CONFRONTING GLOBAL WARMING

Tar Sands Increases Risk for Disastrous Oil Spills

One of the biggest environmental and energy issues facing our country is the Keystone XL tar sands pipeline, which would provide a major oil conduit through America's heartland. Other pipeline proposals—from New England to the Great Lakes—are also under scrutiny after the recent disasters that have cast a shadow on the industry. Here's what you need to know about the risks tar sands pose to your community.

The "Dilbit Difference"


Photo: Lou Gold

Despite the attention paid to these projects in recent years, many people still don't understand the difference between tar sands and conventional crude oil: unlike liquid crude, tar sands are a thick, viscous substance (sometimes compared to gritty peanut butter) that must be diluted with chemicals or refined before it can be shipped. Diluted tar sands bitumen, called "dilbit," is likely more corrosive (due to its chemical mixture) and abrasive (due to high-grit minerals) than normal crude oil. As such, it must be pumped at high temperatures and pressure, **raising the risks of a spill**.[1]

To make matters worse, **the industry doesn't know how to clean up this product after an accident**—its unique composition means that traditional response techniques don't work. Most notably, unlike conventional crude, tar sands oil sinks in water while the chemicals used to dilute it evaporate as a toxic cloud.[2] Yet, the safety and spill response standards that regulate pipeline transport of tar sands are the same ones designed for conventional oil—there are no standards in place to ensure that new pipelines are built, maintained, and operated with tar sands properties in mind, or that response plans are in place to deal with the distinctive challenges of tar sands spills.

Despite the industry's claims that tar sands pipelines are safe, there is increasing evidence they are not. Tar sands transport in the U.S. is relatively new, but tar sands pipeline failure rates in Alberta, Canada (the epicenter for the industry) are much higher than those carrying conventional crude oil.[3] Additionally, while data is limited, a California state study showed that pipelines fail at higher rates when they undergo the type of heat and pressure required to move tar sands.[4]

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Tragically, two of the most devastating recent spills in the U.S. have been of tar sands oil. In July 2010, the difficult response challenges of tar sands and the lack of responder preparedness were factors in making that spill the most expensive inland spill in U.S. history,[5] and the recent Arkansas spill is another example of the dangers of tar sands. Newer tar sands pipelines have fared no better: The Keystone 1 pipeline had 14 spills over its first year of operation, including a 21,000 gallon spill in North Dakota.[6]

Arkansas Oil Spill

On March 29, 2013, Exxon Mobil's "Pegasus" pipeline ruptured beneath a suburban housing development in Mayflower, Arkansas and sent oil pouring through the streets. Many Mayflower citizens, interviewed after being evacuated from their homes, said they were entirely unaware of the pipeline's presence until seeing their lawns and gardens blackened by the rush of heavy crude. Before the spill, these residents believed their homes were a wise investment in a comfortable neighborhood, but now they are preparing for a long court fight against Exxon, trying to obtain settlements that compensate for the devaluation of their homes—but won't ever address the emotional costs of their ordeal.


NTSB

The environment is another matter: rescue crews are scrubbing all the oiled wildlife they can find, and mortality are rates climbing by the day. Final numbers have yet to be determined, but 3 days after the spill Exxon Mobil had reported collecting 12,000 barrels of tar sands oil from the site[7]—**that's 420,000 gallons of a substance laced with carcinogens like benzene and other toxins strong enough to trigger neurological and gastrointestinal problems.**[8]

Kalamazoo Oil Spill

800 miles northeast of Mayflower, Michigan's Kalamazoo River has yet to recover from a spill in July 2010, when an Enbridge Inc. pipeline ruptured near the town of Marshall. The leak occurred over a 17 hour stretch before Enbridge reported it to the authorities, and if it hadn't been discovered by a local utility, the damage would have been even worse. As it was, by the time Enbridge finally managed to shut down the pipeline, more than a million gallons of crude oil had gushed into the environment.[9]

[Kalamazoo Oil Spill cont'd]

It gets worse: because Enbridge ignored and misinterpreted alarms, 81% of that oil was pumped *after* the pipeline first split open.[10] The EPA ordered Enbridge to clean up the mess, but two years later, workers are still struggling to remove hundreds of acres of residual tar sands oil that has sunk into the riverbed and wetlands. Cleanup costs are edging toward a billion dollars, giving this debacle the dubious credit of the largest and most expensive inland spill in U.S. history.[11]

Keystone 1 and Keystone XL

When these disasters happen, the tar sands industry is always quick to respond in one regard: excuses. They insist that such accidents merely highlight the pressing demand for the latest and greatest in pipeline infrastructure (while continuing to operate old, corroded pipelines). But new pipelines aren't the answer: **The original Keystone 1 pipeline, for example, came online in 2009 and has already been the source of 14 reported spills.** The industry's "fail-safe" technology couldn't stop a 21,000 gallon geyser in North Dakota—another rupture first reported not by the company, but by a local farmer.[12]


Michigan DEQ

TransCanada's biggest and most controversial project, the Keystone XL pipeline, poses its own serious risks to America's heartland. The current proposed version cuts across hundreds of rivers and through the Ogallala aquifer—a vital water resource for this country—as well as terrain similar to the vulnerable Sandhills ecosystem, which supports an array of wildlife and is home to family farms and ranches.[13] Even TransCanada predicts its pipeline will run into trouble: in a document prepared for the U.S. State Department, the company estimated that two spills would occur every ten years over the entire length of its Keystone XL pipeline, from Canada to the Gulf of Mexico. This doesn't even tell the whole story, because spill estimates on the Keystone 1 pipeline were grossly underestimated and scientists argue that TransCanada is underestimating the risks of Keystone XL, too.[14]

New Safety Standards Needed

National Wildlife Federation has been fighting the construction of pipelines like Keystone XL because of their disastrous implications for wildlife and communities from coast to coast. Tar sands present a dire threat to our planet's climate, and the industry's pattern of spills and habitat destruction only adds to the long list of reasons to keep it out of our nation's energy mix. Our message is simple: We cannot continue to let ourselves be fooled by the tar sands industry. Oil companies want to rush headlong into building new projects to transport billions of gallons of this dangerous fuel through the U.S. every year, but pipeline operators and government regulators do not know how to contend with those risks.

Between 2007 and 2010, pipelines in North Dakota, Minnesota, Wisconsin, and Michigan — the main states with a history of tar sands oil pipelines—spilled almost three times more crude oil per mile of pipeline when compared to the U.S. national average.[15] In a scathing report on the Kalamazoo River spill, the National Transportation Safety Board pointed blame at current regulations, calling them "weak" and "inadequate"[16] yet, the situation remained virtually unchanged by the time the recent spill in Mayflower occurred.

On March 26, 2013 a coalition of landowners, former and current government officials, environmental, renewable energy, and sportsmen's groups filed a petition with two federal agencies—the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA) and the U.S. Environmental Protection Agency (EPA)—asking them to develop stronger safety standards for tar sands oil pipelines. The petition also requests a halt to building or expanding tar sands pipelines until adequate rules are in place. In addition to this effort, National Wildlife Federation is working with communities and lawmakers to draw attention to the problems plaguing the industry, that brings a spotlight on the industry instead of letting them fly under the radar.

To learn more about how you can get involved visit *nwf.org/tarsands*

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