From: Amy Schaffer[SMTP:AMYANNSCHAFFER@GMAIL.COM]
Sent: Tuesday, August 11, 2015 8:25:05 AM
To: PUC Docket Filings
Subject: Existing Docket - HP14-001
Auto forwarded by a Rule

Dear South Dakota Public Utility Commission,

Due to my inability to be present at the recent hearing, I would like to submit written comments as a formal intervenor. Specifically, I would like to comment on whether TransCanada still meets the conditions of the project.

Demand for the Facility

Under condition 14, there is no longer a growing demand by refineries and markets in the United States, due to the development of the Bakken formation. This is most evident by the lower fuel prices consumers are paying at the pump in comparison to 2010. The abovementioned stands true for conditions 24 and 25 as well. In regard to condition 25, consumers are moving toward more renewable and cleaner energies, therefore there is no longer a need for mass quantities of oil; this is further supported by more automobiles moving toward electric power and the use of biofuels. The demand for petroleum products will therefore continue to decrease. Condition 27 is no longer applicable, as it has been stated over and over with the development of the Bakken formation, the U.S. has more oil that they will ever need. Furthermore, instead of increasing the use of oil we should instead move to the use of renewable energies, thus this is a mute point. As for condition 28, movement of tarsands by pipeline is not reliable nor safe this is evident by the recent spills that still have not been cleaned up, resulting in permanent damage to the economies in these areas in addition to the environmental impacts. Lastly, in regard to condition 29, this is TransCanada's problem, whereby they have moved forward and committed to long-term contracts without the proper permits. This should not be a factor in the granting of the permit to TransCanada by the South Dakota PUC, instead public safety and preservation of our natural resources that sustain all life should be the biggest factor.

Environmental

There are significant environmental risks associated with conditions 30-59. These risks deserve further analysis, detailing mitigation methods to lessen impacts to the vulnerable soils and streams, rivers, and lakes. Because the pipeline will cross porous permeable soils, these areas also easily erode which will then result in blowouts, which could then affect the reclamation of the land further leading to more blowouts. As for condition 42, it is worrisome that the pipeline will be buried at such a depth that pinholes leaks would be undetected. As seen with Keystone I, the pipeline will corrode and pinhole leaks are inevitable. These pinhole leaks could be extremely catastrophic for livestock and human health if they go undetected. Condition 44 is completely false, the leak percentage on Keystone I was significantly higher. In regard to condition 46, and the route crossing the Sandhills, though impacts to the Sandhills in South Dakota are smaller due to fewer miles being crossed, these risks are much larger in Nebraska where the Sandhills

and Ogallala Aquifer are being crossed by many more miles of the pipeline. Therefore, the entry point into the state of Nebraska should be moved to avoid this vulnerable area. Citing the pipeline next Keystone I would eliminate this high risk, and eliminate the pipeline crossing areas of porous permeable soils with a shallow water table and passing over the Ogallala Aquifer. Condition 53, supports this position naming the area as being "vulnerable" and requiring additional vigilance. Condition 49, is also flawed as there is no spill plan for cleaning up tarsands. Additionally, benzene in tablespoon amounts is extremely toxic to the health of people as well as livestock. As for condition 57, if the pipeline has a puncture resistance of 51 tons, why is it already corroding on Keystone I?

Design and Construction

In regard to conditions 65, 66, and 67 these have been proven inadequate by testimony from Evan Vokes. Additionally, poor welds can also lead to pinhole leaks, and the leak detection system will not detect these leaks. The hydrostatic testing is done once the pipeline is in the ground, and once again the leak detection system will only detect larger percentages, it cannot detect pinhole leaks caused by corrosion or improper welds. As for condition 69, the cathodic protection system failed on Keystone I. This also applies to condition 70; this condition is not working to reduce internal corrosion. Therefore, these conditions are currently failing; the evidence can be seen on Keystone I.

Operation and Maintenance

As previously stated, the leak detection system that TransCanada uses does not detect pinhole leaks; it only detects significant changes in volume. Local emergency staff has not been trained on how to handle a tarsands spill nor do they have the proper gear to clean up a tarsands spill.

