ready to go

Over the past three years, from 2012 to 2014, we've spent more than \$74 million on training and incident response equipment placed at strategic locations along our systems so that it's close at hand whenever it's needed.

For more information on safety, visit enbridge.com/safety

#### Jeremy's Story

## Always Proceeding with Caution



Jeremy Ward's phone rang at 10:37 p.m. on Friday, April 17, 2015. One of Enbridge's pipeline inspection providers, Pure Technologies, was calling.

That afternoon, a local Enbridge pipeline maintenance crew and a team from the inspection company had retrieved a SmartBall tool from Line 21, which carries crude oil from Norman Wells in Canada's Northwest Territories to Alberta. The tool had traveled inside a segment of the pipeline over the previous number of days, its acoustic sensors listening for any telltale sounds that could indicate a tiny leak.

"It's never going to be good news when you get a late-night call after you've pulled

an inspection tool," says Jeremy, who is a member of the team that manages and monitors the health of Enbridge's pipelines. "Whenever we retrieve a tool, the vendor takes a quick look at the data, to see if there's anything that jumps out as needing urgent attention. That's why they were calling. They had found what looked like signs of a leak."

"Some people might look at that and say it was a waste of effort, but I don't think so. That's our approach to safety."

Within minutes, Jeremy had informed his boss and then contacted the Control Center Operations in Edmonton, and by 10:47 p.m., ten minutes after the call from Pure Technologies, Enbridge had shut the line down.

What followed over the next few days was a race against time involving nearly two dozen people to determine the exact location where the SmartBall had heard something and to get a team on the ground to investigate.

By Saturday morning, the team had identified a 2 km (1.2 mile) stretch of pipeline about 415 km (260 miles) south of Norman Wells. A crew flew to the location and did an aerial and ground search. They found no signs of a leak.

"At the same time, other members of the team were back at the office, reviewing data from previous in-line inspections, including from a different tool we'd pulled from the line on the same day, to see if they could find any other evidence to help us refine our search," says Jeremy.

Over the weekend, based on more detailed analysis of the data, the ground team searched six specific nearby locations along the pipeline. Still no evidence of a leak.

"While this was all happening, the controllers in Edmonton were watching the pressure in the pipeline," Jeremy says. "It held steady, which is a good sign that there are no leaks and the system is intact."

Even with this positive news, Enbridge proceeded with caution. For three more days, as the investigation progressed, it kept the line shut down. On Wednesday, April 22, Enbridge safely restarted Line 21.

"At the end of it, after we'd gone through all the procedures, it turned out to be a false alarm," Jeremy says. "Some people might look at that and say it was a waste of effort, but I don't think so. That's our approach to safety. We weren't going to restart that line until we'd run down every lead and considered every possibility to confirm it was safe."



Jeremy Ward Program Manager, Pipeline Integrity

# Safe Systems 24/7/365

To keep everything running safely and reliably, we constantly monitor thousands of points along our systems, and we keep track of every barrel to confirm that the amount of crude oil entering our pipelines precisely matches the amount we deliver. We also use computer models running live data from our systems to double-check our performance on the spot, and we gather input from our aerial and ground surveys, and from the public through our hotlines.

This approach helps us prevent trouble before it occurs and to spot any problems and react quickly.



#### Eyes in the Sky

We regularly fly all of our 27,000 km (17,000 miles) of crude oil pipelines, watching for potential issues including excavation or activity near our lines that might pose a risk to safety. Talking to our neighbors

We communicate with our neighbors and the communities where we operate so that they are aware of the work we are doing and know how to stay safe around our facilities and pipelines.

#### Eyes on the Ground

All along our pipeline rights-of-way and throughout our natural gas distribution networks, Enbridge staff watch for, report and respond to any potential problems with our systems.

#### **Preventive Maintenance Digs**

When an in-line inspection finds something

#### **Building and maintaining strong pipelines**

Before any construction occurs we work

Once they're running, moving the energy society counts on, we constantly monitor our pipelines for any signs of trouble and operate them in a way that protects their reliability.

that requires a closer look, we excavate the pipe at that location so that we can examine it and make any necessary repairs.

