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Crude oil in Oregon train explosion exceeded proposed NYS safety limit

Schneiderman again calls for federal measures to reduce volatility of oil

By Brian Nearing Updated 2:13 pm, Friday, June 10, 2016

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In this frame from video provided by KGW-TV, smoke billows from a Union Pacific train that derailed Friday, June 3, 2016 in Oregon's scenic Columbia River Gorge. The accident sparked a fire and an oil spill ... more

Correction: North Dakota has required conditioning of Bakken crude, where flammability is reduced, since April 2015. The required reduction is less than that being sought by New York Attorney General **Eric Schneiderman**. *An earlier version of this story was incorrect.*

Albany

A crude oil train derailment and explosion near a small Oregon city last week involved Bakken crude more flammable than a limit proposed six months ago to federal safety officials by state Attorney General Eric Schneiderman.

No one was hurt Friday when 16 tanker cars derailed near Mosier, on the Columbia River, although the town's drinking water and sewage systems were damaged, oil spilled into the river and local schools had to close a week early. Several tankers caught fire. Flames were extinguished by Saturday.

Residents were evacuated up to a quarter-mile away from the blaze. City Fire Chief **Jim Appleton** said a tragedy was narrowly averted and called rail oil shipments "insane" in an interview with **Oregonlive.com**.

On Monday, **Federal Railroad Administration** officials said the oil, being shipped westward in a 96-car train from the Bakken fields of North Dakota, had a vapor pressure of 9.2 pounds per square inch (psi) — about the same level as crude oil that exploded in a derailment in July 2013 in the small Canadian city of Lac Megantic, Quebec, killing 47 people and causing more than $1 billion in damage.

Vapor pressure indicates how easily a material can vaporize; the presence of vapor mixed with oxygen is what causes petroleum to ignite, burn and explode. The higher the psi, the more volatile — and potentially more flammable and explosive — the petroleum.

Last December, Schneiderman petitioned the federal **Pipeline and Hazardous Materials Safety Administration** (PHMSA) to require that crude oil shipped in rail tanker cars have a vapor pressure of 9 psi or less, which is the federal standard for oil shipped in pipelines.

Earlier that year, federal officials announced rules that would gradually phase out the least-sturdy rail oil tankers, but made no changes to the current shipping safety standard of 14.7 psi.

Vapor pressure of crude oil can be reduced through a process called conditioning, in which the most volatile gases are stripped out. Conditioning is used for some crude oil produced in Texas.

In the Mosier explosion, the tankers were the CPC-1232 variety, which are retrofitted with extra steel and guards to improve strength and reduce fire risk. There are about 60,000 CPC-1232s currently in use across the U.S., and the revamped federal rules allow their continued use through 2025.

"Federal efforts to make 'bomb trains' safer have focused on the rail cars themselves — entirely missing proven means of increasing the safety of the oil they carry," said Schneiderman on Monday. "My office renews its call for federal regulators to close this loophole and limit vapor pressure of crude oil to under 9.0 psi, a standard that is safer and can be achieved with existing technology."

The PHMSA confirmed the submission of the petition on Dec. 2, the day after receiving it. The attorney general has received no further communication from the agency, but a federal spokesman said Monday it remained under review.

In 2014, North Dakota officials set their own vapor pressure standard for Bakken crude of no more than 13.7 psi, a level that would not affect about 80 percent of the crude being shipped from that state. The North Dakota standard also is well above the pressure of 9 to 9.3 psi found in Bakken crude by Canadian safety officials after the Lac-Megantic explosion.

In a report after that tragedy, the **Canadian Transportation Safety Board** found the Bakken crude involved was as volatile as gasoline. The volatility, combined with "large quantities of spilled crude oil, the rapid rate of release, and the oil's ... low viscosity were likely the major contributors to the large post-derailment fireball and pool fire," the board found.

According to the **North Dakota Petroleum Council**, the average Bakken crude has a psi of between 11.5 and 11.8 psi. By comparison, crude oil pumped from beneath the Gulf of Mexico is about 3 psi. In Texas, crude oil produced in the Eagle Ford shale formation has a psi of about 8.

According to **the Associated Press**, there have been at least 26 oil trains involved in major fires or derailments during the last decade in the U.S. and Canada. At least 12 of the oil trains were carrying Bakken crude, and of those, eight caught fire.

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