

Points for discussion about Enbridge and about tar sands

Overall concern

- The threat posed to Wisconsin farms, communities, water, woodlands and families can far outweigh any benefit from Enbridge tar sands pipeline running through our state. Tar sands originate in Canada, pass through Wisconsin, and are mainly refined elsewhere or shipped to global markets. So, the cost of a spill will be directly on us, whether we have to give up our property through eminent domain when a new pipeline is planned, or risk severe property damage or health effects if there is a spill, or find our rivers and trout streams and water supplies fouled.

Basic facts about Enbridge and line 61 in Wisconsin

- Enbridge is a \$43 billion Canadian company with a vast network of oil and tar sands pipelines arising in Canada and coursing through many parts of the US. Within this network, Enbridge pipelines from Canada pass through Minnesota and on to Wisconsin and points south.
- In Wisconsin, there are 4 Enbridge pipelines, the largest being Line 61. Line 61 starts in Superior and bisects Wisconsin diagonally, down to Delavan and points south, and from there, south to the Gulf Coast.
- Line 61 currently carries about 890,000 barrels per day (bpd) tar sands and is slated to increase to 1.2 million bpd, 45% greater than the highly contested Keystone pipeline would have carried, yet almost no one has heard of Enbridge. This is considered to be linked to Enbridge's piecemeal numbering of different segments of the same pipeline (e.g. Line 61 in WI feeds Line 67 in Illinois), with "Enbridge" not being used to name the pipelines. Enbridge is also known to use the minimal legal notice for required public hearings, further minimizing public awareness.

A new pipeline is likely coming

- Enbridge shared with investors in 2015 plans to build a line 61 "twin" pipeline (now called Line 66 by some) to run alongside line 61, but is not yet publicly declaring this as their plan. However, several individuals have privately indicated that Enbridge has approached them recently with offers to purchase another easement or to buy their property outright.
- Some landowners indicate the easement sought by Enbridge are 200 feet wide. This contrasts to the 80 feet easements obtained previously. A total of 4 pipelines share the 80 feet easement corridor so it is unclear why Enbridge would want as much as 200 feet more easement.
- Many landowners are concerned that they may not only be asked for another easement, but that a very wide easement such as 200 feet would mean the loss of their property by sale or eminent domain.

What is meant by tar sands, bitumen, and dilbit?

- To obtain tar sands, large areas of the Canadian boreal forest are permanently stripped of all trees and topsoil, and with that, enormous loss of wildlife. The thick black sludge known as tar sands, or bitumen, is excavated.
- Tar sands or bitumen is diluted with a toxic cocktail of volatile liquid chemicals, or "diluent," to allow the tar sands to flow through pipelines, and the mixture is known as "dilbit" (diluted bitumen).¹ The dilbit is then transported down through the US or across Canada to seaports. Pipeline 61 does not transport ordinary light crude oil. Instead, it carries the far more hazardous dilbit.
- Pipelines carrying dilbit are often referred to as "tar sands pipelines"

What are the characteristics of dilbit?

- When dilbit spills into a body of water, the diluent evaporates, sending toxic chemical clouds into the atmosphere. At the Michigan spill, benzene levels in the air reached as high as 500 times the hazardous limit. Meanwhile, the diluent's evaporation left the remaining tar sands to sink, making clean up almost impossible.
- Because of its corrosive nature, dilbit may be exceptionally hard on pipelines, and some comparisons of pipelines carrying dilbit compared to those carrying light crude oil show that the former rupture more often.
- A recent National Academy of Sciences study concluded that dilbit was quite different from conventional crude oil, given that it sinks into waterways, coating plants and animals and the bottom of waterways. Standard techniques of cleanup are not effective, there are no reliably effective ways to clean up dilbit at present, and it cannot be guaranteed that such methods will be developed. Dilbit spills were also estimated to cost 14.5 times² cleanup cost for conventional crude oil.

What concerns do some Wisconsinites have about Enbridge pipelines?