Alternative Routes

The entry point of the pipeline route into Nebraska needs moved to avoid the environmentally sensitive Sandhills and the Ogallala Aquifer. The pipeline should be cited next to Keystone I. Though the impacts to these areas in South Dakota are being crossed by fewer miles, it is still a very vulnerable area which would require "additional vigilance." Let's eliminate this risk to this environmentally sensitive area by routing the pipeline around these areas in both South Dakota and Nebraska.

Socio-Economic Factors

In regard to condition 108, the evidence is in Keystone I, the taxes amount to half of TransCanada's predictions. As for condition 109, the jobs are temporary; there are only a few permanent jobs unless there is a spill. The permanent jobs most at risk are those on the route, the farmers and ranchers and your food supply.

In summary, as supported by the conditions aforementioned, the South Dakota Public Utility Commission should not renew the permit for TransCanada. There are issues with the route crossing porous permeable soils, Ogallala Aquifer, rivers, and streams. Furthermore, from evidence obtained from Keystone I, the South Dakota Public Utility Commission should have not faith in TransCanada's leak detection system. Lastly, the same need for the pipeline no longer exists as it did in 2010. Because of these risks associated with TransCanada not meeting these conditions, I ask the South Dakota Public Utility Commission to deny granting TransCanada the renewal of their permit.

Sincerely,

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[1] Shawn McCarthy, "TransCanada's eastern path this snag in Ontario," *The Globe and Mail*, August 22, 2013, http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/transcanadas-eastern-path-hits-roadblock-in-ontario/article13909022/.

