

District of Chetwynd

March 18, 2019



Stephen Kurbis, Area Manager Transmission North
Jason Rowley, Supervisor Pipeline North
Michaela Bjorseth, Community and Indigenous Engagement
Tom Ouellette, Community and Indigenous Engagement

Agenda



Introductions and Commitment to Safety

Overview of Enbridge Assets

Transition of assets to Canadian Natural Resources and North River

Approach – Indigenous Peoples Policy

Engagement with Chetwynd in 2018

Spruce Ridge Program

Tupper West Expansion Project

Shelley Pipeline Incident

T-South Reliability and Expansion Program

New projects

Enbridge Integrity Program

Safety is a Core Value

Above all else, we are always working to ensure the safety of our people, neighbours and the environment

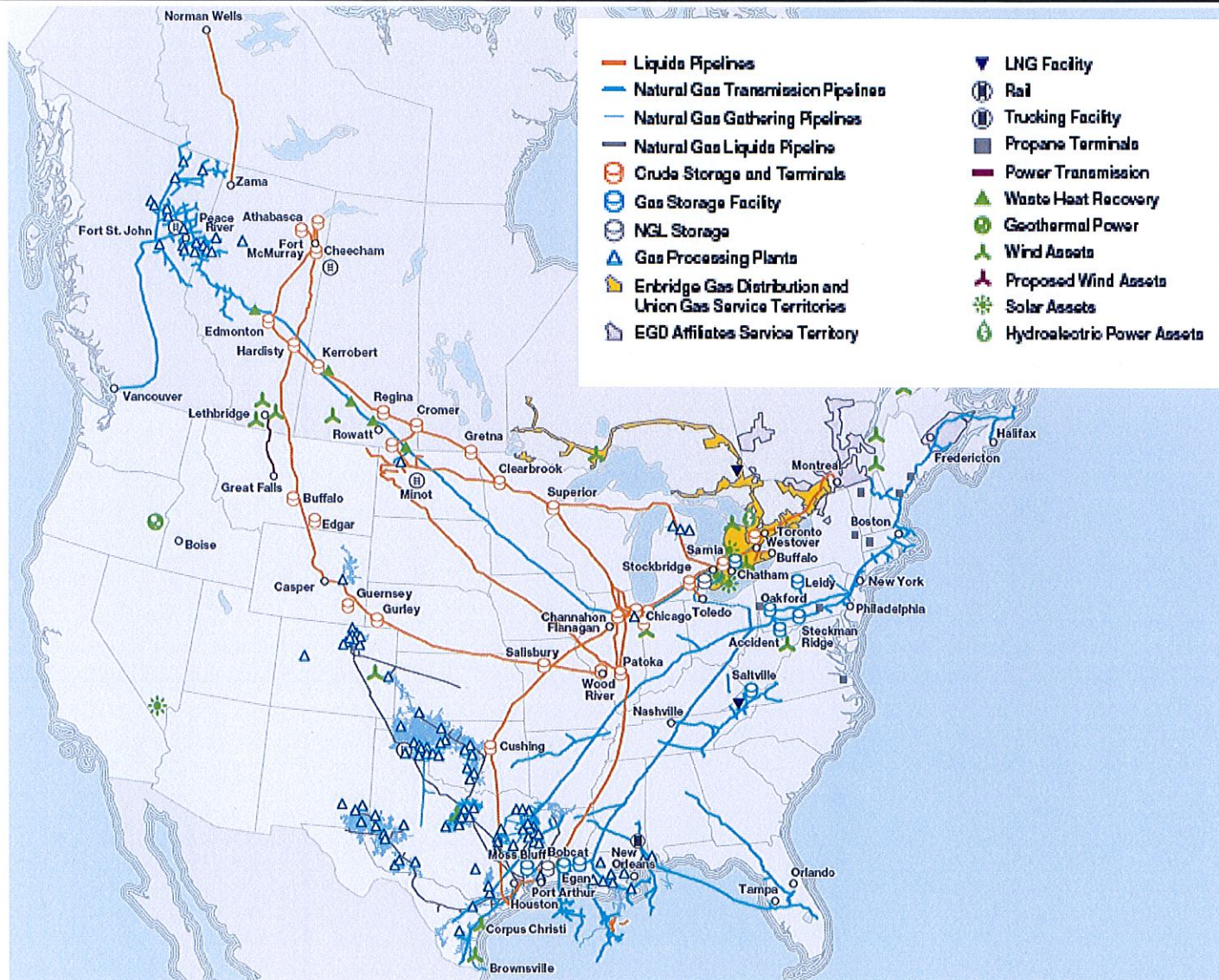
Our employees and contractors at every level demonstrate a personal commitment to continuous safety improvement. The goal is to keep ourselves, our teams and our communities safe.

