

Energy Monitoring Services Inc.



Pipeline Fibre Optic Services Because your Reputation is on Every Line. Every Time.

Existing Lines – New Lines – Water Crossings – Populated Areas – Utility Lines

- ✓ Environmental Insurance with Regulatory, Communities/Stakeholders & First Nations
- ✓ Protection for our Environment
- ✓ Faster Detection yields Shorter Cleanup/Repair times
- ✓ Speed and Efficiency remain Unaffected by climate and weather patterns
- ✓ Events of Interest are Recorded
- ✓ Improved Gas Leak Detection versus previous online versions
- ✓ Pre Monitoring for Low Instance of false alarms
- ✓ Reliable Signaling and Categorizing of Integrity Impedence
- ✓ Output Options Clearly Displayed on Control Room Interface
- ✓ Unflinching Detection, Analysis, and Precise Location of Conditions of Interest
- ✓ Temporary & Permanent Monitoring Solutions
- ✓ Experienced technicians & engineers are set up to deliver their expertise in a smooth, unimpeded process
- ✓ Full EMS support from design and preparation, through installation, to implementation and commissioning of the line, as well as ongoing software support and pipeline monitoring
- ✓ Updates can be added to the monitoring period and frequency





Leak detection - Integrity Monitoring – Cementing Efficiency – Pig Tracing – Electric Line Optimization

How does it work?

EMS provides full unification of condition auditing that enables oil and gas pipelines to be monitored in real time using a single distribution observation system with no interruption.

EMS identifies, displays and alarms damage-or leak-related incidents...including those caused by exterior interference as well as those brought on by age of infrastructure or abnormal wear.

EMS offers a fully integrated fiber optic system that follows the succession of hydrocarbon products inside the pipeline, and corresponding alerts of inconsistencies. After recording the normal equilibrium of each line for a predetermined period of time, our EMS customized software can then implement all alerts for abnormal conditions and send them in real time. The data alert style is customizable for effectivity and convenience.

EMS offers fiber optic & software systems which have capability to monitor up to 200 km of pipeline with a single application.

Multiple application set ups can be conjoined to cover virtually any lengths required; delivering uninterrupted monitoring audits with typically one meter accuracy.

The fibre optic interacts along its entire length at a molecular level. The refraction of laser generated light waves are returned and measured in order to sense temperature fluctuations. The EMS software measures the optical backscatter signal. Abnormal fluctuations trigger rapid alert of a potential event. Powered by solar, fuel cell, or direct wire, we can collect data on up to 100 km of fibre in each direction from the placement of the monitoring unit.

What is my role in this kind of Project?

- ✓ EMS experienced technicians & engineers are set up to deliver their expertise in a smooth, unimpeded process
- ✓ Full EMS set up and support from design and preparation, through installation, to implementation and commissioning of the line, as well as ongoing software support and pipeline monitoring
- ✓ Updates can be added to the monitoring period and frequency to reflect client required parameters

What are some basic specifications?

- ✓ $\pm 0.25\text{m}$ to 1 m sampling intervals,
- ✓ 5 seconds minimum measuring time (larger intervals recommended for smoother data plots)
- ✓ ~5-30 km monitoring range per unit. May be configured up to 100 kms with a single unit
- ✓ 4 programmable inputs, with up to 40 programmable inputs available
- ✓ 1 channel functions, with up to 16 channels available
- ✓ 13 kg data sampling units
- ✓ ~25 watts power consumption DC controller
- ✓ 9/125 μm single mode DTS fibre
- ✓ 50/125 μm multimode DTS fibre
- ✓ ± 1 degree Celsius detection limit
- ✓ -40 to +60 C operating temperature with EMS specially configured units

EMS is a company formed by Untouchable Technical Staff; World First Technology Development Engineer for Fibre Optic Completion Monitoring combined with the Canadian Fibre Optic Pipeline Implementation Supervisors.

We have the most expertise, the collaboration to develop fit-for-purpose solutions and the creativity to have fun doing it!

Questions? Please contact our lovely staff at **587-707-2090**

www.energymonitoringservices.com