With some digs we find that no repair is required, but each dig adds to our overall knowledge about the line's condition and allows us to compare what we're seeing firsthand with the data gathered by the in-line inspection tools. Americans, our neighbors, environmental groups and regulators to plan pipeline routes that minimize environmental impact and land disturbance.

We start with precisely manufactured pipe and, during construction, we inspect each weld using X-Ray or ultrasound.

We also work with the rest of the industry to advance the science of leak detection and pipeline inspection so that our systems become safer over time.

In-line inspection tools help us monitor our pipelines from the inside out. They use technology adapted from medical science, such as ultrasound and magnetics, to scan the walls of our pipelines millimeter by millimeter.

#### **Rich's Story**

# Responding to a Spill

#### A 2012 crude oil spill in Grand Marsh, Wisconsin



On the afternoon of July 27, 2012, pipeline operators in the Enbridge Control Center detected a sudden drop in pressure on Line 14.

Just two years and a day after the most significant environmental incident in Enbridge's history—the July 26, 2010 spill in Marshall, Michigan, in which nearly 20,000 barrels of oil were spilled from Line 6B—another significant pipeline spill had occurred.

When Marshall occurred, pipeline operators had analyzed the data available to them and concluded that the spill was something else, a bubble of vapor in the pipeline known as column separation. Unfortunately, their judgment was wrong.

This time, however, the outcome was far different.

"The Control Center spotted the drop in pressure at 2:45 p.m., and shut down and isolated the line right away to limit the amount of oil spilled," says Rich Adams. At the time, Rich was the Vice President of U.S. Operations. Today he is the Senior Vice President of Enterprise Safety and Operational Reliability. "While the line was being shut down, a local landowner called on our emergency hotline to inform us that she could see oil spraying."

Within moments, local Enbridge crews were on the way to the site of the spill and arrived on scene within 45 minutes of the first sign of trouble, where they quickly contained the 1,200 barrels of oil that had been released and began cleanup.

"Marshall made us realize we could further enhance our systems," says Rich. "Following Marshall, our whole organization had refocused not just on ensuring that our pipelines and facilities were in top shape but also that our systems, policies and procedures were strong, that our people were trained and ready to respond safely and effectively in the event of trouble, and that our safety culture was built around vigilance and an abundance of caution."

The spill on Line 14 in July 2012 was a test of Enbridge's renewed focus, the lessons we'd learned and the improvements we had put in place following the Marshall incident.

"Our pipeline monitoring systems and the quick actions of the pipeline operators limited the environmental impact of the spill in Wisconsin," Rich says. "The immediate call from a local landowner showed that our public awareness outreach was working and the effective response of our crews on site helped to quickly return the area to its pre-spill condition."

Rich adds that the incident was investigated by the Pipeline and Hazardous Materials

Safety Administration and Enbridge and we incorporated the lessons we learned into Enbridge's engineering program to prevent similar pipeline failures in the future.

"We strive to prevent all incidents. That's our goal, and we are working hard to make every part of our system better, from monitoring and maintaining the health of our pipelines to leak detection technology and emergency response. But if we do have an incident, then we learn from it and improve, to make our systems even safer today and for the future." Rich says.



#### Rich Adams

Senior Vice President, Enterprise Safety and Operational Reliability

# How We Respond

We've designed our systems and trained our people to be on the lookout for trouble and to spot it right away, so that when an incident occurs we respond safely and effectively to minimize the impact on people, communities and the environment.



#### **Safety first**

Our first priority in any incident response is to protect the health and safety of our neighbors and the community, and of everyone responding. Our approach is to over-respond, quickly mobilizing the people and equipment that we need, and more, so that we can initiate and maintain a safe, decisive and effective response.

#### **Environment and wildlife**

We seek to limit the environmental impact by working to quickly contain the incident, prevent further damage, and deter unaffected wildlife from straying into harm's way. In 2014, more than 95% of our liquids pipeline incidents occurred on our property or within our facilities and had little or no impact on the natural environment or wildlife.



### Rehabilitation and monitoring

Our goal, following any incident, is to bring the affected area back to its pre-incident condition or as close as possible and we work with regulators, environmental experts and our neighbors in the community to ensure it meets their expectations. We then monitor the health of the rehabilitated area over time to assess and address longer-term impacts.