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[1] Andrea Harden-Donahue, "Opposition Mounting To Energy East Export Pipeline Even Before TransCanada Files Official Application," Council of Canadians, May 20, 2014, http://www.commondreams.org/newswire/2014/05/20/opposition-mounting-energy-east-export-pipeline-even-transcanada-files-official.
[1] Shawn McCarthy, "Gas interests lining up against TransCanada's Energy East pipeline," *The Globe and Mail*, October 15, 2014, http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/gas-interests-lining-up-against-transcanadas-energy-east-pipeline/article21117847/.
[1] Alberta Clipper (Line 67) Capacity Expansion Phase II, Enbridge, http://www.enbridge.com/MainlineEnhancementProgram/Canada/Alberta-Clipper-Capacity-Expansion-Phase-II.aspx. The expansion proposal would enable an increase in capacity from 450,000 barrels per day to 800,000 barrels per day.
[1] Jim Snyder and Rebecca Penty, "Enbridge Expansion Could Turn Into Keystone-Like Fight," *Bloomberg News*, May 2, 2013, http://www.bloomberg.com/news/2013-05-02/enbridge-expansion-could-turn-into-keystone-like-fight.html.
[1] See Federal Register Notices from January 2, 2013 https://www.federalregister.gov/articles/2013/01/02/2012-31557/application-for-a-presidential-permit-to-operate-and-maintain-pipeline-facilities-on-the-border-of and March 15, 2013 https://www.federalregister.gov/articles/2013/03/15/2013-06039/notice-of-intent-to-prepare-a-supplemental-environmental-impact-statement-seis-and-to-conduct.
[1] Even before the State Department announced receipt of the application for the expansion project from Enbridge, tens of thousands of activists emailed the State Department requesting that this expansion require a Presidential Permit. State Department to Review Tar Sands Pipeline Expansion, January 7, 2013, http://sierraclub.typepad.com/compass/2013/01/state-dept-to-review-tar-sands-pipeline-expansion.html. There has also been significant activity from grassroots and environmental organizations calling for a robust Environmental Impact Statement.
[1] Federal Register, "Amended Notice of Intent to Prepare a Supplemental Environmental Impact Statement (SEIS) and To Conduct Additional Scoping for the Proposed Enbridge Energy, Limited Partnership Line 67 Expansion Project," August 18, 2014, https://www.federalregister.gov/articles/2014/08/18/2014-19538/amended-notice-of-intent-to-prepare-a-supplemental-environmental-impact-statement-seis-and-to.
[1] Center for Biological Diversity, "Lawsuit Targets Secretive Plan to Ramp Up Tar Sands Oil Shipments in Alberta Clipper Pipeline," November 12, 2014, http://www.biologicaldiversity.org/news/press_releases/2014/alberta-clipper-11-12-2014.html.
[1] U.S. State Department, Keystone XL Final SEIS, January 2014, p. 4.10-31.
[1] U.S. State Department, Keystone XL Final SEIS, January 2014, p. ES-19.
[1] John Stansbury, *Analysis of Frequency, Magnitude and Consequence of Worst-Case Spills From the Proposed Keystone XL Pipeline*, Nebraska Water Center, 2011, http://watercenter.unl.edu/downloads/2011-Worst-case-Keystone-spills-report.pdf.
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[1] Environmental Entrepreneurs, *Letter to Secretary Kerry*, March 7, 2014, http://switchboard.nrdc.org/blogs/aswift/E2%20Letter%20Opposing%20the%20Keystone%20XL%20Tar%20Sands%20Oil%20Pipeline.pdf.
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Safety Board, July 10, 2012, https://www.ntsb.gov/investigations/summary/PAR1201.html. Though the pipeline's leak detection system issued alarms consistent with a rupture, operators misinterpreted the alarms and continued to keep the pipeline open as it poured oil into the environment. 8 Keith Matheny, "Three years after oil spill, a slow recovery haunts Kalamazoo River," Detroit Free Press, June 24, 2013,
http://archive.freep.com/article/20130623/NEWS06/306230059/KalamazooRiveroilspill.
[1] PHMSA, ExxonMobil Pipeline Incident – Mayflower, Ark.,
http://www.phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=1a9ab5676d5cd310VgnVCM100000d2c97898RCRD&vgnextchannel=d248724dd7d6c010VgnVCM10000080e8a8c0RCRD&vgnextfmt=print.
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[1] John H. Cushman, Jr., Federal Rules Don't Control Pipeline Reversals Like Exxon's Burst Pegasus, April 3, 2013, Inside Climate News, http://insideclimatenews.org/news/20130403/federal-rules-dont-control-pipeline-reversals-exxons-burst-pegasus.
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[1] U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, Letter to ExxonMobil Pipeline Company, Re: CFP No. 4-2013-5006H, Approval of Restart Plan, Southern Segment of the Pegasus Pipeline, March 31, 2014,
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[1] EPA Response to Enbridge Spill in Michigan, updated October 16, 2014, http://www.epa.gov/enbridgespill/.
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[1] Lisa Song, "Cleanup of 2010 Mich. Dilbit Spill Aims to Stop Spread of Submerged Oil," *Inside Climate News*, March 27, 2013,
http://insideclimatenews.org/news/20130327/cleanup-2010-mich-dilbit-spill-aims-stop-spread-submerged-oil.
[1] Kari Lydersen, "A Year After Pipeline Spill, Tar Sands Oil Still Plagues a Michigan Community," *On Earth*, July 25, 2011,
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[1] Lisa Song, "Dilbit Sinks in Enbridge Oil Spill, but Floats in Its Lab Study," *Inside Climate News*, March 14, 2013,
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[1] Final Supplemental Environmental Impact Statement for the Keystone XL Pipeline Project, Chapter 4, Potential Releases,
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[1] Pipeline Accident Report, Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release, National Transportation Safety Board, July 10, 2012, https://www.ntsb.gov/investigations/summary/PAR1201.html. Though the pipeline's leak detection system issued alarms consistent with a rupture, operators misinterpreted the alarms and continued to keep the pipeline open as it poured oil into the environment.
[1] Keith Matheny, "Three years after oil spill, a slow recovery haunts Kalamazoo River," *Detroit Free Press*, June 24, 2013,
http://archive.freep.com/article/20130623/NEWS06/306230059/Kalamazoo-River-oil-spill.