Safety Principles

- Safety begins at the top
- Injuries and work-related illnesses are preventable
- Identifying and minimizing safety and health risks are priorities
- Personal ownership for safety and looking out for others is essential
- Openness, feedback and trust are keys to success
- Safety is good business, and a critical aspect of a high-performance organization



Enbridge Assets Overview

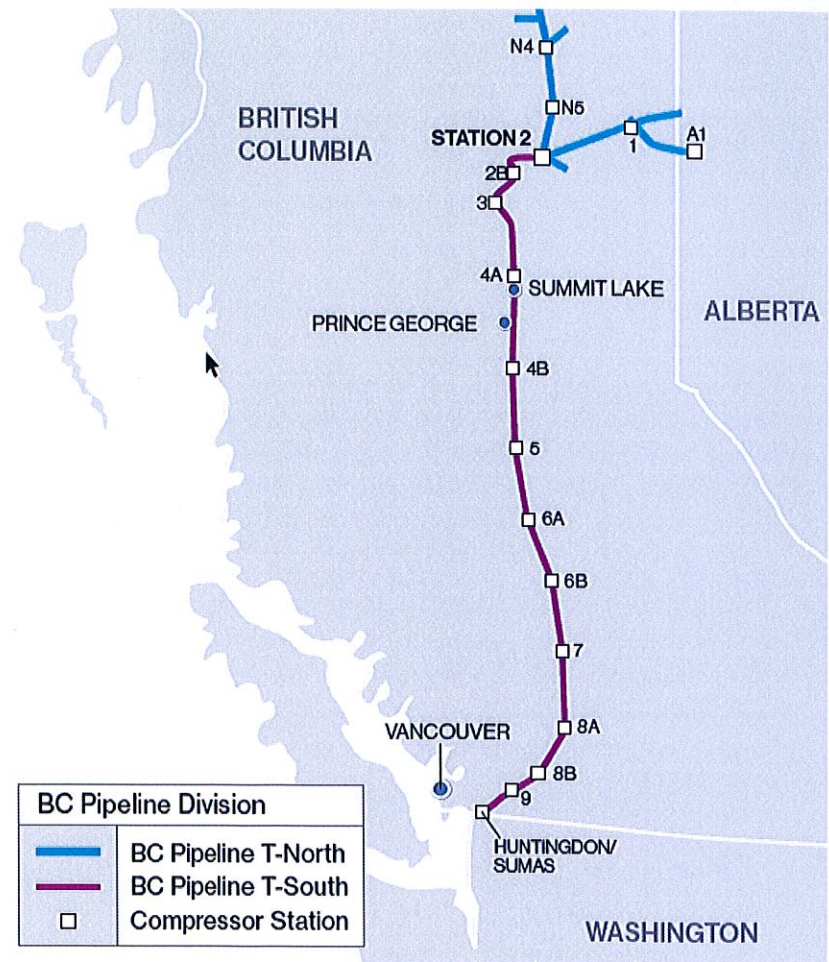


Operations in British Columbia



- Our facilities have been the backbone of the natural gas sector in British Columbia (B.C.) for more than 60 years
- Today nearly 80% of the natural gas produced in B.C. touches our system
- That gas is used to:
 - Heat homes, hospitals, businesses and schools
 - Electric power generation
 - Industrial and manufacturing processes that produce hundreds of products that improve our daily lives

We help to fuel people's quality of life by connecting them with the energy they need to live their lives.



