

-----Original Message-----

From: apache@web.lmic.state.mn.us [<mailto:apache@web.lmic.state.mn.us>] Sent:
Monday, March 17, 2014 11:50 AM
To: Hartman, Larry (COMM)
Subject: Meyer Mon Mar 17 11:49:35 2014 PL6668/PPL-13-474

This public comment has been sent via the form at: mn.gov/commerce/energyfacilities/publicComments.html You
are receiving it because you are listed as the contact for this project.

Project Name: Sandpiper Pipeline Project / North Dakota Pipeline Company LLC (NDPC) Docket

number: PL6668/PPL-13-474

User Name: Ronald Meyer

County: Crow Wing County City:

Pequot Lakes

Email: rnsmeyer@tds.net Phone:

218-543-6246

Impact: My understanding is there has been no environmental document generated for this route change that is being proposed. The route change from the existing pipeline puts the new line in an area where the impact of any problem, like a spill, would cause a much larger economic impact because of the tax and property value of the area. The pipeline is larger and the route very different and yet the project is being reviewed as an extension of an old permit. I believe this is different enough to warrant a whole new permit. I have not heard an justification for changing the route or comparisons both economically or environmentally or other route options. Another concern is, like myself, a lot of residents of the area where the new pipeline is requested are south. Then should have a chance to comment.

Mitigation: I believe there should be an evaluation which would include using the same route that is presently used. I have been involved in a permit request here in AZ where power capacity needed to be increase. The power company proposed putting the new lines directly through a high end residential area rather than the existing power corridor. The reason was to reduce their construction cost. After reviewing the possible negative economic impacts to the tax base the permitting authority rejected the route. The short-term economic benefits for the power company didn't offset the long-term economic risk to the community.

Submission date: Mon Mar 17 11:49:35 2014

This information has also been entered into a centralized database for future analysis.

For questions about the database or the functioning of this tool, contact:

Andrew Koebrick
andrew.koebrick@state.mn.us

-----Original Message-----

From: Claire Middlemist [<mailto:mistymiddle101@yahoo.com>]

Sent: Tuesday, April 01, 2014 6:25 PM

To: Hartman, Larry (COMM)

Subject: Sandpiper Pipeline

Hello,

I am extremely worried about the impact the Sandpiper Pipeline will have on wetlands and family farms in Minnesota. I am against this pipeline, and urge you to consider the consequences it would have on organic farmland in Carlton County, and wild rice in our region.

Thank you,

Claire Middlemist

March 30, 2014

RECEIVED

APR 01 2014

MAILROOM

Larry Hartman
Environmental Review Manager
Environmental Review and Analysis (EERA)
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101

Re: Public Utilities Commission (PUC)
Docket Number PL-6668/PPL-13-474

Dear Mr. Hartman:

My husband and I are summer residents of Park Rapids, Minnesota. We are very concerned about the application by Enbridge Energy Limited Partnership and North Dakota Pipeline to construct its proposed Sandpiper Pipeline as described in the above referenced Docket No. (Project).

Unbelievably, we have only heard about this project recently – not from any official source, but from friends in the area! We would like to request the following:

Extend to August 1, 2014 the public comment period, including the opportunity to propose alternative routes or route segments.

A large number of the property owners that live along or near the general route of the Project and the Project's sensitive areas, such as the rivers, lakes and wetlands are seasonal residents (typically from May to September). We have not had the opportunity to participate in the informational and public meetings/hearings because they have been held when we are no longer "at the lake." Seasonal residents should not be denied the right to obtain all of the information and participate in the meetings/hearings just because Enbridge selected timing that was advantageous to it.

Conduct additional public information meetings and hearings during June and July, 2014.

These additional meetings are needed to address the concerns of seasonal residents such as ourselves.

Require that an Environmental Impact Statement (EIS) be prepared for the Project.

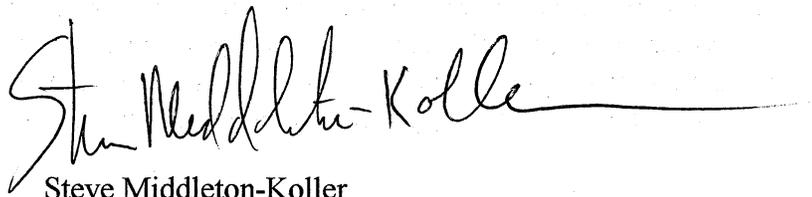
Pipelines, like energy facilities, should be located compatible with environmental preservation and efficient use of resources. Minnesota law requires that "An EIS shall be ordered for projects that have the potential for significant environmental effects".