#### We're responsible

When an incident occurs on our systems we take full responsibility. This includes completing a thorough cleanup and rehabilitation, and working with landowners and community members who have been directly impacted to ensure they are fairly compensated. We also cover the costs of agencies and first responders involved in major responses and we carry insurance so that there is no cost to the public in the event of an incident.

Visit enbridge.com and search "Marshall" to learn about how the environment has recovered and our progress in rehabilitating the areas affected by our 2010 crude oil spill from Line 6B in Marshall, Michigan.

# Innovation and Training



#### Innovation

Enbridge has been safely and reliably delivering the energy that has helped to propel North America's progress and growth for more than 65 years, and parts of our organization go back more than 165 years. We have a long history, and we are focused on the future.

That means innovating and researching new ways to reduce the impact of our operations and make our systems even safer. It also means being a part of the global transition to a future in which renewable energy is an increasingly important part of the mix for all of us.

### Safer systems and a cleaner future

In 2014, Enbridge put nearly \$32 million into research and promising new technologies to refine and improve our ability to monitor and maintain the health of our systems, to better detect leaks, to prevent damage to our pipelines before it occurs, and to

### Supporting innovation in renewable energy

In addition to driving innovation to make our operations safer and reduce our impact today, Enbridge is looking to a future where renewable energy is a bigger part of the equation.

As part of that transition, in addition to our renewable energy business, which involves wind, solar and geothermal facilities with more than 1,600 MW of net generating capacity—that's enough to supply nearly 550,000 homes—we are supporting research to improve the efficiency and reliability of renewable energy as it becomes a more important energy source.

To learn more about the innovation and research Enbridge supports to make our operations safer and more efficient, and to help pave the way for the transition to renewable energy, visit **enbridge.com** and search "innovation."

#### Teaming up on safety innovation

When it comes to safety, we don't compete, we collaborate, teaming up with our competitors in the energy transportation sector to make the entire industry safer.

Since 2013, Enbridge and TransCanada Pipelines have partnered on research to explore new leak detection technologies that will add another layer of defense to the advanced systems already in place.

TransCanada's contribution of \$1.3 million, Enbridge's \$1.6 million stake, and \$1.1 million in funding from the Alberta provincial government, has allowed C-FER Technologies, an Edmonton-based research firm, to put the custom-built External Leak Detection Experimental Research (ELDER) test apparatus to work. Using ELDER, the companies are conducting experiments with four different types of specialized cable that can be laid alongside pipelines under the ground to test their ability to detect pipeline leaks.

Similarly, in early 2015 Enbridge, TransCanada, and Kinder Morgan Canada each invested \$200,000 as part of another joint partnership involving the researchers at C-FER which will push the boundaries of aerial leak detection. The research is expected to test a variety of technologies, including infrared sensors, laser systems and other sophisticated tools to explore their potential and drive advances in the sensitivity and accuracy of aircraft-based leak detection.

#### **Employee hours spent on safety training**

In 2014, the Enbridge team took more than 162,000 hours of training to build their safety knowledge and skills, averaging more than 18 hours of health and safety training per employee. Since 2010, we've more than tripled the amount of safety training per employee and increased overall training hours more than five times.

Year	Total EH&S Hours	EH&S Training Hours/Employee
2010	31,620	5.2
2011	36,567	5.6
2012	101,503	13.7
2013	161,960	19.9
2014	162,000	18

Over the past five years we've trained more than 1,000 members of our team in the Incident Command System. This prepares us to work seamlessly with other response agencies to support a safe and effective response to any incident.

#### Leading training facility

Our Technology and Operations Center in Markham, ON, features a hands-on gas distribution training facility including a simulated streetscape (pictured above) where our employees can safely train in real-life situations. In 2014 our Gas Distribution employees registered for nearly 7,500 courses at the Technology and Operations Center.

#### Jeff, Randy and Patrick's Story

# Making Safer Communities



At Enbridge, safety goes beyond preventing incidents on our systems to keep our neighbors, communities and the environment safe, and beyond making sure our employees and contractors return home safe and sound at the end of each day.

For us, safety includes helping communities become safer, which is why we've provided more than \$8 million in grants and donations through our Safe Communities program to first response agencies in Canada and the United States since 2002.

