Addendum to Enbridge's 2013 Corporate Social Responsibility Report (with a focus on 2013 data)

Asset Integrity and Reliability Performance Data Sheet

This performance data sheet relates to the following Global Reporting Initiative (GRI G3.1) Environmental Performance Indicator:

- EN26: Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation

Context

It's our responsibility to prevent incidents, stay safe and reduce our environmental impact.

Over the past decade, our Liquids Pipelines business unit (LP) has transported approximately 14 billion barrels of crude oil with a safe delivery record of 99.9993 per cent. However, for us, that's not good enough. We believe all incidents can be prevented.

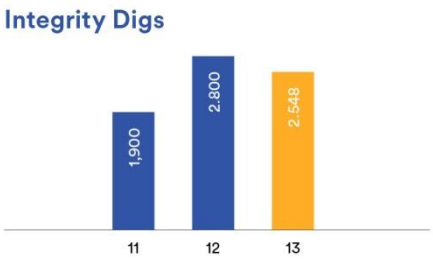
Our goal is to achieve industry leadership in the safety and reliability of our pipelines and facilities, and protection of the environment. Being a leader in these areas enables everything else we do, so we're investing heavily in asset integrity, reliability and maintenance, as well as innovation.

2013 Key Performance Areas

#1. Invest in asset integrity, reliability and maintenance to prevent spills, leaks and releases from occurring in our energy transportation and distribution systems

Since 2012, we've invested more than $4 billion in programs and initiatives to maintain and further enhance our pipelines and facilities in all parts of our business, including $2.4 billion in 2013 alone.

We regularly assess our pipelines both internally, with in-line sensing devices (smart pigs), and externally, with sensing devices and test excavations. In 2013, LP conducted 211 in-line inspections and 2,548 integrity digs.



#2. Invest in pipeline integrity and leak detection innovation

In 2013, we invested in On-Ramp Wireless Inc., a developer of wireless solutions that enable us to better connect with and monitor assets such as transmission pipelines in a more reliable manner than conventional wireless technologies currently allow.

In 2013, our Gas Transportation business unit (GT) invested in Smart Pipe Company Inc., which has developed a new internal liner that can be used to remediate existing pipelines. Smart Pipe is highly applicable in difficult-to-access areas such as river crossings and urban areas, as it does not require trenching of a right-of-way. Smart Pipe also features an embedded fibre optic inspection system that allows pipeline operators to continually monitor and instantly detect and locate possible leaks (to within one metre), abnormal temperature changes, third-party impacts or ground movement.

On an ongoing basis, our Gas Distribution business unit (GD) actively participates in industry research consortiums—specifically, with NYSEARCH and the Gas Technology Institute—for new technologies that support the safe and reliable distribution of natural gas. For example, the objective of EGD's Right-of-Way (ROW) Protection Program is to review available high-pressure-pipeline-monitoring technologies to protect against excavation damages. Currently, Enbridge Gas Distribution (EGD) is involved in the development of a video analytics-based intelligent damage prevention system trial, as well as an embedded sensor-based damage prevention system.

Management Approach and Background

Our target of preventing all spills, leaks and releases from our energy transportation and distribution systems is underpinned by our Environment, Health and Safety Policy, which states that "our goal is to have no accidents and to cause no harm to the environment." To that end, we invest heavily every year in asset integrity and maintenance. We also build in rigorous processes to ensure the integrity of our assets at every stage.

Design, Materials and Construction Stage: Our focus on pipeline integrity and reliability begins at the design, materials and construction stages. We implement stringent processes and practices on all major projects during these stages, some of which include:

- A rigorous, multi-disciplinary route selection process that identifies pipeline corridors and line locations that achieve an acceptable balance of engineering, environmental and economic considerations
- Standards for engineering and design, including meeting all special design requirements for areas such as road, river and creek crossings
- Standards for materials procurement, including selection of pipeline materials, corrosion inhibiting coatings and cathodic protection
- Construction practices that identify and mitigate potential environmental impacts from construction activities and also pay close attention to environmentally sensitive areas and at-risk species

Monitoring and Preventative Maintenance Stage: Pipeline safety and reliability begins with prevention. For this reason, we monitor and mitigate conditions that can cause pipeline failures by:

- **Detecting Leaks**: Our leak detection capabilities meet or exceed all regulations.

  We use the latest technologies for leak detection. The methods we employ fall into three categories, each with a different focus and featuring differing technology, resources and timing. These categories are: monitoring; visual surveillance and odour reports; and predictive modeling. Used together, these methods provide overlapping and comprehensive leak-detection capabilities.

  GD has enhanced its knowledge of the characteristics of its distribution system through targeted risk studies of assets. This has allowed it to better prioritize leak surveys and repair response based on risk levels. New protocols have been established and implemented for conducting condition-based leak surveys, and inspections are done through mobile and walking surveys. Also, the average repair time of leaks classified as "B" leaks (leaks that are recognized as being non-hazardous at the time of detection but require

scheduled repair based on probable future hazard or to avoid calls from the public) has been reduced to an average repair time of four months, versus GD's standard repair within 15 months of discovery.

