A High-Stakes Trade-off

Rail catastrophes underscore need for pipelines

BY KATE SHIRLEY

The issue of whether to expand North American oil production capabilities is certainly a contentious one – with strong and reasonable beliefs on both sides. But no matter where you stand on the issue, the fact remains that, as long as oil is actively being extracted from the earth, there needs to be a safe and reliable way to deliver that oil to refinery, storage and distribution sites. As pipeline projects continue to endure opposition and delays, oil producers have increasingly looked to rail as a delivery alternative. This scramble has resulted in a crude delivery system that is unnecessarily expensive and dangerous, putting the safety of too many communities in jeopardy.

Safety Concerns

Questions regarding the safety of the crude by rail system have been growing exponentially since the number of related disasters has increased. A recent study found that for every billion-ton-miles traveled, an average of less than one incident is recorded involving pipelines, while there are 19.95 incidents over the same distance involving rail transit. According to the Pipeline and Hazardous Materials Safety Administration (PHMSA), there were nine such accidents in 2010, and 108 last year. In December, a train derailed and exploded in Casselton, North Dakota, sending residents fleeing toxic fumes. Another accident a month earlier in Alabama caused thousands of barrels of oil to pollute wetlands that feed into the Tombigbee River, a major source of water for several southern cities. And last July, a train carrying Bakken crude exploded just north of the U.S. Border with Canada, leveling the tiny town of Lac-Mégantic, Quebec and killing 53 people.

Need for Regulation

These accidents have prompted regulators to take an urgent look at closing the safety gaps that have been blamed for these accidents. In January, the National Transportation Safety Board called on federal regulators to approve several measures. Proposed changes include slowing the speed of trains or rerouting them from heavily populated areas. Railroad executives also agreed to toughen the standards for train cars used to transport the oil. Even though trains frequently carry flammable liquids and gasses, none are specifically designed to carry the particularly volatile and heavy tar sands crude. While cars built since 2011 adhere to higher safety standards, there are tens of thousands of older cars that remain in service.

The Canadian town of Lac-Mégantic following a devastating tanker car explosion that killed 53 residents.

In early February, an investigation into tanker car explosions by the PHMSA and the Federal Railroad Administration necessitated enforcing the first crude by rail regulations. Fines were levied on three oil companies, alleging that they failed to properly test the crude being transported, which resulted in unsuitable tanker cars being used to move the oil, directly causing the devastating accidents in each case.

Current Reality

As long as the demand exists, oil rich areas will continue to be developed, and pipelines are the safest way to transport this volatile product. Buried underground, pipelines are not subject to factors like traffic and weather conditions. The volume can also be easily controlled, the flow is continuous and it is much cheaper to ship oil by pipeline. Costs run about half as much as when transporting oil by train. And, while pipeline incidents were found to spill more oil per incident than rail incidents, rail accidents have a far higher likelihood of injury and death.

Beyond the controversy surrounding the Keystone XL pipeline, other smaller projects, including the Northern Gateway and Transmountain Expansion pipelines to Canada's West Coast, are also facing high levels of public opposition. This leaves little hope that things will improve anytime soon, unless stringent regulations and fines are put into place – and enforced.

The U.S. State Department's recent environmental impact statement on the Keystone XL project (see page 57) underscores these concerns. It concluded that no single project is going to alter the volume of tar sands oil production in Canada. However, in the event that the pipeline isn't built, rail cars are going to have to pick up the slack. According to the Association of American Railroads, crude oil traveling by rail increased from 9,500 carloads in 2008 to an estimated 400,000 in 2013. These numbers will just keep growing. Today, more than 10 percent of America's total oil production is shipped by rail.

There's no question that with domestic oil production reaching new peaks – in the last five years it has jumped by 50 percent - the stakes are high and rising. Without the necessary infrastructure to ferry this commodity from the oil fields, compromises are being made on the delivery system. What we can't afford is another compromise on human life and safety.