The potential impacts of a leak or spill from this Project on the Headwaters rivers, lakes which are some of the clearest and cleanest in Minnesota, wetlands and the Straight River aquifer which is shallow and in sandy porous soils, all of which are extremely vulnerable, could be devastating. An EIS is required for the Project because these highly sensitive, unique and valuable resources of the state deserve the highest level of scrutiny.

Thank you for considering our requests.

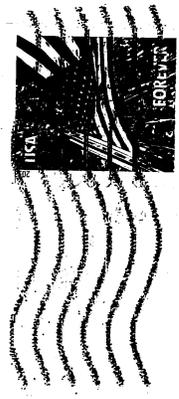


Lynn Middleton-Koller
1368 Avon Street North
Saint Paul, MN 55117



Steve Middleton-Koller

MIDDLETON-KOLLER
1368 AVON ST N
ST PAUL, MN 55117



SAINT PAUL MN 550
31 MAR 2014 PM 2 L

Larry Hartman
Environmental Review Manager
Environmental Review & Analysis (ERA)
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, Minnesota 55101

55101601999

From: melodee monicken [mailto:mmonicken@gmail.com]
Sent: Friday, April 04, 2014 4:48 PM
To: #PUC_Public Comments; Hartman, Larry (COMM)
Subject: Docket # 13-474

REGARDING THE ENBRIDGE/NORTH DAKOTA PIPELINE COMPANY (NDPC) LLC
SANDPIPER PIPELINE PROJECT

PUC DOCKET NO. PL9/PPL-13-474. CERTIFICATE OF ROUTE APPLICATION

Melodee Monicken 17456
Half Moon Road Park
Rapids, MN 56470 April 4,
2014

Mr. Larry Hartman, Environmental Review Manager
Energy Environmental Review and Analysis (EERA)
Minnesota Department of Commerce
85 7th Place East, Suite 500 St.
Paul, MN 55101-2198

Email: larry.hartman@state.mn.us

Dear Mr. Hartman,

As a long-time resident of Hubbard County I am writing the PUC/DOC to state my opposition to the Enbridge and North Dakota Pipeline Company's (NDPC) proposed Sandpiper pipeline route through Hubbard County.

I do not believe this pipeline (not to mention the recently announced Enbridge plans to include the Line 3 rebuild in the same proposed corridor) is at all beneficial to the long-term economic and environmental health of Hubbard County, adjacent counties and the Minnesota lake country in general. Four pipelines already exist along the west side of the county and 7 pipelines cross the northern corner of Hubbard County. These pipelines have leaked in the past. Adding two more pipelines of the dimensions Enbridge and NDPC are wanting is too dangerous to Minnesota's lake country and Hubbard County's water assets.

Besides being home to Itasca State Park, Minnesota's oldest state park, and the Mississippi River headwaters, this area also has some of the cleanest, clearest lakes in the state. To date no aquatic invasive species have been found in any Hubbard County lakes. That's testimony to the diligence and proactive efforts of local residents. But these pipelines represent the greatest invasive species we can imagine. A pipeline rupture of the magnitude seen in Enbridge's Grand Rapids, MN spill (1.7 million gallons), or its Kalamazoo, Michigan spill (nearly one million gallons), would devastate this area, destroy property values and decimate our tourism industry. The Park Rapids Chamber of Commerce states that over \$30 million tourism dollars a year are spent here. People come from all over the world to walk across the headwaters of America's famous river, the Mississippi. Families enjoy the swimming, fishing and boating on our area lakes, over 400 of them within 25 miles of Park Rapids.

Hubbard County also is home to one of the most important and sensitive ground water basins in the state, the Straight River aquifer. It's important enough that the MN DNR has initiated a ground water study of the Straight River. This shallow aquifer provides drinking water for the city of Park Rapids and numerous residents with private wells. It also supports the county's largest employer and revenue producer, LambWeston/RDO Industries' potato processing facility. If you like MacDonald's French fries, they probably came from potatoes grown over the Straight River aquifer. Locally, Lamb Weston/RDO employs 500 people and earns about \$500 million annually. As proposed, the Sandpiper pipeline would run through the heart of the Straight River aquifer, imperiling both the crops and our drinking water.