- Some worry about the risk from current and planned Enbridge tar sands pipelines, with little associated benefit for Wisconsin, thus the phrase “All Risk, No Reward” has arisen here as in other states with tar sands pipelines. For those on the pipeline, the concern will be that they will lose their property if forced to sell through eminent domain. Even for those who are not in danger of losing their properties and who do not live directly on the pipeline, there are important spill risks.
- These worries are based in fact: Enbridge has a very poor safety record: In North America, from 1999 to 2010, Enbridge had 804 spills that released 161,475 barrels (approximately 6.8 million gallons) of hydrocarbons into the environment.³
 - Enbridge has a very poor safety record in Wisconsin as well as nationally: (<http://www.corp-research.org/enbridge>)
 - In January 2003 about 189,000 gallons of crude oil spilled into the Nemadji River from the Enbridge Energy Terminal in Superior, Wisconsin.
 - In January 2007 an Enbridge pipeline in Wisconsin spilled more than 50,000 gallons of crude oil onto a farmer’s field in Clark County.
 - The following month another Enbridge spill in Wisconsin released 176,000 gallons of crude in Rusk County.
 - In 2008 the Wisconsin Department of Natural Resources charged Enbridge Energy with more than 100 environmental violations relating to the construction of a 320-mile pipeline across much of the state. The agency said that Enbridge workers illegally cleared and disrupted wooded wetlands and were responsible for other actions that resulted in discharging sediment into waterways. In January 2009 the company settled the charges by agreeing to pay \$1.1 million in penalties.
 - Another concern is that the current Line 61 will soon achieve a tripling of its original flow, from 400,000 bpd to 1.2 million bpd. We have found only one other pipeline, in Russia, that has a flow rate as high as this. To achieve the increased flow rate, Enbridge is installing more pump stations to increase pressure in the pipeline. Given that risk for rupture increases with pressure, and that Enbridge pipelines have spilled in the past, we have concerns that higher pressure in line 61 could increase spill risk.
 - Some dilbit is refined in the Midwest and used for gasoline here. However, the majority of dilbit flowing through the US travels south and is refined and exported from the Gulf Coast and onto the world market for sale to other countries, which undercuts tar sands shippers’ statements that US “energy independence” is key.⁴
 - The counties through which Line 61 runs receive no direct benefits, as the taxes Enbridge pays go into the general State coffers, not to these counties.
 - The threat of tar sands spills posed to Wisconsin farms, communities, water, woodlands and people, as evidenced above, far outweighs any benefit, as tar sands originate in Canada, largely pass through our state and are refined elsewhere or shipped to global markets.

What can happen in a tar sands spill?

- The best example of this is the Kalamazoo spill which started on July 25 2010. Although Enbridge had testified to a congressional committee the previous week that they could shut down any leaking pipeline within minutes, this was vastly different from what happened.
- When the Michigan pipeline burst, Enbridge waited 17 hours to shut down the pipeline, despite multiple high level alarms in their control station in Alberta alerting controllers to a possible breach. (The controllers thought it was just an air bubble in the line).^{5,6}
- After cleanup efforts began, Enbridge declined to inform authorities that the spill consisted of dilbit rather than regular crude oil. It was two weeks into the cleanup before they shared this critical information. By then, cleanup efforts targeting light oil had accomplished far less than they should have.^{5,6}
- When the spill occurred, the heavy bitumen sank to the river bottom and the lighter chemicals used to dilute the bitumen evaporated. Resulting toxic fumes forced local residents to flee from their homes and over 300 people suffered from immediate illness due to exposure to chemicals in the air, including benzene.⁶
- Almost sixty percent of individuals living in the vicinity of the Kalamazoo River spill experienced respiratory, gastrointestinal, and neurological symptoms consistent with acute exposure to benzene and other petroleum related chemicals. Long term health effects are unknown.⁶

- The response to the Kalamazoo River spill has required more than 2000 personnel, over 150,000 feet of boom, 175 heavy spill response trucks, forty-three boats, and forty-eight oil skimmers. To date, the cleanup has cost more than \$1.2 billion. The river may never be fully restored.⁷

Since the July 25 2010 Kalamazoo spill, have things improved with Enbridge?

- Enbridge stated that since the spill, they have a strong safety culture. However, two weeks after the spill, Enbridge requested to restart the line (!), a request which PHMSA strongly disapproved.
- For years after the spill, the EPA had to repeatedly lecture Enbridge on the inadequacy and tardiness of its cleanup efforts. In a 2013 letter, EPA stated, “Although we recognize that the work required by the Order is unlikely to be completed by December 31, 2013, U.S. EPA believes that had Enbridge taken appropriate steps earlier as requested, it would not require an extension now. In particular, U.S. EPA believes that Enbridge has continuously failed to prepare adequate contingency plans for a project of this nature.”⁸

What could happen with a spill from line 61 when it achieves 1.2 million bpd flow rate?

