SCENIC HUDSON
land ■ parks ■ advocacy
SAVING THE LAND THAT MATTERS MOST

Scenic Hudson, Inc.
One Civic Center Plaza
Suite 200
Poughkeepsie, NY 12601-3157
Tel: 845 473 4440
Fax: 845 473 2648
info@scenichudson.org
www.scenichudson.org

Pilgrim Pipeline: Risk to the Hudson Valley with No Demonstrated Benefit

Project Summary

Pilgrim Transportation of New York, Inc. has proposed two side-by-side petroleum pipelines between the Port of Albany, NY and refineries in the Linden, NJ area. One pipeline would carry Bakken crude oil from the Port of Albany to Linden, and the other would carry refined products from Linden back up to Albany. Each pipeline would be 170 miles long, buried in a 6'x6' trench. 129.9 miles of pipeline is in New York; 79% of this route would be located within the New York State Thruway right-of-way ("ROW") and 21% outside of the Thruway ROW. The project would cross through six counties and 23 municipalities in the Hudson Valley. The pipelines would cross the Hudson River twice just south of Albany and lateral offshoots of the main pipeline extend to the Hudson River shoreline in Newburgh and New Windsor in Orange County. See attached maps for a depiction of the project route through New York.

Pilgrim has applied for permits from the New York State Thruway Authority ("NYSTA") to occupy Thruway right-of-way. Pilgrim also preemptively announced in November 2015 it had completed a Draft Environmental Impact Statement ("DEIS") for the project; however, the DEIS had not been subject to any of the required SEQRA processes and therefore is considered merely a preliminary document. NYSTA and the DEC have been designated joint lead agencies for the SEQRA review of the project, despite calls from Scenic Hudson, numerous other environmental groups and 23 of the municipalities through which the pipeline would pass for DEC to be sole lead agency primarily due to conflicts of interest within the NYSTA (NYSTA is financially strapped and would receive significant fees from Pilgrim for occupation of its ROW).

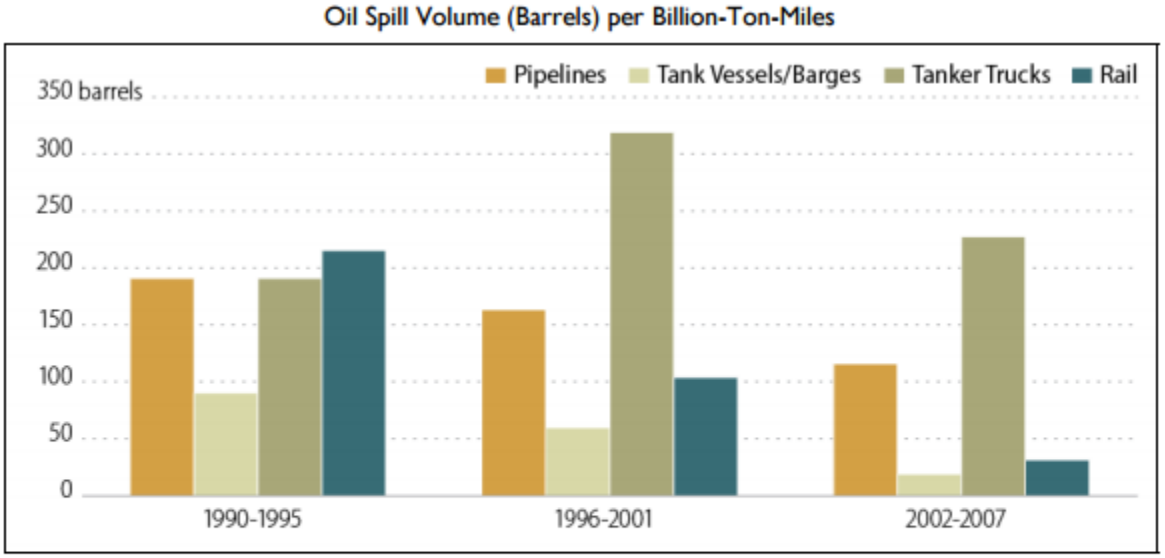
Pipeline Safety

All three modes of transporting large volumes of crude oil (barge, train, and pipeline) carry risk. According to the U.S. Pipeline and Hazardous Material Safety Administration ("PHMSA"), the federal agency responsible for developing and enforcing regulations for the safe operation of all U.S. pipeline infrastructure, pipelines actually spill more oil per ton-mile than rail, although pipelines have lower rates of injuries and fatalities.[1] PHMSA and the Congressional Research