These pipelines also threaten one of Minnesota's prime brown trout streams, the Straight River. The trout thrive in the cold water springs that support the river. Imagine an oil spill in the porous, sandy soils of this shallow aquifer. How difficult would that be to clean up? Would the aquifer and our groundwater be permanently damaged? Could Park Rapids survive such a catastrophic hit to its prime water source?

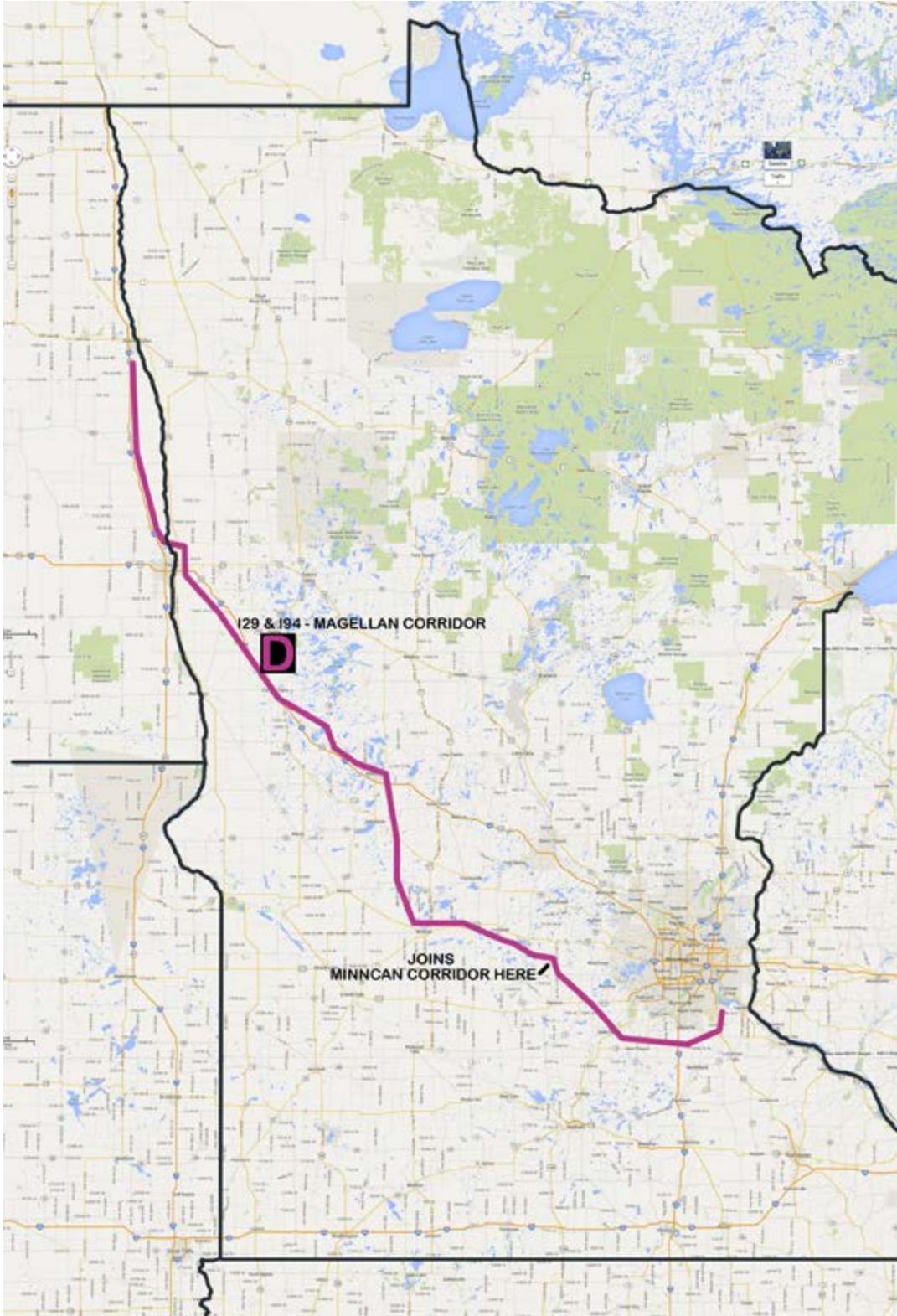
Wild rice is another valuable crop to local residents and it grows on our numerous lakes. Besides being an important food source, wild rice is spiritually, culturally, and commercially critical to the Ojibwa Tribes in this region. As proposed, the Sandpiper corridor passes right through their best wild rice lakes.

