

# STATE-OF-THE-ART TECHNOLOGY ENHANCES EMERGENCY RESPONSE OPERATIONS





*Global pipeline company TransCanada is leading the charge for safe and efficient emergency response operations across North America. The company is going a step further with a newly customized tool developed by Burns & McDonnell.*

TransCanada, which generates enough electricity to power 11 million homes, delivers about 20 percent of the natural gas consumed by North Americans and nearly 20 percent of the oil exported from Canada into the United States. With investments in proactive integrity and maintenance programs topping \$1 billion a year, the company is committed to the safe operation of its energy assets and protecting the environment and the public.

“While we have always been committed to safety, we knew it was time to advance our operations with a superior technology,” says Robert Baumgartner, manager of oil, pipeline and environmental services at TransCanada. “That’s why we partnered with Burns & McDonnell to create a leading emergency preparedness and response tool (EPRT) that tracks developments in real time.”



## TOOLS AT YOUR FINGERTIPS IN AN EMERGENCY

The EPRT is a customized version of OneTouchPM®, a web-based application developed by Burns & McDonnell that pulls data from any source system and geospatially stores it in a single, user-friendly, three-dimensional world. This makes it possible to easily and securely deliver critical data anytime, anywhere, says Mark Knaack, a principal and Environmental regional practice manager at Burns & McDonnell.

The firm first used OneTouchPM for a spill response in 2010 and has since advanced the technology.

“Our teams collected data and provided updates from the spill scene that proved successful in helping that company bridge gaps in communication and manage the logistics of massive resources at the site,” Knaack says.



**ON SCREEN, ON SCENE:** An EPRT allows Tapsi Puri (opposite page) and other authorized stakeholders to track, coordinate and facilitate emergency response. During Operation Riverboat (above, clockwise from left), crews monitored clean water, conducted a tailgate safety briefing, deployed an action boom, and stationed a vacuum truck along the Missouri River.

TransCanada responded to the tool’s success by investing in its own customized version, one that is fully integrated with the company’s existing data formats and geographic information system (GIS).

The tool streamlines collaboration between responders by managing resources, tracking logistics and minimizing physical paperwork in real time during emergencies.

TransCanada tested the new tool last fall during Operation Riverboat, an exercise that simulated an oil spill resulting from a third-party pipeline strike near water in Yankton, South Dakota.

“I’m confident in our pipeline systems and their operability,” Baumgartner says. “But in the event of an incident, I know our new EPRT has everything we need for a true emergency response.”



### OPERATION RIVERBOAT: PUTTING TECHNOLOGY TO THE TEST

At the start of the exercise, TransCanada's team established an emergency operations center in Calgary, Ontario, and an incident command center at a public park in Yankton where emergency responders converged.

Crews deployed booms to contain and prevent the spill from reaching the main channel of the Missouri River. But high winds had caused the virtual crude to move beyond the booms and into the creek, heading straight for the river. From the incident command center in Yankton, emergency personnel assessed the spill using time-stamped photographs, field observations and other data sent through mobile tablets from responders in the field to an electronic bulletin board linked to TransCanada's computer system.

The bulletin board, which fits on a single screen, is like a website of all the data needed during an emergency, such as contacts, organizational charts and

regulatory documents. The bulletin board also organizes facts for use by incident commanders in their decision-making.

During the drill, the highly sophisticated EPRT pinpointed locations where responders collected data and used geometric reference points to show the overall coverage area on the geospatial dashboard, OneTouchPM. A ticker on the bulletin board provided progress updates and other information, bolstering communication among teams in multiple locations and with the public and media.

"It's a pretty powerful thing," says Warren Brown, a staff geologist at Burns & McDonnell who participated in the drill. "With the time-stamped photos and documents, TransCanada is able to easily share any of this information with the public and give photographic evidence of how quickly and thoroughly they are responding to an incident."



**LESSONS LEARNED:** OneTouchPM's role in management of an actual pipeline rupture in 2010 (far left) preceded TransCanada's investment in an update (left) that has been tested in the field (above) and is now available for wider use.

## THE FUTURE OF EMERGENCY RESPONSE OPERATIONS

TransCanada's EPRT is a game changer for how it and other companies can manage, streamline and improve their emergency response operations.

"We've empowered TransCanada to manage themselves during an emergency rather than the company having to rely on contractors to lead their teams and follow their protocol," says Tapsi Puri, a Burns & McDonnell project manager who helped design the tool.

The tool also manages the company's assets, including documents, and can handle multiple incidents at one time.

"Filing documents is a task in itself," Puri says. "Instead of relying on managing content outside of the EPRT solution, we integrated an elegant and a flexible content management system inside the bulletin board. TransCanada stores the documents and ICS Forms in that system and can customize the folder structure and permissions on an incident-by-incident basis."

The entire response to an incident is recorded on the EPRT, allowing TransCanada's team to review the response, identify areas for improvement and address those areas in planned drills. Though officials hope they never have to use it for a real emergency, TransCanada is thrilled with the new tool and has agreed to allow Burns & McDonnell to customize it for other companies — even competitors.

Unlike other systems, the EPRT supports multiple incidents and displays field data geospatially in real time. The system ties preparedness data to specific locations as well.

"This improved preparedness and planning leads to better safety for everyone involved," Bumgartner says.

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