[1] U.S. Pipeline and Hazardous Material Safety Administration Pipeline Incident Report data, available at: http://www.phmsa.dot.gov/pipeline/library/data-stats/pipelineincidenttrends. *See* Figure 1 prepared by the Congressional Research Service in 2014. Figure 1 shows that for three time periods between 1990 and 2007, oil spill volume per ton-mile from pipelines far exceeds spill volume from tank vessels/barges, and for the two most recent timeframes greatly exceed spill volume from both vessel and rail.

Service ("CRS"), the public policy research arm of Congress, are the most oft-cited sources for comprehensive data on oil spills across the U.S.

Figure 1. Crude Oil and Petroleum Product Spills during Domestic Transportation



Sources: Prepared by CRS; oil spill volume data from Dagmar Etkin, *Analysis of U.S. Oil Spillage*, API Publication 356, August 2009; ton-mile data from Association of Oil Pipelines, *Report on Shifts in Petroleum Transportation: 1990-2009*, February 2012.

Notes: Pipelines include onshore and offshore pipelines. The time periods were chosen based on the available annual data for both spill volume and ton-miles. The values for each time period are averages of annual data for each six-year period.

Between 2003 and 2013, the 1,880 crude oil pipeline incidents in the U.S. resulted in 44 million gallons spilled, 26 fatalities, 56 injuries and $2.5 billion in property damage.[2] The number of high-profile crude oil pipeline incidents in recent years indicates that modern construction and technology don't eliminate the risk of serious spills. In 2010 the Kalamazoo River was polluted by over one million gallons of heavy crude oil that leaked from a pipeline beneath the river. It caused the closure of 35 miles of river to the public for over four years and a cleanup exceeding $2 billion. Just weeks before this spill, the pipeline operator told federal regulators it could remotely detect and shut down a rupture in eight minutes. In reality, the company took 17 hours to confirm the spill and another 12 hours to shut down the pipeline. In 2013, 865,200 gallons of crude leaked slowly from a pipeline onto a North Dakota farm, contaminating soil to a depth of more than 30 feet. Despite the presence of leak detection technology, neither the pipeline operator nor regulators realized the line was leaking – just as in 30% of all reported pipeline incidents, it was the public who first identified the spill.[3] And last year a pipeline spill polluted

[2] U.S. Pipeline and Hazardous Material Safety Administration (PHMSA), *Crude Oil Pipeline Incidents Reported between 2003-2013*, PHMSA Data as of September 4, 2014.
[3] Shaw, David, et. al., "Leak Detection Study – DTPH56-11-D-000001: Final Report", PHMSA, December 10, 2012.

the scenic coastline in Santa Barbara, California, with 105,000 gallons of crude. This line featured "smart" leak detection and prevention technology – which failed to work as designed.

In fact, advance leak detection systems have only identified leaks 5% of the time, according to a PHMSA leak detection study.[4] The National Transportation Safety Board ("NTSB") has been critical of PHMSA's pipeline safety enforcement program and its monitoring of state oversight programs. PHMSA only has 135 inspectors to oversee 2.6 million miles of pipeline, and only a fifth of that pipeline system has been inspected by PHMSA or its state partners since 2006.[5] PHSMA also has unfulfilled safety mandates stemming from the 2011 Pipeline Safety Act that are well overdue.[6]