In 2013, EGD employees conducted leak surveys on 10,269 kilometres (6,380 miles) of distribution mains in its franchise area—which equals about a quarter of its system. They also surveyed close to 448,000 "services" (gas pipes used to carry gas from the mains to customers' residences).

- **Combating Corrosion**: Due to environmental factors such as the presence of water or bacteria, and due to the products transported, steel pipelines can corrode internally and externally. We mitigate corrosion by:
    - Using high-quality materials and anti-corrosion coatings that are specified during the design phase of the pipeline
    - Using cathodic protection (a low-level electric current applied to the pipe, or sacrificial anodes connected directly to the pipe) to inhibit external corrosion of underground pipelines
    - Using modeling to predict corrosion growth rates along pipelines
    - Using specialized corrosion inhibitors injected directly into the crude fluid being shipped to address internal corrosion
    - Scheduling regular monitoring and in-line inspections (ILIs) to check for corrosion
    - Using in-line devices known as "pigs" to clean and inspect pipelines from the inside
    - Scheduling excavation and repair programs identified by ILIs
    - Ensuring that all product transported does not exceed the maximum water and sediment content set down in our tariff

  We continually pursue new methods to prevent or manage corrosion. Currently, we are helping to lead research and development that will further cathodic protection, coating science, ILI technologies, and improved methods to monitor and mitigate internal corrosion.

- **Managing Cracks**: Cracking is a phenomenon that can occur in metals, including steel pipelines.

  We manage cracks throughout the life cycle of a pipeline—from design and pipe manufacture through operations. We consider cracking during the design phase of new pipelines when we are determining the required pipe characteristics. We also inspect newly manufactured pipe for cracking using non-destructive testing techniques. We perform mill inspections to ensure that the highest quality pipe is manufactured for our use; and we monitor pipelines to gauge the potential impact to our operations and to the environment on the initiation or propagation of cracks.

  We are committed to being at the forefront of technological developments and research relating to cracking and its diagnosis. Our efforts have resulted in rigorous programs for monitoring and managing cracking, with the key activity being our use of ultrasonic ILI technologies for our liquids pipelines. Over the past 15 years, we have influenced the development of advanced ILI technologies and field evaluation methods within the industry. We also continue to explore the use of new inspection science and techniques, and actively participate in a variety of industry forums that are focused on cracking.

- **Managing Damages**: Mechanical damage describes conditions on a pipeline such as dents, gouges, strain, scrapes, etc. that can be created by a variety of outside forces, such as rocks, impact from equipment during construction, or impact from third-party excavating equipment while the pipeline is in service. These types of conditions may result in either a penetration of the pipeline at the time of occurrence or the initiation and growth of a crack within the area of mechanical damage over time.

  Managing mechanical damage requires that we integrate data from several inspection technologies, including caliper tools (deformation sizing), metal-loss tools and crack tools, as each of these provides detail that we can use to detect and characterize these conditions. Through sponsorship and technical leadership of joint industry research projects, we have improved both ILI technologies and the engineering models that characterize the pipe condition. Our work has given the industry improved methods of managing mechanical damage to pipelines.

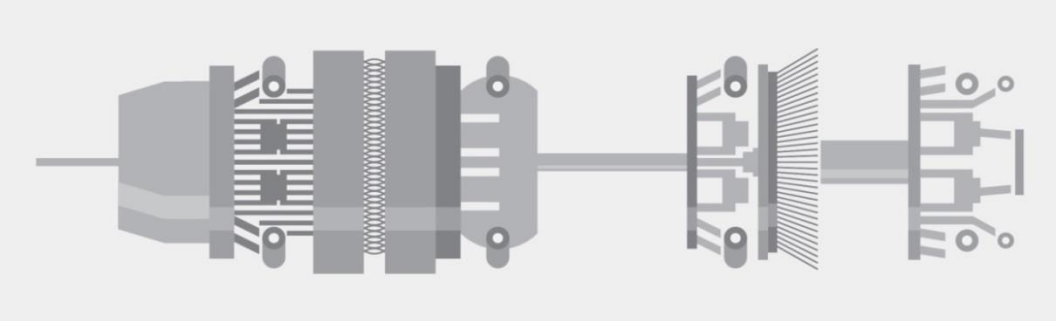
GD's largest operational threat is third-party damage to its natural gas pipeline infrastructure. Preventing these damages improves worker and public safety, as well as the integrity of GD's distribution assets. A key prevention measure is to provide information about underground infrastructure to individuals interested in excavating—before they conduct any excavations. EGD strongly influenced the passing in 2012 of the Ontario Underground Infrastructure Notification System Act, into law. Under this legislation, all underground utility operators are required to participate in Ontario One-Call, a call centre that provides answers to third-parties wanting to excavate for any reason in Ontario. With the passing of the legislation, excavators can easily get the information they need with just one call. Ontario was the first of Canada's provinces and territories to pass such legislation.

