



'SMART PIG' INSPECTIONS:

Keeping our pipelines healthy and fit

Pipeline integrity management is a systematic approach to identifying and mitigating potential risks to pipelines and natural gas infrastructure. Enbridge's Integrity Management Program meets, and often exceeds, Pipeline and Hazardous Materials Safety Administration (PHMSA) standards as established under the Pipeline Safety Improvement Act of 2002.

In-line inspection (ILI) tools—or “smart pigs,” to use industry jargon—are important components of Enbridge's Integrity Management Program. Enbridge focuses heavily on prevention to keep our pipeline network safe, and ILI tools are highly complex pieces of machinery that use advanced imaging technology to inspect our pipes inch by inch.

These tools are essential to our aggressive program of prevention. They offer pinpoint accuracy for features that may require follow-up maintenance. And they further enhance the safety and reliability of our natural gas transmission system.

Cleaning pigs are used to clean the inside of the pipeline, maintaining a high-flow efficiency. Pipeline operators, such as Enbridge, perform regular maintenance with these mechanical cleaning pigs, equipped with anything from foam swabs to magnets to spring-backed brushes, to clean a pipe's interior.

Maintenance of the inside of the pipeline is as important as maintenance on the outside of the pipeline to ensure a safe, efficient and reliable system. Our company's pipelines pioneered many of the in-line inspection techniques currently used by the industry.

From launcher to receiver:

1. The pig is inserted into the pipeline at the launcher.
2. Natural gas moves the pig along the pipeline. A specific range of natural gas flow is necessary to keep the pig moving. Therefore, we sometimes must restrict the amount of natural gas flowing through the pipeline during the pigging process.
3. Along the way, the pig uses advanced imaging technology to inspect the pipe inch by inch. Experienced analysts use 3D visualization and thermal-mapping software to identify pipeline features that may require a closer look. The data is analyzed to ensure the integrity of the pipeline.
4. The pig is retrieved at the receiver.