

# Pipelines face growing challenge from environmentalists

Environmental opposition to new pipeline projects is posing an ever greater challenge to midstream operators as they plan new infrastructure, with recent events illustrating this, writes Ros Davidson

## NORTH AMERICA

### WHAT:

Pipeline operators are facing ever greater challenges from environmentalists and local opposition.

### WHY:

Opponents to pipelines cite climate change risks from growing production, among other reasons.

### WHAT NEXT:

The vulnerability of pipelines will become an increasingly important issue.

ENVIRONMENTAL protests against oil and gas pipelines are on the rise in North America, as illustrated by the recent showdown over the Dakota Access pipeline being constructed in North Dakota.

Hundreds of protesters have gathered where Energy Transfer Partners' US\$3.8 billion project would cross the Missouri River in North Dakota. Indigenous activists have come from as far as Central America and Norway to protest about what they claim is an encroachment on tribal land, as well as the perceived risk of drinking water contamination.

Many protesters have been arrested after people chained themselves to bulldozers and blocked roads with tree trunks and bales of hay. North Dakota's Governor, Jack Dalrymple, has called out the US National Guard. And the protest shows no sign of abating.

The Dakota Access pipeline, which was due to start up in late 2016 but is now widely anticipated to be delayed until 2017, will carry crude from the Bakken play to Patoka, Illinois. There it will connect to the Trunkline system, allowing the oil to be shipped further south to the US Gulf Coast.

### Sabotage

Meanwhile, related events on October 11 could be particularly significant for the oil and gas industry. That day, self-described "climate activists" managed to stop the flow in pipelines from Canada's oil sands to the US.

The sabotage was a well-planned action, taken in what the activists said was solidarity with the Dakota Access opponents. For the saboteurs, backed by the Climate Disobedience Action Fund, carbon emissions from the oil sands were also an issue. And development of the Bakken – from where the Dakota Access pipeline would ship crude – as well as the process of hydraulic fracturing, seems likely to be considered as a reason for their actions as well.

These illegal acts were followed by the temporary shutdown of five pipelines from the oil sands, with operators claiming that at least one of these pipelines was stopped purely as a

precautionary measure. The pipelines carry around 2.8 million bpd of crude, or 15% of daily US consumption. It was the largest ever such instance of sabotage in North America.

The saboteurs were apparently able to break through fences by cutting chains links and locks, and were then able to access valves and turn them off.

In some cases, the saboteurs had reportedly called control centres shortly in advance to warn them, in the hopes of ensuring there was no danger to people or the environment. They also claimed they had studied the pipelines for months, including looking into how to turn off valves in order to minimise danger, although such information may be proprietary and difficult to access.

### Temporary closures

At the time, Enbridge said it had closed its Line 4 and Line 67 at the valve site in Leonard, Minnesota, but added that deliveries were not affected. The company accused the protesters of "inviting an environmental incident" and endangering public safety.

Protesters also accessed a valve on Spectra Energy Partners' Express Pipeline in Montana. The company said it had closed down the pipeline as a precautionary measure. TransCanada's Keystone pipeline was also shut for a short while and the company said that protesters had tried to tamper with it in North Dakota.

It was not clear when the temporary closures were initiated – and whether they were implemented before or after the acts of sabotage.

Kinder Morgan's Trans Mountain pipeline was also targeted, with trespassers accessing one of its feeder pipelines in Washington State. However, the company said that this section of the pipeline had not been operating anyway. Deliveries were not hampered, Kinder Morgan added.

"We want to make sure it's not cheap or easy or even possible for [pipelines] to come through," one of the saboteurs, Emily Johnston, told the Houston Chronicle. "We have to do something to shake up the system and inspire people to action. We all have to understand how dire the

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► situation really is.”

The question of how vulnerable North America’s oil and gas pipelines – at over 2.5 million miles (4.0 million km) – are to such action is becoming increasingly important. There are also additional questions over what the impact of such environmentalist sabotage could be, even if the activists believe they are not endangering public safety or the environment. The movement to “keep it in the ground” – which is opposed to all fossil fuel development – is gaining strength, and this does not bode well for pipeline projects currently being planned.