Challenges associated with Proposed Tar Sands Pipelines

Enbridge's Northern Gateway (525,000 bpd)

Enbridge's proposed Northern Gateway project is a controversial 525,000 barrel per day (bpd) tar sands pipeline across the mountainous terrain and salmon-bearing rivers of north-central British Columbia. In May 2013, the British Columbia government opposed the project in its formal comments to the federal review panel.[1] Polling shows that more than two-thirds of British Columbians oppose the Northern Gateway project.[2] Moreover, First Nations, with powerful treaty rights which were substantially strengthened by a recent Canadian Supreme Court ruling, have brought a dozen lawsuits against the Northern Gateway project. [3] Amid controversies surrounding the project and following a damaging referendum in Kitimat, British Columbia, Northern Gateway's Executive Vice President Janet Holder, the public face for the project, announced her retirement.[4] In its environmental review of Keystone XL, the State Department considered Northern Gateway too uncertain and speculative to include in its forecast. [5]

Kinder Morgan's TransMountain Pipeline (additional 590,000 bpd)

The expansion of the TransMountain pipeline, another pipeline through British Columbia, would require new permits, the renegotiation of landowner agreements along the route, agreements with First Nations, the dredging of the Vancouver harbor and changes in regulations to allow increased tanker traffic. TransMountain passes through fifteen First Nation's communities and affect many more traditional territories, many of which have stated opposition to the project.[6] Objections from local political leaders and the public have already prompted the National Energy Board to delay its final report on the project to January 2016.[7]

TransCanada's Energy East Pipeline (1.1 million bpd)

TransCanada's Energy East pipeline would require converting around 3,000 kilometers (1,864 miles) of existing natural gas pipeline and construction of around 1,400 kilometers (870 miles) of new pipe, with the most construction expected in Quebec. While TransCanada only filed its application in late October, 2014, opposition to the project is already significant and growing. Both the governments of Quebec and Ontario have filed as interveners for the project's review.[8] The impact of building a new pipeline creates a significant hurdle for TransCanada, as Quebec has long touted its pro-environment stance and is not eager to play a role in enabling tar sands expansion plans in Alberta.[9] At the same time, Ontario's

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[1] Argument of the Province of British Columbia Re: Hearing Order OH-4-2011 and File No. OF-Fac-Oil-N304-2010-01 01 Enbridge Northern Gateway Project Application, May 31, 2013, http://www.env.gov.bc.ca/main/docs/2013/BC-Submission-to-NGP-JointReviewPanel_130531.pdf; "B.C. officially opposes Enbridge Northern Gateway pipeline," CBC News, May 31, 2013, http://www.cbc.ca/news/canada/british-columbia/story/2013/05/31/bc-northern-gateway-rejected.html.

[2] "Your Insights on the Northern Gateway Pipeline," *Insights West*, February 4, 2013, http://www.insightswest.com/news/your-insights-on-the-northern-gateway-pipeline/.

[3] Mychaylo Prystupa, "Janet Holder Quits Northern Gateway Pipeline," *Vancouver Observer*, November 12, 2014, http://www.vancouverobserver.com/news/janet-holder-quits-northern-gateway-project.

[4] *Ibid*.

[5] State Department, Final SEIS, Jan. 31, 2014, 2.2-34, http://keystonepipeline-xl.state.gov/documents/organization/221155.pdf.

[6] Julie Gordon, "Kinder Morgan Canada pipeline plans hits a mountain of opposition," *Reuters*, October 21, 2014, http://www.reuters.com/article/2014/10/21/us-canada-pipeline-kinder-morgn-eng-idUSKCN0IA15N20141021.

[7] Markham Hislop, "Social license: Enbridge, Kinder Morgan losing BC battle," *Beacon News*, November 15, 2014, http://beaconnews.ca/blog/2014/11/social-licence-enbridge-kinder-morgan/.

[8] Shawn McCarthy, "Opposition builds to Energy East," *The Globe and Mail*, October 13, 2014, http://www.theglobeandmail.com/report-on-business/opposition-builds-to-energy-east-pipeline-plan/article21082836/.