Asset Transfer



Canadian Natural Resources and NorthRiver Midstream Inc.

Sukunka Natural Resources

- In 2018 Enbridge entered into an agreement with Canadian Natural Resources to sell the Pine River Gas Plant and Grizzly Valley Gathering systems.
- Transfer expected in Q2 of 2019.

North River Midstream

- In July 2018 Enbridge entered into an agreement to sell its natural gas gathering and processing assets in NEBC to Brookfield Infrastructure and its Partners.
- Provincially regulated assets transferred on October 1, 2018.
- Federally regulated assets will be transferred mid 2019 upon NEB approval.

Indigenous Peoples Policy



Our Indigenous Peoples Policy directs the methods by which we develop mutually beneficial relations with Indigenous communities

- We recognize the legal and constitutional rights possessed by Indigenous Peoples in Canada and in the U.S., and the importance of the relationship between Indigenous Peoples and their traditional lands and resources. We commit to working with Indigenous communities in a manner that recognizes and respects those legal and constitutional rights and the traditional lands and resources to which they apply, and we commit to ensuring that our projects and operations are carried out in an environmentally responsible manner.
- We engage in forthright and sincere consultation with Indigenous Peoples about Enbridge's projects and operations through processes that seek to achieve early and meaningful engagement so their input can help define our projects that may occur on lands traditionally used by Indigenous Peoples.
- Enbridge strives to create opportunities that are aligned with the aspirations of the Indigenous communities affected by our business. This often leads to partnerships and sponsorship of educational and training programs, employment-opportunity initiatives, and other capacity-building efforts.

Enbridge Inc. Indigenous Peoples Policy



Enbridge Indigenous Peoples Policy

Enbridge recognizes the diversity of Indigenous Peoples and the importance of their traditional lands and resources. We understand that the history of Indigenous Peoples in both Canada and the United States has had a profound impact on the social and economic well-being of Indigenous Peoples. Enbridge recognizes the importance of reconciliation between Indigenous communities and broader society. Peaceful relationships with Indigenous Peoples, based on mutual respect and focused on achieving common goals, will create sustainable solutions for Indigenous communities and for Enbridge.

Enbridge commits to pursuing sustainable relationships with Indigenous Nations and groups, primarily to ensure Enbridge conducts business. To achieve this, Enbridge will govern itself by the following principles:

- We recognize the legal and constitutional rights possessed by Indigenous Peoples in Canada and in the U.S., and the importance of the relationship between Indigenous Peoples and their traditional lands and resources. We commit to working with Indigenous communities in a manner that recognizes and respects those legal and constitutional rights and the traditional lands and resources to which they apply, and we commit to ensuring that our projects and operations are carried out in an environmentally responsible manner.
- We recognize the importance of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) within the context of Enbridge Canada and U.S. law and the commitments that governments in both countries have made to protecting the rights of Indigenous Peoples.

We engage in forthright and sincere consultation with Indigenous Peoples about Enbridge's projects and operations through processes that seek to achieve early and meaningful engagement so their input can help define our projects that may occur on lands traditionally used by Indigenous Peoples.

We commit to working with Indigenous Peoples to achieve benefits for them resulting from Enbridge's projects and operations, including opportunities in training and education, employment, procurement, business development, and community development.

We foster understanding of the history and culture of Indigenous Peoples among Enbridge's employees and contractors, in order to create better relationships between Enbridge and Indigenous communities.

This commitment is a shared responsibility involving Enbridge and its affiliates, employees and contractors, and we will conduct business in a manner that reflects the above principles. Enbridge will provide ongoing leadership and resources to ensure the effective implementation of the above principles, including the development of implementation strategies and specific action plans.

Enbridge commits to periodically reviewing its policy to ensure it remains relevant and meets changing expectations.