Given these issues and Enbridge's history with spills here in Minnesota and elsewhere, I don't believe the "preferred southern route" is good for Minnesota or Hubbard County. Oil and water are a bad combination, and we have a lot of it here.

As I don't think Enbridge can keep lake country safe from oil spills, I suggest that the NDPC build this pipeline across a part of the state that is far less susceptible to the inevitable damage. Why do I say inevitable? One of the EPA's conclusions in the Bristol Bay EIS was

this: "Thus, the probability of a pipeline failure occurring over the duration of the Pebble 2.0 scenario (i.e., approximately 25 years) would be 95% for each pipeline. In each of the three scenarios, there would be a greater than 99.9% chance that at least one of the three pipelines carrying liquid would fail during the project."

I have attached a map of my proposed alternative route.



As you can see, this pipeline route stays away from the lake country. It starts in eastern North Dakota near Grand Forks, follows the I-29 freeway corridor south, crosses the Red River downstream of Fargo, and bends around Moorhead until it merges with an existing pipeline corridor owned by the Magellan Company. The Magellan pipeline corridor parallels the I-94 freeway southeast until Alexandria, then bends south. At Willmar the corridor parallels MN Highway 12 east until intersecting the MinnCan corridor. At this point, my suggested alternate route follows MinnCan to the Flint Hills Refinery or the Saint Paul Park Refinery south of the Minneapolis-St. Paul.

I believe this is a much safer route for the Bakken crude oil than the currently proposed route across the lake country. The soils are heavier with more clay so any spill would not spread into the groundwater as it might in the porous Straight River soils. It's mostly farmland which even Enbridge/NDPC admits (in public, we were there) is easier to build on, inspect, access, and maintain. There aren't many wetlands along the route. Since it is south of lake country there is no risk to the wild rice lakes, our fragile aquifers, sensitive trout streams, and our best vacation lakes. It's still in Minnesota so Minnesota pipe fitters and labor unions will still have the opportunity for construction jobs.

Enbridge sometimes claims this oil will be for domestic use, but since they are refusing to tell the public where and to whom the Bakken oil is going, we don't know. I guess it's closely guarded "proprietary information"--like the names of carcinogens in fracking fluid. Many in Minnesota would like the idea that oil flowing through our state is ending up at a Minnesota refinery instead of Superior. Maybe we could fill our cars with gasoline made from North Dakota Bakken crude oil-- instead of realizing, down the road, that Minnesota is absorbing all the risks of a pipeline that only serves the bottom line of those who are selling oil product to China.

Unlike many of my Hubbard County neighbors, I stay here for the winter so I'm really worried that those who winter elsewhere don't know how important this pipeline proposal is to the county's environment and water quality. I know that a number of our townships and even the county commissioners have sent resolutions asking the PUC to extend the public comment period on this pipeline route. WHY haven't those resolutions and letters of support been posted, as they arrived at the PUC? Some have been there for weeks. When the PUC solicits PUBLIC comment and the public provides it, surely it isn't the prerogative of staff as to when or whether they will post the public's commentary, just because that commentary includes the request for a longer comment period.

This was even more confusing to me when I saw that Enbridge was told by the PUC to make public the landowner list for the proposed Sandpiper route. They had until 3/31 to comply. Instead they wrote a letter stating that wouldn't comply and asked for a stay while they appealed the ruling. Pretty audacious. They ask for a "stay," but it doesn't affect any of their docket postings. People in Hubbard County request an extended comment period and PUC staff decides to hold back the supporting resolutions and letters from local townships, county government, and individuals. It's called the PUBLIC Utilities Commission. Why is the public treated so much worse than the corporation in this process?