[9] Gerrit De Vynck, "TransCanada Eastern Pipeline Draws Opposition: Corporate Canada," *Bloomberg News*, August 6, 2013, http://www.businessweek.com/news/2013-08-06/transcanada-eastern-pipeline-draws-opposition-corporate-canada.

government has indicated concern that it will only serve as a conduit to a pipeline that provides only risks and no benefits to the province.[10] Public opposition is growing.[11] What's more, natural gas interests have been lining up in opposition to the pipeline, concerned that converting this natural gas pipeline into a tar sands crude oil pipeline will cause rate hikes for customers.[12]

Enbridge's Alberta Clipper Expansion (additional 350,000 bpd)

While Canadian pipeline company Enbridge has proposed a significant expansion of its Alberta Clipper tar sands pipeline (also known as Line 67), the expansion would facilitate a capacity increase less than half of Keystone XL's capacity, adding just 350,000 bpd.[13] Expanding the pipeline's cross-border capacity requires a comprehensive review by the State Department and is already facing considerable opposition from local communities.[14] The State Department published a notice in the Federal Register in January 2013 acknowledging receipt of an application from Enbridge for this expansion; it published a subsequent notice in March indicating its intent to prepare a supplemental environmental impact statement (SEIS) and requesting scoping comments on the SEIS.[15] Since this pipeline was originally permitted, the debate about tar sands has changed dramatically in the United States, with much more awareness and understanding about pipeline safety and climate risks from tar sands, and a strong coalition has come together to oppose this expansion project.[16] In August 2014, the State Department issued another Federal Register notice indicating that even in the absence of an environmental review, Enbridge would be moving forward with a modified Alberta Clipper expansion plan; Enbridge aimed to skirt the environmental review process by expanding Line 67 outside of the small border crossing segment, and move the tar sands crude into Line 3 for the border crossing portion.[17] There has been significant opposition to this plan, including a lawsuit launched by environmental and tribal groups in November 2014.[18]

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[10] Shawn McCarthy, "TransCanada's eastern path this snag in Ontario," *The Globe and Mail*, August 22, 2013, http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/transcanadas-eastern-path-hits-roadblock-in-ontario/article13909022/.

[11] Andrea Harden-Donahue, "Opposition Mounting To Energy East Export Pipeline Even Before TransCanada Files Official Application," Council of Canadians, May 20, 2014, http://www.commondreams.org/newswire/2014/05/20/opposition-mounting-energy-east-export-pipeline-even-transcanada-files-official.

[12] Shawn McCarthy, "Gas interests lining up against TransCanada's Energy East pipeline," *The Globe and Mail*, October 15, 2014, http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/gas-interests-lining-up-against-transcanadas-energy-east-pipeline/article21117847/.

[13] Alberta Clipper (Line 67) Capacity Expansion Phase II, Enbridge, http://www.enbridge.com/MainlineEnhancementProgram/Canada/Alberta-Clipper-Capacity-Expansion-Phase-II.aspx. The expansion proposal would enable an increase in capacity from 450,000 barrels per day to 800,000 barrels per day.

[14] Jim Snyder and Rebecca Penty, "Enbridge Expansion Could Turn Into Keystone-Like Fight," *Bloomberg News*, May 2, 2013, http://www.bloomberg.com/news/2013-05-02/enbridge-expansion-could-turn-into-keystone-like-fight.html.

[15] See Federal Register Notices from January 2, 2013 https://www.federalregister.gov/articles/2013/01/02/2012-31557/application-for-a-presidential-permit-to-operate-and-maintain-pipeline-facilities-on-the-border-of and March 15, 2013 https://www.federalregister.gov/articles/2013/03/15/2013-06039/notice-of-intent-to-prepare-a-supplemental-environmental-impact-statement-seis-and-to-conduct.

[16] Even before the State Department announced receipt of the application for the expansion project from Enbridge, tens of thousands of activists emailed the State Department requesting that this expansion require a Presidential Permit. State Department to Review Tar Sands Pipeline Expansion, January 7, 2013, http://sierraclub.typepad.com/compass/2013/01/state-dept-to-review-tar-sands-pipeline-expansion.html. There has also been significant activity from grassroots and environmental organizations calling for a robust Environmental Impact Statement.