Revised: May 2018

2018 Chetwynd Engagement Community Investment



At Enbridge, we believe a community belongs to everyone who lives there. And, no matter who we are or where we live, all of us want to make life better for our families, our friends, our neighbours and ourselves.



Economic spinoffs that stimulate the economy

Our procurement spending across B.C.
exceeded \$1.5 billion in 2018



We work and live in your community

Our B.C. workforce included 683
employees and provisioned contractors
at the end of 2018



We work and live in your community

We paid \$64M in base salary to our
B.C.-based permanent and temporary
employees in 2018



Invested in your community

We spent \$140,200 on community-
strengthening initiatives across B.C. in
2018

Spruce Ridge Program

Spruce Ridge Program Overview



Purpose:

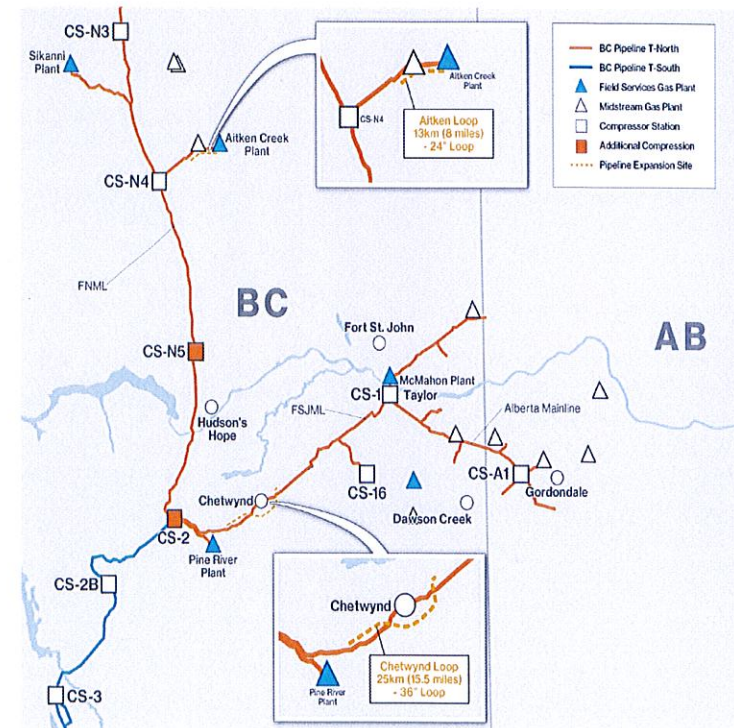
- Expand a portion of the natural gas transmission system in northeast B.C.
- Accommodate customer demand in a safe and reliable way

Project Scope:

- Pipeline Loops
 - Chetwynd Loop: ~25-km, 36-inch
 - Aitken Creek Loop: ~13-km 24-inch
- Compressor Station Upgrades
 - Adding new compressor units the N5 and CS2 compressor stations to accommodate an increased volume of natural gas
- Incremental transportation capacity: ~402 MMcf/d

What's the latest:

- NEB approval received December 10, 2018.
- Enbridge is currently executing the contracting strategy for the project.
- Enbridge currently anticipates a project in-service date in the fourth quarter of 2020.