North America’s pipelines can traverse both remote and densely populated areas, and policing such infrastructure is expensive – even with cameras or remote sensing from satellites – with costs typically having to be borne by the operators. Valve stations can be located every 20 miles (32 km) and are particularly vulnerable to sabotage.

“Tampering with energy infrastructure is a dangerous activity and it could cause harm to citizens and surrounding communities, which is unacceptable,” said Canadian Minister of Natural Resources Jim Carr after the recent incidents.

### Not unprecedented

Such sabotage is rare but not unprecedented in North America. In January, Calgary-based Enbridge had to close an oil pipeline in Ontario after a protester accessed a valve station. And in December 2015, Enbridge was forced to turn off another pipeline in Quebec for several hours after protesters chained themselves to equipment.

There have been warnings that even “low-tech” sabotage – such as turning off valves – could be dangerous, but often would not be. It should be noted that acts considered to be terrorism would be a completely different matter.

“While we certainly understand the activists’ concerns with the lack of speed to address climate change, we think that illegally closing valves is a dangerous stunt that really does little to address these people’s concerns,” said the US-based Pipeline Safety Trust’s executive director, Carl Weimer.

“The Pipeline Safety Trust was founded in part because a valve closed unexpectedly, causing a pressure surge that ruptured a pipeline, killing three young men,” Weimer said. “Closing valves on major pipelines can have unexpected consequences endangering people and the environment. We do not support this type of action, and think it is dangerous.”

Pipeline advisory firm Accufacts’ president, Rick Kuprewicz, echoed these sentiments. Pipelines are moving hazardous hot hydrocarbons. “This was a really dumb thing to do, no matter

what your cause,” he told *NewsBase*. “This isn’t a game.”

Pipelines can be heavily pressurised depending on length and altitude variation, and shutting off a valve could cause ruptures that are “catastrophic” for the environment, Tullis Engineering Consultants’ president, Paul Tullis, told Reuters earlier this month. “It’s like a freight train,” he said of the momentum of the oil being moved by pipelines. “If these people are hydraulic engineers, they might be able to do this safely.” Compounding this is the fact that there could be pre-existing damage to a pipeline, especially if it is an older one.

However, Kuprewicz said that closing valves was not usually dangerous because operators have had to plan for an unanticipated shutdown, and multiple safety systems were in place. Indeed, operators in the US are required by regulators to plan for such events.

“But all you have to do is to be on the line where it is dangerous,” said Kuprewicz. Such a situation, however, would be “rare”, he added. Perhaps a more likely disruption to pipelines would be if hydrocarbons were being shipped in batches, and the batches became mixed up because of an unexpected stoppage, leading to the product becoming degraded. And someone would have to pay for that, Kuprewicz added.

“Oil and gas companies are making significant investments in physical security – both in protecting the buried pipelines themselves from third-party interference and in protecting the above-ground infrastructure,” said Senstar product manager, Stewart Dewar. Senstar is an Ontario-based company that produced a 2012 white paper on pipeline security. “But there is still a long way to go particularly in North America where until recent years the perceived threat has been quite low,” he told *NewsBase*.

Options for addressing the threat include perimeter detection of trespassers entering a facility, including with systems mounted on the fence, ones that are buried in the ground and standalone systems such as microwave beams. Deterrence can include warning signs, lighting, a camera system, and a two-way live audio capability to warn trespassers that video is being collected. And there must be the threat of a response from a security force, such as police or company security officials, even if that response cannot be immediate because of the location, he said.

Even with the risks of sabotage, pipelines are generally considered to be a safer method of oil transport than rail. However, such claims have not won over opponents to pipelines so far and seem unlikely to do so in the near future. Instead, pipeline operators will likely have to contend with heightened levels of opposition as they plan new infrastructure. ❖

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