[17] Federal Register, "Amended Notice of Intent to Prepare a Supplemental Environmental Impact Statement (SEIS) and To Conduct Additional Scoping for the Proposed Enbridge Energy, Limited Partnership Line 67 Expansion Project," August 18, 2014, https://www.federalregister.gov/articles/2014/08/18/2014-19538/amended-notice-of-intent-to-prepare-a-supplemental-environmental-impact-statement-seis-and-to.

[18] Center for Biological Diversity, "Lawsuit Targets Secretive Plan to Ramp Up Tar Sands Oil Shipments in Alberta Clipper Pipeline," November 12, 2014, http://www.biologicaldiversity.org/news/press_releases/2014/alberta-clipper-11-12-2014.html.

The Keystone XL Tar Sands Pipeline Will Hurt More than Help Job Creation

The total number of jobs the Keystone XL Pipeline would create is far lower than those touted by pipeline proponents. According to the State Department, the pipeline would create 35 permanent full-time jobs[1] and 1,950 construction jobs that would last for two years.[2] The recent claim that Keystone XL would create 42,000 jobs is based on theoretical estimates of all short-term, indirect effects of spending by the much smaller number of people who would be directly employed.

Keystone XL would likely have negative impacts on job creation. A spill would be detrimental to the agriculture industry and cleanup efforts would be costly. Keystone XL would also undermine the expansion of the clean energy sector, which has proven to be more effective at job creation than the fossil fuel industry.

A tar sands spill from Keystone XL would threaten jobs

In the event of a major pipeline spill, Keystone XL could cost thousands of jobs along its route and require high cleanup expenditures. A study from the University of Nebraska has found that Keystone XL would likely experience 91 major pipeline spills over the project's 50-year lifespan.[3]

Keystone XL would threaten the agricultural sector, which directly employs more than 500,000 people in the states the pipeline would traverse and which generates billions of dollars in revenue.[4] 79 percent of the land that would be affected by Keystone XL is agricultural and rangeland.[5] The pipeline would also run through the Ogallala Aquifer, which supplies 30 percent of the groundwater used for irrigation in the U.S.[6] Cleaning up tar sands oil spills is both difficult and costly, as witnessed following spills into the Kalamazoo River and in Mayflower, Arkansas.

Keystone XL would impede the growth of the clean energy sector

Business owners have argued that Keystone XL would impose nearly $100 billion in climate-related costs on the economy.[7] In addition, Keystone XL would undermine the growth of the clean energy sector. The American Sustainable Business Council, representing more than 200,000 businesses across the country, has called on the administration to reject the pipeline.[8]

The clean energy sector is more conducive to job creation than Keystone XL would be. In the third quarter of last fiscal year, 18,000 new clean energy jobs were created nationwide.[9] Investments in clean energy create four times as many jobs as the same amount of investment in petroleum-based projects.[10]

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[1] U.S. State Department, Keystone XL Final SEIS, January 2014, p. 4.10-31.
[2] U.S. State Department, Keystone XL Final SEIS, January 2014, p. ES-19.
[3] John Stansbury, *Analysis of Frequency, Magnitude and Consequence of Worst-Case Spills From the Proposed Keystone XL Pipeline*, Nebraska Water Center, 2011, http://watercenter.unl.edu/downloads/2011-Worst-case-Keystone-spills-report.pdf.
[4] Lara Skinner & Sean Sweeney, *The Impact of Tar Sands Pipeline Spills on Employment and the Economy*, Cornell University Global Labor Institute, 2012, https://www.ilr.cornell.edu/globallaborinstitute/research/upload/GLI_Impact-of-Tar-Sands-Pipeline-Spills.pdf.
[5] *Id*.
[6] *Id*.
[7] Environmental Entrepreneurs, *Letter to Secretary Kerry*, March 7, 2014, http://switchboard.nrdc.org/blogs/aswift/E2%20Letter%20Opposing%20the%20Keystone%20XL%20Tar%20Sands%20Oil%20Pipeline.pdf.
[8] *Business Leaders Call on Senate to Reject Keystone Pipeline*, American Sustainable Business Council, November 18, 2014, http://asbcouncil.org/news/press-release/business-leaders-call-senate-reject-keystone-pipeline#.VKwRumTF-BI.
[9] Environmental Entrepreneurs, *Clean Energy Works for Us: Q3 2014 Jobs Report*, 2014, http://cleanenergyworksforus.org/wp-content/uploads/2014/11/2014_Q3_Report_final.pdf.
[10] Robert Pollin et al., *Green Recovery: A Program to Create Good Jobs and Start Building a Low-Carbon Economy*, Political Economy Research Institute, 2008, http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/peri_report.pdf.