- Enbridge is building an open air “spill pond” at the pump station, planned to hold as much as would be spilled in one hour if there were to be a full rupture. What if there were a spill of this magnitude at the pump station or anywhere along the route of Line 61?
- This would be 2.1 million gallons of tar sands, containing approximately 600,000 gallons volatile diluent with 11,000 gallons of benzene. If only 10% of this evaporated into the air, benzene concentrations would exceed the safety limit for occupational workers in a space equivalent to 10 football fields, 1.3 miles high. This can help explain why at Kalamazoo, so many people in the surrounding, exposed communities developed acute symptoms.

Are there concerns that Enbridge may not be able to foot the bill if there were a large tar sands spill in Wisconsin?

- Yes. Although Enbridge has stated that it “always cleans up” after there is a spill, there are concerns. After the Kalamazoo spill, one of Enbridge’s insurers fought against the company in paying for cleanup. In addition, Enbridge is not a corporation, but a Master Limited Partnership, so that profits are largely split among the owners every year, rather than there being a large and stable pool of funds available for emergencies.
- A related concern is that some companies such as coal companies have gone bankrupt and unable to pay their creditors or to pay for cleanups. According to an environmental insurance expert, Enbridge does not have “deep pockets” and may not be able over the long run to pay for spills, accidents, and cleanups. Once in the ground, many pipelines are operational for many decades, fifty years or more, and whether the company will be financially solvent for that long is unclear. This is especially concerning now that large downturns in the oil markets worldwide and in the US have occurred.

What have people done to protect Wisconsin from the dangers of tar sands?

- Some people and some citizen groups have requested that Enbridge be required to obtain environmental cleanup insurance and this was included in Enbridge’s conditional use permit for one county. Unfortunately, in a last minute addition to the 2015 budget, counties were stripped of the right to require such insurance, although Enbridge is the only possible beneficiary of this legislation. Unfortunately, in that same budget, the law was changed to allow “business entities” (such as Enbridge, which is NOT a corporation), to use eminent domain, a privilege previously limited to corporations in Wisconsin.
- Some citizens have requested that Enbridge divulge the contents of the diluents mixed with the tar sands in their pipelines, which was previously held as proprietary information. Enbridge did divulge this information to a county board. If you would like a copy of this information, please let us know.
- Some people who own land situated along the pipeline are working together to develop plan to stand up to Enbridge’s efforts to obtain their land for expanding the pipeline corridor to build the Line 66 “twin.”

1. Song, Lisa. A Dilbit Primer: How It's Different from Conventional Oil. Inside Climate News. June 26, 2012.
<http://insideclimatenews.org/news/20120626/dilbit-primer-diluted-bitumen-conventional-oil-tar-sands-Alberta-Kalamazoo-Keystone-XL-Enbridge>.
2. National Academies of Sciences, Engineering, and Medicine. 2016. Spills of Diluted Bitumen from Pipelines: A Comparative Study of Environmental Fate, Effects, and Response. Washington, DC: The National Academies Press.
3. Out on the Tar Sands Mainline: Mapping Enbridge's Dirty Web of Pipelines. May 2010 (partially updated, March 2012): Polaris Institute.
4. Anthony Swift. Three facts you should know about the Keystone XL tar sands pipeline and exports. March 02, 2015.
<https://www.nrdc.org/experts/anthony-swift/three-facts-you-should-know-about-keystone-xl-tar-sands-pipeline-and-exports>
5. Elizabeth McGowan and Lisa Song. The Dilbit Disaster: Inside The Biggest Oil Spill You've Never Heard Of, Part 1. Inside Climate News. June 26, 2012.
Elizabeth McGowan and Lisa Song. The Dilbit Disaster: Inside The Biggest Oil Spill You've Never Heard Of, Part 2. Inside Climate News. June 27, 2012.
6. National Transportation Safety Board. 2012. Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release, Marshall, Michigan, July 25, 2010. Pipeline Accident Report NTSB/PAR-12/01. Washington, D.C.
7. 2016 Sierra Club comments to WI DNR on DEIS of Enbridge Sandpiper and Line 3 Replacement Project
8. Re: Response to Enbridge Energy, Limited Partnership's letters of November 2, 2013 and November 11, 2013 regarding completion of work required by U.S. EPA's March 14, 2013 Administrative Order