Determining the relative risks posed by different crude oil transportation infrastructure depends highly on the type of crude transported, the environmental vulnerability of landscapes traversed, level of local emergency preparedness, and population density. Further, it depends on how you define "risk": in terms of human death and property destruction, trains are worse than pipelines, whereas for normalized amount of oil spilled, pipelines are worse than rail. Barge and tanker transport is less risky than either pipelines or rail by either of these metrics, and vessel spills are on a downward trend (likely due to the Oil Pollution Act requirement that all oil vessels have double hulls by 2015).[7] While spills by rail are more frequent than pipeline releases, pipeline incidents tend to result in far more oil spilled.[8]

Surprisingly, there is limited correlation between the age of pipeline infrastructure and the likelihood of a spill. This is because while corrosion is the leading cause of releases on hazardous liquid pipelines, 44% of pipeline failures are caused by incorrect welds, equipment failures, operator error and excavation damage, which have little to do with pipeline age.[9]

Even if one were to assume that pipelines are safer than rail and barge transport – which based on the foregoing we do not -- Pilgrim provides no evidence to support its claim that the pipeline will replace barge and/or rail transport along the Hudson; there is merely a conclusory statement to this effect in the DEIS ("…based on barge activity levels on the Hudson River in 2013, it is anticipated that the Pilgrim Pipelines may displace up to 2,000 barge loading/unloading operations each year," and "The project may reduce the reliance on barge and rail as the primary

---

[4] PHMSA, "Operation Safe Delivery: Enhancing the Safe Transport of Flammable Liquids". Available at: http://www.phmsa.dot.gov/hazmat/osd/chronology

[5] Jones, Sebastian and Marcus Stern, "Pipeline Safety Chief Says Regulatory Process Is 'Kind of Dying'", Bloomberg Businessweek, September 11, 2013.

[6] CRS, "U.S. Rail Transportation of Crude Oil: Background and Issues for Congress", December 4, 2014..

[7] Conca, James. "Pick Your Poison for Crude", Forbes Magazine, April 26, 2015. Available at: www.forbes.com/sites/jamesconca/2014/04/26/pick-you-poison-for-crude-pipeline-rail-truck-or-boat/#a7a8a175777d

[8] International Energy Agency, "How to Move Oil", May 2, 2014. Available at: http://www.iea.org/ieaenergy/issue6/rail-vs-pipelines-how-to-move-oil.html

[9] PHMSA Incident Report data, available at: http://www.phmsa.dot.gov/pipeline/library/data-stats/pipelineincidenttrends

means of transporting petroleum and petroleum-based products within the Albany/New Jersey corridor."[10]) There is no further justification or explanation for the conclusion that the pipelines will replace barge and rail traffic.

Further, the physical location of the proposed pipeline will make it impossible to replace all of the current crude oil transport pathways through the Hudson Valley. For example, oil from Albany's Buckeye terminal is transported by tanker to an Irving Oil refinery in St. John, New Brunswick, Canada.[11] Approximately 15-20 trains of crude weekly bypass the Port of Albany and instead go directly from Buffalo down the CSX Hudson River rail line to Philadelphia.[12] Because the locations of the proposed pipelines are fixed, running between Albany, New York and Linden, New Jersey, Pilgrim Pipeline cannot be expected to impact the tankers going from Albany to Saint John, New Brunswick or trains that bypass Albany and terminate at Philadelphia refineries.

The recent lifting of the long-standing crude oil export ban is expected to result in an increase in U.S. oil production, and an increase in the need for it to be transported to export hubs. Pilgrim's permit application states that the crude pipeline would carry crude southbound from Albany to "one or more marine terminals or refineries" in the vicinity of Linden, NJ. Therefore, the pipelines are not just meant to connect to refineries but to marine terminals for possible export as well. While the exact impacts remain to be seen, the lifting of the crude oil export ban has the potential to seriously increase transport of crude oil through the Hudson Valley.

Market conditions play a major role in determining the preferred mode of oil transport, with rail providing flexibility that a pipeline does not to move product to different markets in response to changing market conditions.[13] The American Petroleum Institute has stated the oil industry takes an "all of the above" approach when it comes to modes of transporting crude oil[14], and particularly in a volatile market, the significant initial investment needed to construct a pipeline can make rail more attractive.[15] It is clear that it cannot be categorically determined that pipeline transport of crude oil is any safer than such transport by vessel or train. Further, we also cannot

---

[10] Pilgrim Draft Environmental Impact Statement at 1-9 and 1-11.