Mayflower, Arkansas Tar Sands Spill - 2013

On March 29, 2013, ExxonMobil's 95,000 barrel per day Pegasus Pipeline ruptured, sending roughly 5,000 barrels (210,000 gallons) of tar sands diluted bitumen through the community of Mayflower, Arkansas.[1] Some of the spilled tar sands crude flowed through people's yards and down their streets.[2] While some of the very closest homes to the spill were evacuated, many who lived just a few hundred yards from the spilled diluted bitumen were not – and were exposed to dangerous levels of benzene, along with other pollutants such as octane, cyclohexane, heptane, hexane, toluene, butane, pentane and more.[3] Some community members experienced severe headaches, nausea, and respiratory infections following the spill.[4] Even nearly a year later, residents still were facing headaches, dizziness, nausea and other health challenges – while being told it was safe to live there – so that some have abandoned their homes, unable to find buyers.[5]

The Pegasus pipeline runs from Patoka, Illinois through Missouri and Arkansas to Corsicana and Nederland, Texas.[6] At the time of the spill, the pipeline was 65 years old, and had been built to transport lighter crudes at lower pressures in the opposite direction—but was reversed in 2006 to transport heavier tar sands diluted bitumen at higher pressures to the Gulf Coast.[7] Until 2012, Exxon's 90,000 bpd Pegasus pipeline was the only pipeline to move Canadian diluted from the Midwest to the Gulf Coast.

Following the spill, the Pipeline and Hazardous Materials Safety Administration (PHMSA) issued a Corrective Action Order, requiring ExxonMobil to shut down the pipeline until certain conditions were met, and initiated an investigation of the spill. PHMSA found nine probable violations of safety rules that may have contributed to the spill, and ExxonMobil was fined nearly $2.7 million.[8] On March 31, 2014 – just over a year after the spill – PHMSA approved ExxonMobil's request to resume operations on the Pegasus Pipeline at a reduced pressure of 80% of the operating pressure at the time of the pipeline failure.[9]

As illustrated by the Mayflower spill and the 2010 tar sands spill into the Kalamazoo River, tar sands is risky to transport, and poses health risks and clean-up challenges when it does spill. Further, the pipeline companies are not doing their jobs to ensure that the communities through which they are transporting tar sands stay safe, and U.S. government regulation of tar sands transport is inadequate. Building more tar sands pipelines like Keystone XL and exacerbating these risks is the wrong path forward.

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[1] PHMSA, ExxonMobil Pipeline Incident – Mayflower, Ark., http://www.phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=1a9ab5676d5cd310VgnVCM100000d2c97898RCRD&vgnextchannel=d248724dd7d6c010VgnVCM10000080e8a8c0RCRD&vgnextfmt=print.

[2] Exxon Pipeline Breaks in Arkansas, YouTube, March 31, 2013, https://www.youtube.com/watch?v=u30m8U6VP3E#t=12.

[3] Sam Eifling, Ark. Spill Victims on 'Wrong' Side of Fence Left to Fend for Themselves, August 7, 2013, Inside Climate News, http://insideclimatenews.org/news/20130807/ark-spill-victims-wrong-side-fence-left-fend-themselves

[4] Ibid.