Tupper West Expansion Project

Tupper West Expansion Project

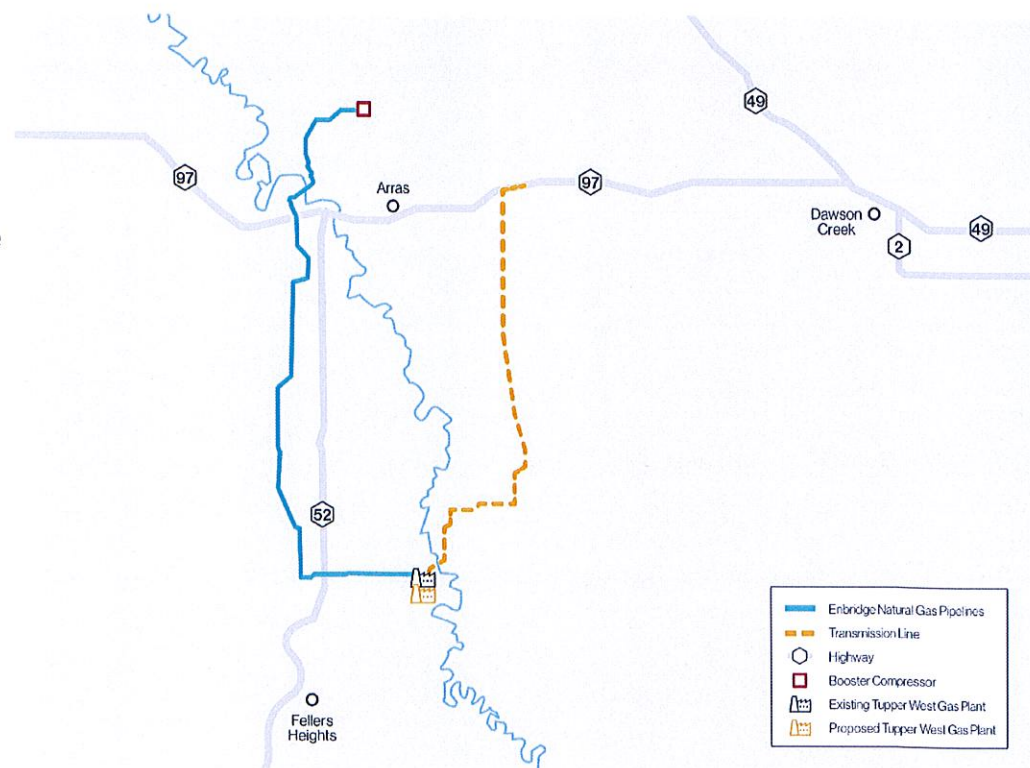
Project Status



Construction of gas processing facilities and modifications to existing facilities at the Tupper West Gas Plant, a booster compressor to support the increased volume of gas, and a transmission line to supply power to the site. The Tupper West Gas Plant is located 22 km southwest of Dawson Creek, B.C.

What's the latest:

- Transitioned to NorthRiver Midstream Inc., a wholly owned subsidiary of Brookfield.
- Regulatory applications submitted to the OGC late 2018.
- Approval for the facility received in January 2019. Construction at the site will begin in March 2019.
- Approvals for the booster compressor and transmission line anticipated in March 2019.
- Construction will commence following regulatory approvals.



T-South Reliability & Expansion Program

Upgrade Work is Necessary

Pipeline Segment Replacements:

- As population densities increase within proximity to existing pipelines, some pipe segments require replacement in order to meet more stringent design criteria associated with more populous locations.

Crossover Assembly Additions:

- New crossovers are installed at intervals along the system to allow for more efficient and safe execution of pipeline integrity investigations and maintenance operations.
- New crossovers may also be required to comply with more stringent isolation valve spacing regulations in areas of increased population density.

Compressor Station Upgrades:

- Replace existing compressors and association equipment with new, more efficient units.



T-South Reliability and Expansion Program



Program Scope

- **New compressor units** and associated equipment to support their operation will be installed at five existing compressor stations. Modifications proposed to existing compressors at two other stations and one meter station. The **new compressor units** being installed include the addition of a **new gas cooler** to accompany the compressor unit.
- As natural gas is compressed, its pressure and temperature increases. A gas cooler decreases its temperature before the gas is returned to a pipeline to ensure it does not negatively affect the pipeline system.
- All work associated with the new units will take place on Enbridge property.

General Updates

- Four applications submitted to the National Energy Board (NEB) in summer 2018.
- Discovery work completed at CS4B near 150 Mile House. This included excavations, survey of tie-in locations and discovery testing of the tie-pipe.
- Existing valve testing at CS2B, CS4A, CS4B, CS5, CS6A, and CS7.
- NEB to assess applications as one submission. Written and oral hearing scheduled for January - March 2019. Decision from NEB anticipated for July 2109.