We work with local first responders to build safety in the communities along our pipelines and near our operations and projects. Over the years, our grants have helped support everything from new firehoses, training and the purchase of jaws-of-life for fire departments to policing equipment, automated external defibrillators, vehicles and major financial support of air ambulance services.

In Rio, WI, Enbridge's Safe Communities program doubled the motor pool of the town's police department in 2014, donating a 2007 Chevy Trailblazer.

Jeff Becker, Rio Chief of Police, picks up the story: "Last year I was talking with our local Enbridge rep, Brad TenBarge, and I mentioned a situation where our only police vehicle was in use on one call, when we had another call come in.

"Brad asked how we had responded to the second call, and, basically, we had to get there on-foot," Becker says. "We're a small police department and we only have the budget for one vehicle."

Enbridge's donation answered an important need and was more than just an extra vehicle for the Rio PD.

"Enbridge helped the community and the taxpayer by giving us a resource that we wouldn't have been able to otherwise afford. And they made it easier and safer to do our job," Becker says, noting this year's Safe Community grant will go towards installing lights and a radio in the vehicle.

Randy Koehn, the Fire Chief in Columbus, WI, says the Safe Community program boosts public safety in his town.

The first grant, a few years ago, helped purchase a fire extinguisher simulator which has proved popular with local residents and which Koehn uses to add a touch of realism to fire drills at local schools. "We have it out for people to try it at public events and we have requests from business and industry for us to come in and do training at their facilities."

Koehn says this year's grant is earmarked for tablets and Wi-Fi for fire trucks. "If we're on the site of an emergency, connecting to the Internet will allow us to access online resources. Safely remedying a situation in shorter order means the result is safer for us,

safer for the local residents, and better for the environment."

Patrick Beghin, the Emergency Management Coordinator for Columbia County, WI, sees the difference that the Safe Community program has made right across the region.

Enbridge pipelines cross a large stretch of the county, passing through five fire department districts, and Beghin notes that Enbridge has reached out and provided training for them on pipeline emergency response. But he adds that the impact of the Safe Community program extends well beyond safety related to Enbridge's operations.

"We might never have to respond to an incident on the pipeline, but the resources Enbridge provides to first response agencies get used in the community daily to support public safety."



Jeff Becker Chief of Police, Rio, WI



Randy Koehn Fire Chief, Columbus, WI



Patrick Beghin Emergency Management Coordinator Columbia County, WI

# Your Role in Safe Energy Delivery

Life takes energy, and the systems carrying the energy we all rely on from where it is produced or generated to where it is used—by industry, on farms, in businesses, schools and hospitals, and by each of us in our homes and automobiles every day—are all around us.

So the more people who are aware of the energy systems in your community, and know what to do to stay safe around them, the better.

Which is why we work hard to connect with you, our neighbors, to provide you with important safety information and keep you up to date about Enbridge operations, maintenance work and projects in your communities.

#### How you can play a part

There are two key ways you can contribute to the safety and reliability of Enbridge's systems in your community.

First, make sure to call or click before you dig.

In the United States call 8-1-1, and in Canada visit clickbeforeyoudig.com, two to three working days before you plan to do any excavation-from landscaping activities like planting trees, digging a new garden or building fences, to larger construction work-so that a locator can visit and mark underground utilities.

Calling or clicking before you dig helps you to dig safely and could save your life. It also protects our pipelines and distribution systems from accidental damage that could cause a spill or leak.

Second, be aware of the warning signs of a pipeline or gas distribution system leak and know what to do to stay safe in the event of an emergency. If an incident occurs, your quick action and notification of emergency services and Enbridge can save lives and help protect your home, your community and the environment.

If you suspect a pipeline or gas distribution system leak or emergency, first make sure that you and those around you are safe and then, when it is safe to do so, call 9-1-1 and then call Enbridge's 24-hour emergency hotline for your area.