EGD was also actively involved in developing and implementing effective regulations for this legislation.

In 2012, GD also implemented a High Risk Excavation Program where damage prevention inspectors proactively engage with contractors performing excavations that have traditionally resulted in multiple damages (e.g. deep excavation work such as sewer and water main work). Through these efforts and others, GD has been successful in reducing normalized damages per thousand locate requests, as well as absolute damages.

- **Inspecting Pipelines**: Sophisticated ILI technology is a vital element in our pipeline integrity program. We use sensitive ILI tools to detect, characterize and size features, and to gather information about the frequency and location of pipeline anomalies. We then further investigate these findings by carrying out investigative digs in the field. Each dig involves excavating a section of buried line and examining, and, if needed, repairing and recoating the pipe and then reburying the line. Before beginning this work, we complete screening tests to identify environmental issues and the measures needed to minimize the impacts to land, vegetation and wildlife. Although most of the anomalies we discover are minor and do not threaten system integrity or reliability, we analyze all findings. In addition, we have a team focused on Advanced Tool Development that evaluates new or advanced ILI tool developments, including the operationalization of these new technologies.

Throughout the year, we send sensitive ILI tools through our Canada-U.S. pipeline system to collect information about the condition of the pipe. In 2013, we employed the tools on 211 runs to inspect more than 33,000 kilometres—about two-thirds—of the pipeline network.



- **Patrolling Pipelines**: Prevention depends on frequent inspections to identify potential trouble spots along pipeline rights-of-way. Using aircraft, land vehicles or foot patrols, we regularly monitor major pipeline routes to identify potentially damaging activities, such as unauthorized digging and construction, and then take action to mitigate them.

- **Monitoring Depth**: We have implemented a pipeline depth monitoring program to ensure that our major pipelines are covered by the appropriate amount of soil. To monitor pipeline depth, we use specialized electronic equipment that locates and records the pipeline depth for these pipelines every 50 metres. In addition to monitoring the pipeline depth, we also use a global positioning system (GPS) to record pipeline coordinates and observe right-of-way conditions, such as terrain, land use, damages or deficiencies.

- **Monitoring Facilities**: We operate and maintain all of our facilities, including pump stations and terminals, in a safe, responsible manner using: proper design standards; equipment and construction specifications; commissioning, operating and maintenance procedures; and targeted inspections.

- **Long-Term Infrastructure Planning Stage**: Through the various monitoring measures we use, we evaluate the condition of our pipeline systems to identify and select the optimal methods of ensuring their long-term integrity and reliability. At various stages we may replace or repair pipe based on factors such as ease and safety of implementation, economic evaluations, and operational expectations, all with the requirement that we will not compromise on integrity, reliability and safety.

Innovation

In addition to the steps outlined above, each year we invest in numerous innovations that improve the asset integrity and reliability of our operations.

In 2013, LP participated in, sponsored or led approximately 190 research and development (R&D) projects—including four joint-industry projects—in the areas of leak detection and pipeline integrity.

The projects that focused on leak detection involved investments of almost $6.3 million, while those focused on pipeline integrity involved investments of more than $3 million. Many of the other projects fell under our involvement with the Pipeline Research Council International (PRCI), in which LP invests approximately $300,000 each year.

LP selects R&D projects based on how well they could improve our ability to detect and respond to spills and leaks, how well they could help us prevent, monitor or mitigate integrity threats such as corrosion, cracking and deformation (e.g. dents or strain in the pipe), and how well they could be adopted by other business units, including GT, GD and EGD. The projects pertain to areas as varied as aerial surveillance, fibre optics, in-line leak detection tools, on-water leak detection technologies, pipeline coatings, corrosion prevention, defect assessment, reliability-based design, facilities integrity and ILI tool development.

Most of LP's innovation investments involve technology-based solutions such as magnetic tomography. For more information on these investments, please see the Innovation section of Enbridge's 2013 CSR Report.

LP also works continually with ILI vendors to improve existing inspection technologies, and to investigate opportunities to apply pipeline technologies that are used in other industries.

For its part, in 2012, EGD eliminated its top integrity risk by completing its work to replace all of its cast iron and bare steel mains within its distribution system. When natural gas distribution systems (as well as sewer and water systems) were first installed in the early to mid-19th and 20th centuries, the pipes installed were made of cast iron and bare steel. Over time, cast iron becomes brittle and can crack, and bare steel corrodes, which can lead to leaks. EGD recognized the risk of these materials early on, and replaced the cast iron and bare steel in its system with coated steel and plastic pipe. Between the start of the pipe replacement program in the early 1990s and its completion in 2012, EGD replaced approximately 1,800 kilometres of cast iron in Toronto. This is a considerable accomplishment given the challenges of performing such work in a densely populated urban environment.

For More Information

Please see the following performance data sheets on www.csr.enbridge.com: Spills, Leaks and Releases; Emergency Preparedness and Response; and Innovation. Please also see Enbridge's December 2013 Operational Reliability Review.