Shelley Pipeline Incident

Pipeline Incident



October 9, 2018

What Happened:

- Enbridge's natural gas pipeline system in B.C. consists of two pipelines:
 - 30-inch diameter pipeline
 - 36-inch diameter pipeline
- At approx. 5:45pm PST a rupture occurred on a 36-inch natural gas transmission pipeline owned and operated by Enbridge, 13.5 km north of Prince George, B.C.
- On November 30, 2018, the NEB granted permission to operate one of the 12 sections of the T-South system's 36-inch pipeline at full operating pressure. This portion begins near Chilliwack, B.C. and continues south to the Canadian border with the United States at Huntingdon/Sumas.
- On December 24, 2018, the NEB issued an amending order, increasing the maximum allowable operating pressure on the remaining 11 sections of T-South system's 36-inch pipeline to 88 per cent of normal operating pressure at the time of the incident.

Safety is
Enbridge's
number one
priority

These lines will
continue operating at a
reduced pressure until
such time that Enbridge
and the authorities
having jurisdiction have
deemed that pressure
can be returned to full
capacity.

Pipeline Incident Response



Our Response:

- Both pipelines were shut down following the rupture of the 36-inch line.
- Emergency crews responded, isolated and depressurized the two natural gas transmission lines in the vicinity to contain the incident. The incident area was cordoned off.
- Evacuation of 100 Lheidli T'enneh First Nation members as a precaution.
- Enbridge is continuing a comprehensive integrity program on our T-South system. Enbridge is advancing this work prior to restoring the entire system to 100% of normal operating pressure. These integrity assessments, which may include integrity digs and inline pipeline inspections, are being done on a segment-by-segment basis.

No incident is acceptable to Enbridge. We recognize this incident has had a significant impact on the communities where we operate and we are working with those communities to address their concerns.

Monitoring and Maintaining our System

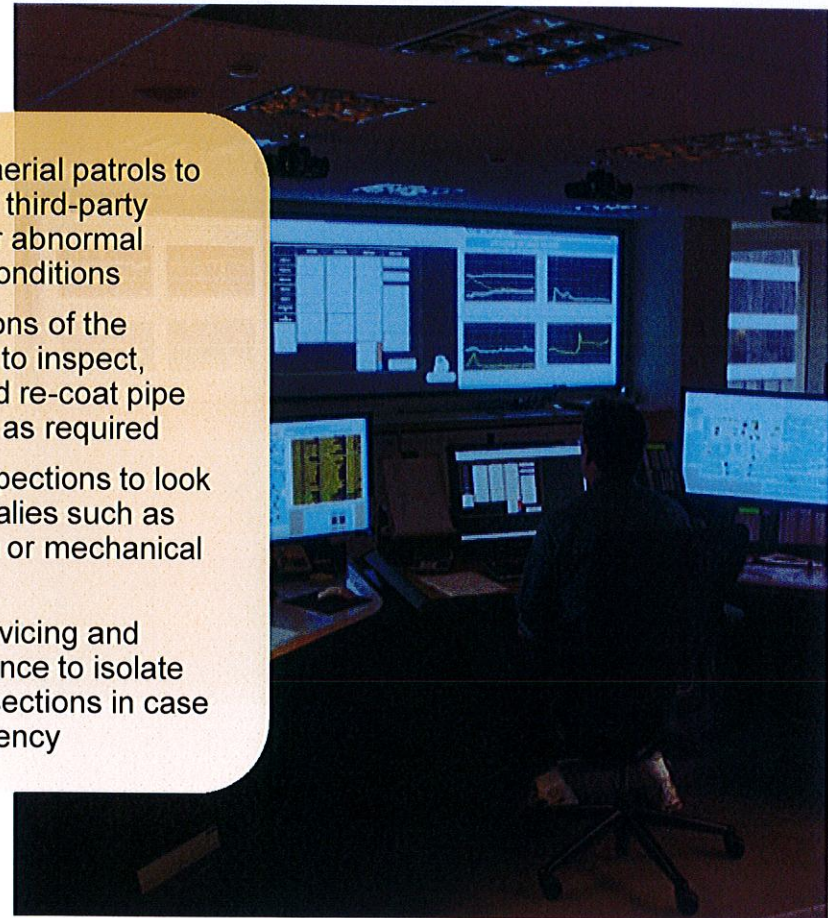
We Focus on...