When my "snowbird" friends return, they will be disturbed to learn the PUC has ignored these resolutions and letters of support requesting a longer comment period. They will also be angry (I know I am) that Enbridge and NDPC has refused to cooperate with requests to release their mapping information and landowner lists so that the public can learn exactly where they are planning to dig their pipes. People want to know exactly where the pipeline is, especially if it's near their homes. They want to know what will happen to their property values. They need to understand whether they will be liable if/when the oil leaks onto their land, lakeshore or river frontage. They need to understand whether construction traffic could impede or disturb their daily

activities. Because Enbridge/North Dakota Pipeline Company, with PUC backing, didn't make shape files or landowner lists available, we don't know.

People always bemoan the electorate's apathy and our disengaged citizenry, but I think the PUC's process around pipeline routing could be one of the reasons for disengaged cynicism in our area.

Many folks up here think it's hopeless to even speak up, that the "fix" is in, especially when they learn that Enbridge is already buying up easements, even before any state permits allowing the project have been issued.

You know, Mr. Hartman, I was at the public hearing in Park Rapids. I listened to what people said there. With one exception, everyone spoke against the pipeline coming through this area. I also heard what you had to say, and I wondered if you were listening to the people of this area. We are worried about this project. We don't think it's good idea to mix oil with Hubbard County's wetlands, lakes, rivers, and fragile aquifer. A little quick cash during the construction will never offset the potentially devastating economic and environmental effects of a spill on our lands or in our waters. And the thought of Enbridge adding the Line 3 Rebuild pipeline in the same corridor is even more disturbing because more lines will proliferate.

There is more oil flowing through Minnesota than water flowing in our rivers. Minnesota gets a few pennies in tax dollars from the pipeline companies while millions upon millions of dollars in oil go by every day.

So why is Minnesota paid so little for so great a risk? And why hasn't the PUC demanded an Enbridge escrow account that could immediately fund the clean-up of inevitable leaks and spills in Minnesota? Enbridge, a Canadian company, claims a stellar record with regard to the environment, but Canadian records tell a different story:

2000: 7,513 barrels. Enbridge reported 48 pipeline spills
2001: 25,980 barrels. Enbridge pipelines reported 34 spills and leaks
2002: 14,683 barrels. Enbridge reported 48 oil spills and leaks, totalling 14,683 barrels,
2003: 6,410 barrels. Enbridge pipelines had 62 spills and leaks, totalling 6,410 barrels,
2004: 3,252 barrels. Enbridge pipelines had 69 reported spills, totalling 3,252 barrels
2005: 9,825 barrels. Enbridge had 70 reported spills, totalling 9,825 barrels of oil.
2006: 5,363 barrels. Enbridge had 61 reported spills, totalling 5,363 barrels of oil,
2007: 13,777 barrels. Enbridge had 65 spills and leaks, totalling 13,777 barrels of oil,
2008: 2,682 barrels. Enbridge had 80 reported spills and leaks, totalling 2,682 barrels
2009: 8,441 barrels. Enbridge had 103 reported oil spills and leaks, totalling 8,441 barrels,
2010: 34,122 barrels. Enbridge had 80 reported pipeline spills, totalling 34,122 barrels,
Total: 132,715 barrels of oil, more than half the Exxon Valdez spill of 257,000 barrels

For Minnesota, the risks are far smaller if the route for this pipeline (and Line 3) is south and west of lake country.

Please make Enbridge and the North Dakota Pipeline Company build their pipelines on a route that doesn't jeopardize the economy and future of this area. Minnesota shouldn't sacrifice the Mississippi Headwaters, the Straight River aquifer, and some of Minnesota's cleanest lakes, rivers and streams just because Enbridge "prefers" a convenient southern route to Superior.

Melodee Monicken

P.S. I hope it's clear from my letter that I don't trust the collaborative PUC/Enbridge environmental

analysis. Like many others, I want an EIS on this route.

From: Whitney Morgan [mailto:morga628@d.umn.edu]
Sent: Tuesday, April 01, 2014 2:56 PM
To: Hartman, Larry (COMM)
Subject: North Dakota Pipeline Company LLC Sandpiper Project Public Comment

PUC Docket No. PL-6668/PPL-07-13-474

Whitney Morgan

1220 102nd Ave. West

Duluth, MN 55808

4/1/14

Dear Honorable Commissioner,

Growing up in Duluth, I've always been fond of the untouched land that is Carlton County. Just 20 minutes away from my home the farmland around Jay Cook State Park has

given my community a local food source while providing a sustainable livelihood for Minnesota residents. These Organic farms are vulnerable to loss of certification, soil destruction and ecosystem damage. Whenever possible, routes should avoid organic farms. After generations after generations of caring and nurturing these beloved acres, a pipeline carrying oil which in fact doesn't provide nearly as many positive attributions to our local communities as these farms do, will have potential to destroy the natural food resources that we often take advantage of.