#### **Emergency Contacts**

**Pipeline Emergencies** 

Canada

**United States** 

**Enbridge Pipelines Inc.** (incl. Norman Wells Pipeline) 1-877-420-8800

Enbridge Pipelines (Saskatchewan) Inc. 1-888-420-4357

Enbridge Pipelines (Athabasca) Inc. 1-888-813-6844

In Quebec 1-877-420-8800

**Natural Gas Emergencies in Ontario** 

**Enbridge Gas Distribution Customers** 1-866-763-5427 (1-866-SMELGAS)



Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Eastern Montana, New York, North Dakota, Ohio, Eastern Oklahoma, Wisconsin 1-800-858-5253

Texas, Western Oklahoma, Mississippi, Arkansas 1-888-650-8099

Louisiana, Gulf of Mexico 1-877-548-1800

Western Montana (electric transmission line) 1-888-780-8831



# Lessons Learned

Since our Marshall incident in the summer of 2010 we have recommitted ourselves to doing all we can to make our operations as safe as they can be.

Before Marshall occurred we thought we were safe. But spilling 20,000 barrels of crude oil—the most significant environmental incident in Enbridge's history—propelled us toward a mindset where we are constantly asking "is this as safe as it can be?" and "how can we make it safer?"

### What we've learned

#### **Every incident can be prevented**

We believe that every incident can be prevented. By approaching safety with this mindset we're always on the lookout for potential problems so that we catch and fix them before they lead to something more serious.

Because we believe that every incident can be prevented, if an incident or near miss does slip past the safety barriers we've put in place, we investigate to understand how and why our systems failed. We learn from our mistakes, we share what we learn inside Enbridge and within industry, and we improve so that we become as safe as we can possibly be.



#### Learning from incidents

Right across our company, we investigate any time we have an incident or a near miss to understand what went wrong, to learn from our mistakes and prevent them in the future, making our systems safer all the time.

We don't just share what we learn within Enbridge, but also with other organizations because when it comes to safety, we don't compete, we cooperate to make the entire industry safer.





### Creating an emotional connection to safety

In 2014 we launched our Foundational Safety Stories across Enbridge. These stories take a close look at four serious incidents from our past, including Marshall. Each story focuses on the human toll of incidents, so that every member of our team develops an emotional connection to why safety is so important and what is at stake if we fail.

#### How human nature can influence safety

Human nature often plays a role in causing or contributing to incidents, so in 2014 we created mandatory training for all members of our team to increase understanding of human factors and their impact on our safety performance.

The online course shows how human factors can lead individuals and groups to make decisions and take actions that might appear to be safe but that actually lead towards danger, and provides tips and tools to help recognize when human factors are at play and be on guard against them.

We're building on our human factors focus in 2015, developing a series of case study graphics so our employees and contractors can easily see how human factors have played a role in incidents and near misses.



As well, we're developing enhanced incident investigation training to build on our team's existing expertise, to ensure we identify the root causes of every incident and near miss, including human factors,

### Safety leadership and looking out for one another

Enbridge leaders must lead when it comes to safety and every member of our team has to play an active role.

Our leaders are expected to be informed and meaningfully engaged on safety. In 2014 nearly 50 of our senior leaders, including members of our Board and Enbridge President and CEO AI Monaco, participated in 135 field visits and met with hundreds of front-line workers. These field visits led to numerous improvements in our safety practices, ranging from addressing traffic safety near our work sites, and reinforcing safety practices and the use of personal protective equipment with employees and contractors, to identifying equipment or facilities that required maintenance

Four times every year, on the anniversary of each of these incidents, we pause as a company to remember, talk about and reflect upon our Number 1 priority: keeping our neighbors, the communities where we work, each other and the environment safe. and take the necessary actions to prevent it from reoccurring.



In 2011 we created the Enbridge Ring. It contains steel from Line 6B, which ruptured near Marshall in 2010. The ring is presented to every Enbridge employee when they join the company and serves as a solemn reminder of our duty to be safe. to ensure continued safe operations.

For everyone at Enbridge, our approach is "if you see a safety issue, you own it." We expect every member of our team to tell us when they see a positive safety behavior or an opportunity to improve safety with their colleagues. We track these reports, which allows us to spot trends, address larger issues and reinforce a strong safety culture.

In 2014 our 11,000 employees and contractors across Canada and the United States logged more than 161,000 safety observations to recognize strong safety performance and help make us even safer.

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Enbridge is committed to reducing its impact on the environment in every way, including the production of this publication. This report was printed entirely on FSC<sup>®</sup> Certified paper, which is manufactured entirely with wind energy and contains 100% post-consumer recycled fiber.

