

SAFETY IN THE STRAITS:

Line 5 winter emergency response



The Straits of Mackinac is a special place, and that's why we take extraordinary precautions to continue the safe and reliable operation of Line 5 as it crosses under the Straits. Our primary focus is on prevention of incidents, and we also maintain strong emergency preparedness and response systems that we regularly test and continuously improve. This includes our capabilities to respond to a pipeline emergency during winter conditions.

How can Enbridge respond to a spill in the winter, when there's ice on the Straits?

We have the training, the people, and the resources to respond, within one to two hours, to a winter spill in the Straits of Mackinac. We have equipment positioned near the Straits to enable access, containment, and removal of oil – including equipment tailored to a response in harsh winter conditions.

What about preparation and practice?

We're not only prepared for a winter oil release – we also practice and refine our response on an annual basis. We held a full-scale simulation exercise at St. Ignace, Michigan, in January 2012, involving the U.S. Coast Guard and other response partners. We observed and supported another winter response exercise on Lake Huron in February 2016, as the U.S. Coast Guard tested winter spill response equipment. Our first responders are also trained by experts in cold-weather oil spill response.

Do you expect to handle a winter oil spill all by yourselves?

In addition to mobilizing our own people and equipment, we would immediately leverage the resources of the U.S. Coast Guard, which has federal jurisdiction in this area. To augment and support our response, we also have signed contracts with oil spill removal organizations – such as Marine Pollution Control and Mackinac Environmental Technology in the Straits region – whose resources can help enable a safe, speedy, and effective response.

Has anyone else looked at your winter response contingencies?

To continually improve our response plans, an independent contractor with spill response expertise was commissioned in early 2015 to evaluate our capabilities to respond to a pipeline emergency during winter conditions. We expect this evaluation will lead to further improvement and enhancement in this area.



> At Enbridge, we regularly test and continuously improve our response plans, and that includes working with specialized equipment for winter emergency response scenarios.

Winter spill response: The equipment

Enbridge, along with our contractors, owns response equipment that's based in the Straits, and available for rapid deployment. This equipment includes:

- Remote Operated Vehicles (ROVs) that move below the surface of the ice, detect oil with sensors, and transport equipment below the surface to remove oil;
- Ice drills or augers that cut holes in the ice, so hoses and pumps can be used to suction oil;
- Arctic-specific water skimming equipment that can be used in both open-water and icy conditions;
- Specialized ice and fire boom, deployed to contain oil; and
- Vessels with water cannons that "herd" the oil to containment and collection areas.

Winter spill response: The people

We have two "oil recovery under ice" instructors, trained by Dowcor Environmental, who deliver in-house training at Enbridge. Our first responders regularly practice ice response tactics, and attend specialized training courses focused on response in this type of environment.

One of our recent real-world learning opportunities came at the end of January 2017, when we led a full-scale exercise on Devils Lake, North Dakota. We also supported a U.S. Coast Guard simulation exercise at Port Huron, Michigan in February 2016.

Enbridge also has access to world-class experts in cold-weather oil spill response, and we would engage these organizations in the event of any incident.

Winter spill response: The plans

Ice cover changes the movement and composition of oil, with any potential spread of oil reduced in icy conditions. Ice floes also act as natural boom, with their presence limiting the oil's movement.

The changing properties of oil, and the access obstacles created by ice, are all taken into consideration in Enbridge's emergency response plan developed for the Straits of Mackinac.

We regularly test and continuously improve our response plans alongside local first responders, emergency management officials, and law enforcement.

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.