Land will never be the same after a spill occurs and farmers could no longer label their food as organic, leaving them now out of work as they try to pick up the pieces of this tragic loss of income, ecosystems, and natural life.

Along with organic farmland that is now threatened by the proposed Sandpiper Route, the life of important ecosystems is also at risk. Wild, natural, and forested areas not only provide essential ecosystem services to support sustainable farming, they are also valuable natural resources in themselves that provide critical wildlife habitat and protect the health of impaired rivers such as the Nemadji River in the Lake Superior Watershed. An oil leak would turn hazardous for the water supply that flows from these watersheds along with the Blackhoof River that eventually streams into Lake Superior.

The need to preserve these natural resources found in Carlton Country is something that needs to be fought for. This land is essential for there are numerous species living on the land, in the trees, and in cherished watersheds. Enbridge's idea that that the pipeline would only lead us closer to energy security that competes on a global market is not the answer. There is an enormous necessity for these natural ecosystems that give both economical and environmental benefits exclusivity to our local communities.

This isn't just about money. This is about preserving sustainable agriculture and the health of the ecosystems surrounding Lake Superior. **Co-locating new pipelines with existing crude oil pipelines (Northern Route) is the most consistent with the principle of non-proliferation and minimizes damage to farms, the environment and landowner rights.**

Thank you for your time,

Whitney Morgan

--

Whitney Morgan

"There is light that never goes out..."

-----Original Message-----

From: joelandcarla [<mailto:morte007@umn.edu>]

Sent: Saturday, March 29, 2014 3:37 PM

To: Hartman, Larry (COMM)

Subject: Sandpiper Pipeline

I am a MN resident and I am worried about the dangerous idea of approving the Sandpiper pipeline through our pristine Minnesota jewel, namely the headwaters of the Mississippi. The risk of losses for the region, the state of Minnesota and potentially the whole Mississippi River seems substantial, so I am urging you to work actively against the efforts for legislative approval.

Carla S. Mortensen
5115 28th Avenue South
Minneapolis, MN 55417

From: Jeff Mosner [mailto:jmosner@gmail.com]

Sent: Wednesday, April 02, 2014 10:28 AM

To: Hartman, Larry (COMM)

Subject: Sandpiper Pipeline Route, Docket Number PL-668/PPL/PPL-13-474

The attached compares rail/truck vs pipeline safety and the significant environmental risks of pipelines. Also attached are a couple of internal memos from the MPCA relevant to this matter.

Jeff Mosner
Park Rapids

Jeff Mosner
18506 Evening Dr
Park Rapids, MN 56470

April 2nd 2014

To: Larry Hartman, Environmental Review Manager
Energy Environmental Review and Analysis (EERA)
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101

Re: Enbridge and North Dakota Pipeline Company, LLC Sandpiper Pipeline Route, Docket Number PL-668/PPL/PPL-13-474

Dear Mr. Hartman,

This letter will attempt to address some of the environmental risks of this proposed pipeline. I especially want to deal with Mr. Hartman's public comments about pipelines being safer for transport of oil than railroad or other forms of transportation at the public meetings held on Sandpiper.

According to a June, 2013 Manhattan Institute for Policy Research report, 70% of US petroleum is transported by pipeline. See the full report at the link below:

http://www.manhattan-institute.org/html/ib_23.htm#.UznWzKhdX6R

According to this report, almost 500,000 miles of interstate pipeline crisscross America, carrying crude oil, petroleum products, and natural gas. Tanker and barge traffic accounts for 23 percent of oil shipments. Trucking accounts for 4 percent of shipments, and rail for the remaining 3 percent. Although more incidents occur when transporting petroleum products by trucking and rail (and gain more media exposure due to the sometimes horrific property damage and loss of life), this does not take into account environmental damage caused by petroleum spills.