[5] RT, Exxon oil spill town 'deserted land', residents still getting sick, forced to abandon homes, February 11, 2014, http://rt.com/usa/mayflower-keystone-oil-pipeline-410/.

[6] ExxonMobil Pipeline, Central North crude maps, http://www.exxonmobil.com/Images/EMPCo/central_north_crude2.pdf.

[7] John H. Cushman, Jr., Federal Rules Don't Control Pipeline Reversals Like Exxon's Burst Pegasus, April 3, 2013, Inside Climate News, http://insideclimatenews.org/news/20130403/federal-rules-dont-control-pipeline-reversals-exxons-burst-pegasus.

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Marshall, Michigan Tar Sands Spill into Kalamazoo River - 2010

On July 26, 2010, a pipeline operated by Enbridge Inc. ruptured releasing 843,000 gallons of tar sands diluted bitumen into Talmadge Creek which flows into the Kalamazoo River near Marshall, Michigan. The tar sands spill eventually contaminated 35 miles of the Kalamazoo River.[1] The rupture of this pipeline (called line Line 6B) is the costliest inland oil spill cleanup in U.S. history. Significantly, this spill drew national attention to the fact that tar sands oil sinks in water (unlike conventional oil). Despite more than four years of cleanup efforts overseen by the U.S. Environmental Protection Agency, the Kalamazoo River is still contaminated with tar sands.[2]

1. **Most expensive inland oil spill in U.S. history:** To date, the cleanup cost has exceeded $1 billion. Cleanup requires river-bottom dredging to remove the submerged tar sands that have remained since 2010. Even as this expensive and time-consuming process has taken place, there is evidence that dredging and other river-bottom removal techniques may also be leading to a wider spread of the spilled tar sands oil.[3] Traditional oil spill clean tools used for conventional oil—like surface skimmers, vacuum trucks, and absorbent booms—are largely ineffective for tar sands because large quantities sink and become submerged oil.[4]

2. **Tar sands oil sinks:** The response and cleanup of the Kalamazoo river spill has confirmed longstanding concerns among scientists and environmental monitors that tar sands do not float like conventional oil if spilled in water.[5] On the Kalamazoo, this has proved to be the case as the lighter, highly volatile diluting agents quickly evaporated, leaving behind the highly viscous, heavy bitumen, which sunk to the river bottom and has not significantly biodegraded over time. Even the State Department has acknowledged that a spill of tar sands presents different challenges than a conventional oil spill but failed to consider this in its environmental review.[6]

3. **Leak detection technology was ineffective:** The pipeline company operating Line 6B was not the first one to notice the rupture. Despite modern spill detection technology (similar to that proposed for Keystone XL), the rupture was reported by a member of the public 17 hours after the pipeline had ruptured.[7]

Following the spill, residents in the area reported adverse health effects including rashes, headaches, breathing problems and nausea.[8] The Talmadge Creek ecosystem was also decimated, as wildlife including turtles, birds, mammals, fish and invertebrates were coated in oil and died.[9]

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[1] EPA Response to Enbridge Spill in Michigan, updated October 16, 2014, http://www.epa.gov/enbridgespill/.
[2] *Ibid.*
[3] Lisa Song, "Cleanup of 2010 Mich. Dilbit Spill Aims to Stop Spread of Submerged Oil," *Inside Climate News*, March 27, 2013, http://insideclimatenews.org/news/20130327/cleanup-2010-mich-dilbit-spill-aims-stop-spread-submerged-oil.
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[7] Pipeline Accident Report, Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release, National Transportation Safety Board, July 10, 2012, https://www.ntsb.gov/investigations/summary/PAR1201.html. Though the pipeline's leak detection system issued alarms consistent with a rupture, operators misinterpreted the alarms and continued to keep the pipeline open as it poured oil into the environment.
[8] Keith Matheny, "Three years after oil spill, a slow recovery haunts Kalamazoo River," *Detroit Free Press*, June 24, 2013, http://archive.freep.com/article/20130623/NEWS06/306230059/Kalamazoo-River-oil-spill.
[9] *Ibid.*