[11] Vieria, Al. "US Barge Operators Transport Domestic Crude on Inland Rivers,", Professional Mariner, December 5, 2014. Available at: http://www.professionalmariner.com/December-January-2015/US-barge-operators-transport-domestic-crude-on-inland-rivers/

[12] NYS DOT I-87 Multimodal Corridor Study, available at: www.dot.ny.gov/programs/i-87-multimodal-corridor-study/respoitory/chapter_2-4_rail_network_and_operations.pdf

[13] While pipelines are generally the lowest-cost method of moving petroleum products if one makes a true "apples-to-apples" comparison, the specific economic conditions and physical constraints of a particular shipment may make another mode of transport more economically attractive. Rail also has other advantages, such as flexibility and speed. (See New York Times, "Rail Transport of Crude Oil Increaess As Pipeline Falls Short", April 4, 2014; See also International Energy Agency, "How to Move Oil", May 2, 2014.)

[14] American Petroleum Institute: "When we look at the modes of transportation, our industry – the oil and gas industry – we take an all of the above approach, " quote from Robin Rorick (oversees transportation of oil and gas from well to market for the American Petroleum Institute) in the Columbus Dispatch, February , 2015.

[15] CRS, "U.S. Rail Transportation of Crude Oil: Background and Issues for Congress", December 4, 2014.

be assured that Pilgrim Pipeline will reduce or eliminate barge and/or rail traffic on the Hudson. There is no regulatory mechanism to compel transport by one method over another.

Key Siting Concerns

The pipelines would cross or be adjacent to 19 public parks in New York, including Harriman State Park, Sterling Forest State Park and Catskill Park, and would cross or be adjacent to 11 Scenic Hudson-protected properties in Albany, Greene, Ulster and Orange counties. They would cross surface water resources at 257 locations and impact nearly 150 acres of forest, causing significant fragmentation in the southern portion of the route in Orange and Rockland counties. There would be 296 crossings of wetlands and the pipeline would cross about 13 miles of the state-designated coastal zone along the Hudson River in five counties.

The number of Hudson Valley communities with significant natural resources through which the pipelines would pass is significant. Also, with two crossings of the Hudson and two laterals that snake along the Hudson River shoreline in Orange County, there is a significant risk of spills into the Hudson. The pipeline would also cross many tributaries of the Hudson, which could also impact the Hudson River. The pipelines south of Orange County are primarily outside of the Thruway ROW and cross Sterling Forest and Harriman State Park. They also cross several major sources of drinking water, including a major sole source aquifer in Orange and Rockland Counties that provides drinking water to several million people.

Oil spills into aquatic habitat can be devastating to the environment. Just one pint of oil released into water can spread and cover one acre of water surface area and can seriously damage an aquatic habitat.[16] Oil has the potential to persist in the environment long after a spill event and has been detected in sediment thirty years after a spill. Oil spills have the potential to have long-term – even permanent - impacts on fish and wildlife populations.[17]

Studies conducted after recent spills of Bakken crude have disturbing implications for the health of fish populations.. For example, scientists have recorded an “unprecedented” spike in fish deformities in the wake of the 2013 disaster in Lac-Mégantic. The study found that in some parts of the river as many as 47% of the fish they collected had an external deformation, a rate that greatly surpassed that recorded in a similar fish population study in 1994. The study also found a “marked drop” in the river’s fish biomass, or total weight.[18] The scientists cannot hypothesize any other cause for these results other than the train derailment and oil spill, although "just” 26,147 gallons spilled into the Chaudière River – far less than would be expected to result from a pipeline rupture.

---

[16] U.S. EPA, “Koch Industries to Pay Record Fine for Oil Spills in Six States,” Press Release, January 13, 2000.
[17] U.S. Fish & Wildlife Service (“FWS”), “Effects of Oil on Wildlife and Habitat”, June 2010, available at: http://www.fws.gov/home/dhoilspill/pdfs/dhjicfwsoilimpactswildlifefactsheet.pdf.
[18] Quebec Ministry of the Environment,“Impact sur les communautés piscicoles de la contamination résiduelle de la rivière Chaudière par les hydrocarbures pétroliers”, November 2015.