- Meeting or exceeding all regulatory and industry safety standards during construction, operation and maintenance.
- Responding 24/7 to any incident.

Monitoring our System

- Two 24/7 gas control centres where operators monitor and control gas flows using a sophisticated computer system.
- Equipped with automated leak detection alarms and shut down systems.

- ☐ Routine aerial patrols to check for third-party activity or abnormal system conditions
- ☐ Excavations of the pipelines to inspect, repair and re-coat pipe sections, as required
- ☐ Inline inspections to look for anomalies such as corrosion or mechanical damage
- ☐ Valve servicing and maintenance to isolate pipeline sections in case of emergency



Integrity Dig Program



- Prevention is a key element of our multi-pronged approach to pipeline and facility safety – and preventative integrity digs are a critical component of our prevention program.
- A maintenance dig involves physically examining the integrity of the pipe segment and determine if a repair or other action is needed. Anomalies that have been known to require repair in the past include damage from third-party excavation, corrosion, cracking or denting.
- During an integrity dig, communities may experience construction activities and additional traffic on local roads as we stage equipment and resources to support the dig. Traffic plans and appropriate signage will be in place if needed.
- In certain areas, temporary workspace next to the permanent easement may be required for equipment or soil storage. If so, Enbridge will discuss arrangements with the local community and/or any landowners in advance of work activities. Our goal is to return all lands back to their original state once work is completed.

651

In 2018, we conducted 651 preventative maintenance digs across our natural gas pipeline infrastructure.

This ongoing preventative maintenance program is the most extensive in the history of the North American pipeline industry.

In the three-year period from 2016 through 2018, we spent C\$4 billion on programs that help us to maintain the fitness of our pipeline infrastructure across North America.

The steps involved
in a critical integrity
dig process

1

Marking the dig site

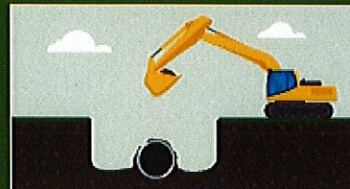
Temporary markers identify the access route and location of the excavation. The area is stripped of topsoil, which is stored separately from the subsoil



2

Excavation

Using machinery such as a backhoe, the subsoil surrounding the pipeline is carefully removed and stored



3

Cleaning and coating removal

A crew cleans the pipe and removes its protective coating to prepare for a detailed visual inspection



4

Inspection

Qualified technicians inspect the pipe to determine if repairs are required



5

Maintenance and repair

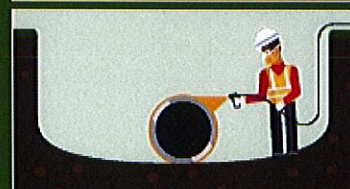
If needed, repairs are made to the exposed section of pipe. These range from cleaning, to halt early signs of corrosion, to replacing sections of pipe. Once this work is complete, welds are tested and the section inspected to ensure repairs meet government and industry standards



6

Recoating

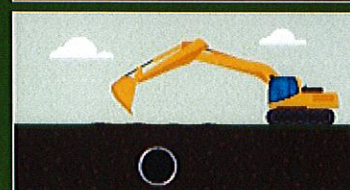
Once the pipe is repaired, it is recoated to protect against corrosion from water and soil



7

Backfill and cleanup

The excavation is backfilled and the affected landscape restored. Depending on the time of year the work is completed, restoration may have to wait. The site will be monitored for about one year after project completion and additional remediation may be performed to ensure the landscape is fully restored



Enbridge New Projects

—

Questions & Answers
