

## SAFETY IN THE STRAITS: Line 5 monitoring

The Straits of Mackinac is a special place, and that's why we take special precautions to continue the safe and reliable operation of Line 5 as it crosses under the Straits. Our 24/7/365 monitoring program is one of many protective measures that we use to help keep the Straits safe.

### How do you monitor Line 5?

We use both trained staff and computerized monitoring to monitor the Line 5 Straits of Mackinac crossing around the clock.

### Who watches Line 5?

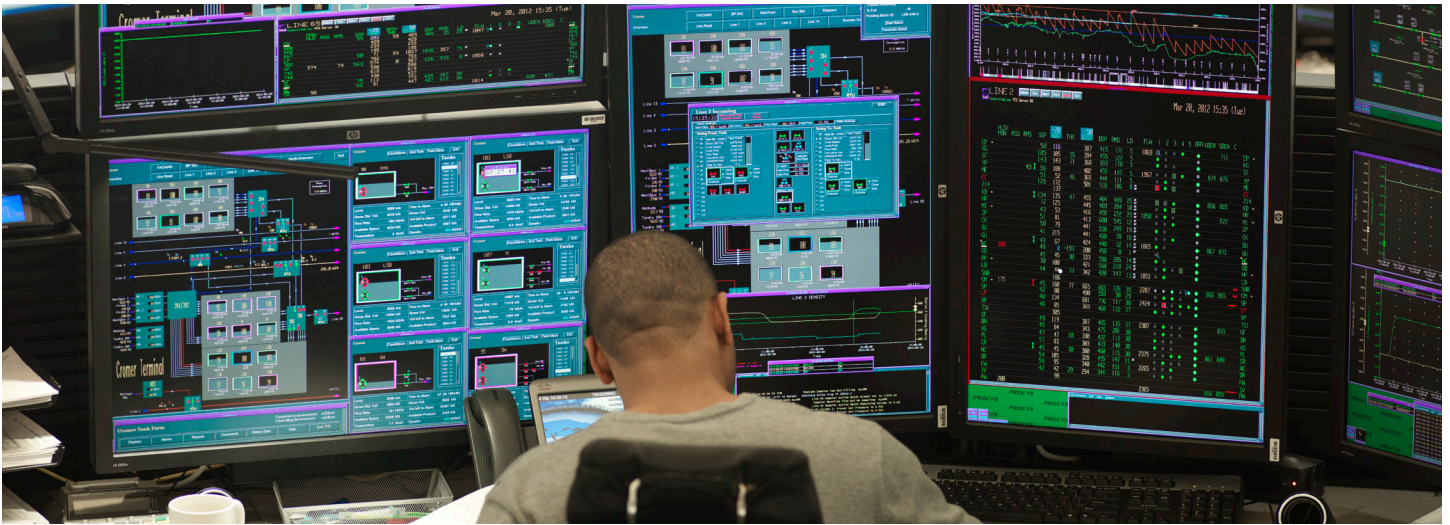
Dedicated two-person teams – specially trained controllers at our operations center – one directly monitoring, the other supporting – keep a watchful eye on Line 5, on a 24/7/365 basis, to ensure smooth operations.

### What if there's a problem?

Upon detection of a problem, our staff can immediately close remotely controlled isolation valves, with full closure occurring within three minutes of activation.

### What does Enbridge's 24/7/365 monitoring program involve?

Overlapping computerized modelling systems monitor pressure, temperature, and other key information from thousands of points along our pipeline network. They use this data to detect small features in the pipe that may require underwater inspection by a diver or Remote Operated Vehicle (ROV), or that could indicate a leak. We back this up with visual surveillance on our network, including aerial and ground patrols.

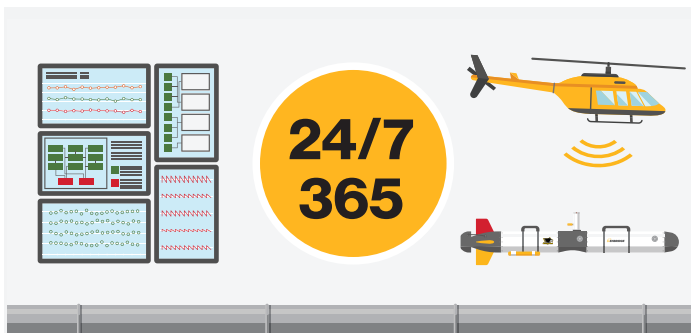


> Jim is one of the controllers dedicated to Line 5. These screens provide continuous, real time information on Line 5 that allow Jim and the rest of our Pipeline Control Center team to monitor the line 24/7/365.

### Ongoing 24/7/365 monitoring

Line 5 is monitored 24/7/365 by two Enbridge controllers at our operations center in – one directly monitoring, the other supporting. These controllers undergo a comprehensive six- to nine-month training program before they are qualified to operate consoles independently.

Upon detection of a possible problem, our specially trained staff can close remotely controlled isolation valves immediately, with full closure occurring within three minutes of activation to isolate the affected section of the line.



> We monitor Line 5 around the clock, using both trained staff and computerized monitoring—including real-time computer modelling, aerial surveillance and inline inspection tools, as part of our commitment to safe operations.

### Automated protection systems

Our automated monitoring systems also keep a watchful eye on Line 5, as well as other Enbridge pipelines. Each system has a unique focus, and uses different technology, to provide overlapping protection.

They include:

- Controller monitoring, or Supervisory Control and Data Acquisition (SCADA), that identifies operational changes, vapor concentrations, and equipment vibration levels;
- Computational pipeline monitoring, which keeps track of pressure, temperature, and other key data from thousands of points along our pipelines; and
- Acoustic emission inline inspections, with sensitive acoustic devices that “listen” for leaks from within the pipeline.

### Keeping the Straits safe

Enbridge understands how important the Straits of Mackinac are to Michigan residents. The health and the protection of this waterway, and the Great Lakes, are essential to the vitality, sustainability, and economic prosperity of the region – and the state of Michigan.

### What is Line 5?

Enbridge’s Line 5 is a 645-mile, 30-inch-diameter pipeline that travels through Michigan’s Upper and Lower Peninsulas, originating in Superior, Wisconsin, and terminating in Sarnia, Ontario, Canada.

Products moved on Line 5 heat homes and businesses, fuel vehicles, and power industry in the state of Michigan.

Built in 1953 by the Bechtel Corporation to meet extraordinary design and construction standards, the Line 5 Straits of Mackinac crossing remains in excellent condition, and has never experienced a leak in more than 60 years of operation. We’re working hard to keep it that way.