While the greatest risk to the Hudson River and Hudson Valley would be in the case of a spill from one of the pipelines, **construction itself would include clearing of an at least 100' ROW for the pipelines, trench excavation including blasting in rocky areas, stream erosion and permanent impacts to wetlands, forests and sensitive habitat**. As a New York State Transportation Corporation, Pilgrim has the ability to exercise eminent domain authority to condemn private lands necessary to construct its pipelines. This could potentially include Scenic Hudson properties and parks through which the pipeline is routed. **Communities in the Hudson Valley would see no direct benefit from the pipeline, but would bear all of the risk.**

Pilgrim itself estimates that **a break of the crude oil pipeline would release 4,000 barrels (168,000 gallons) of crude oil <u>assuming that the pump stations shut down exactly as designed</u>**. If they continue to operate for some time, the pipeline would release 8,500 barrels/357,000 gallons per hour and the release volume would be increased by pressurized flow during that time.

Pipelines in the U.S. are not regularly inspected. The Pipeline and Hazardous Materials Safety Administration ("PHMSA") has only inspected one-fifth of the nation's pipelines in the past ten years and is on a 50-year cycle for inspections. PHSMA also estimates that early leak detection systems are only about 5% effective. Many leaks are not discovered until significant amounts of have been released, and irreversible damage has occurred. Hydrostatic testing of the mainline will also require about 20 million gallons of water, drawn from natural sources or municipal supplies.

As discussed above, **there is no evidence that the pipeline will reduce barge or rail traffic of crude oil on the Hudson**, other than a summary statement with no support in the DEIS that the pipeline "may displace up to 2,000 barge loading/unloading operations per year". There have been no direct claims that the project would reduce rail transport along the Hudson. Because it is only connected to a specific area of New Jersey, the pipeline clearly would not impact the significant traffic from Albany to points other than the Linden area (notably, St. John's, Canada and Philadelphia).

<u>Climate Issues</u>

Pilgrim's analysis of greenhouse gas emissions is flawed and based on unsubstantiated assumptions. Pilgrim prepared an "Analysis of GHG Emissions from the Proposed Pilgrim Pipeline". This cursory analysis relies on the completely unsubstantiated assumption that the pipelines will replace the transport of crude by barge in-kind and that they will transport the same volume, to enable an apples-to-apples comparison. There is no support for Pilgrim's statements that the pipeline will replace any barge transport, other than a statement in the DEIS that the project "may displace some barge transport…". Notably, the analysis does not include any evaluation of broader emissions impacts from construction of new pipeline infrastructure to facilitate large scale transport and extraction of fossil fuels.

Because the marine transport of crude creates GHG emissions through electricity use, tugboats and fugitive emissions in the loading process, Pilgrim estimates that barge transport creates 72,888 metric tons of CO_2e/year versus 58,642 metric tons per year for the pipeline, and therefore claims their pipeline would offer an emissions reduction of 19.5%. This analysis assumes that the pipeline would completely replace barge transport for the full capacity of the pipeline. The analysis also concludes that the pipeline is not a significant source of GHG emissions because 58,642 tons/year is less than the Clean Air Act "prevention of significant deterioration " permit threshold of 75,000 tons per year; however, by that argument barge transport is also not a significant source since it is also less than 75,000 tons/year.

Public Opposition

The Pilgrim Pipeline has become a high-profile environmental issue throughout the Valley. Many of the leading environmental groups in the region – Scenic Hudson, Riverkeeper, Sierra Club, Environmental Advocates, Clearwater, and NRDC – are involved in the issue and have taken positions against the pipeline. Further, of the 29 municipalities through which the pipelines would pass in NY, 23 have passed resolutions opposing the pipeline.

There is also a very active grassroots citizen group involved in the campaign, "Coalition Against Pilgrim Pipeline", or CAPP, with membership spanning the entire Hudson Valley and a sister group in New Jersey.