The same Manhattan Institute report indicates that on average, pipeline "incidents" typically result in larger spills. In the nineteen years between 1992 and 2011, some 2,516,625 barrels of petroleum were spilled by pipelines in the US. And it is significant to note that *only 40% of this pipeline spilled oil was ever recovered*. From 2005-2009, petroleum spilled from pipelines in the US totaled 6,592,366 gallons, while spills from road and rail were 477,558 and 83,745 gallons respectively.

Pipelines have spilled 10 times more petroleum than rail tankers and trucks as the following chart from this Manhattan Institute for Policy Research report shows. The chart does show that oil released per billion ton miles is slightly lower for pipelines. But, since only 40% of it is recovered, and, as will be discussed below, at least as much unknown oil has leaked below ground as has been spilled above the ground due to "slow leaks", pipelines are clearly not safer modes of crude oil transportation than either rail or truck. This more detailed analysis of the data refutes any conclusion to the contrary that might be drawn from the Manhattan Institute report.

Table 9: Comparative Statistics for Petroleum Product Release Rates: Onshore Transmission Pipelines vs. Road and Railway (2005-09)

Mode	Avg. Product Release Per Year (gallons)	Release Per Incident (gallons)	Release Per Billion Ton-Miles (gallons)
Road*	477,558	687	13,707
Railway*	83,745	1,688	3,504
Hazardous Liquid Pipeline	6,592,366	19,412	11,286
Natural Gas Pipeline**	-	-	-

*Only incidents involving and ton-mileage carrying those products carried by pipeline (petroleum products, liquid natural gas, etc.) are counted for road and railway

**No release volume data are available for gas pipeline in the PHMSA incident database

Sources: Ton-Mileage values are based on Tables 1-50 (for Natural Gas Pipeline) and 1-61 (all others) of the Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics "National Transportation Statistics", available at http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/index.html, accessed April 2013. Incident and release volume data for Road and Railway were extracted from the Office of Hazardous Materials Safety "Incident Reports Database Search" at <https://hazmatonline.phmsa.dot.gov/IncidentReportsSearch/>, accessed April 2013. HL Pipeline release volumes were extracted from the Pipeline and Hazardous Material Safety Administration "Hazardous Liquid Accident Data - 2002 to 2009" file available at <http://phmsa.dot.gov/portal/site/PHMSA/menuitem.ebdc7a8a7e39f2e55cf2031050248a0c?vgnextoid=fdd2dfa122a1d110VgnVCM1000009ed07898RCRD&vgnnextchannel=3430fb649a2dc110VgnVCM1000009ed07898RCRD&vgnnextfmt=print>, accessed April 2013.

It is important to understand why pipelines leak so much oil. The MPCA and Minnesota Office of Pipeline Safety reveals in some detail the fallibility of some of the most sophisticated technology and the willingness of pipeline operators to underestimate or ignore the significance of material flaws and deterioration data even when the technology does detect them. Standards for pipeline material (steel) construction and welds can only go so far to ensure safety. Handling of the pipe during installation, ground movement stresses and operator error are contributors to leaks and spills that material standards are obviously unable to overcome.

According to the EPA's Bristol Bay Alaska, Pebble Mine pipeline risk assessment that also made the point that better engineering doesn't reduce incidence of pipeline leaks or ruptures very much. Quoting this report, "It may be argued that engineering can reduce pipeline failures rates below historical levels, but improved engineering has little effect on the rate of human errors. Many pipeline failures, such as the cyanide water spill at the Fort Knox mine (Fairbanks, Alaska) that resulted from a bulldozer ripper blade hitting the pipeline (ADEC 2012), are due to human errors. Perhaps more important, human error can negate safety systems. For example, on July 25 and 26, 2010, crude oil spilled into the Kalamazoo River, Michigan, from a pipeline operated by Enbridge Energy. A series of in-line inspections had showed multiple corrosion and crack-like anomalies at the river crossing, but no field inspection was performed (Barrett 2012). When the pipeline failed, more than 3 million L (20,000 barrels) of oil spilled over 2 days as operators repeatedly overrode the shut-down system and restarted the line (Barrett 2012). The spill was finally reported by a local gas company employee who happened to witness the leak. The spill may have been prevented if repairs had been made when defects were detected, and the release could have been minimized if operators had promptly shut down the line."

Please note the two memos also attached from the MPCA to the NTSB. They describe in detail what went wrong with one of Enbridge's pipelines between Clearbrook and Superior, resulting in a 1.7 million gallon spill in 1991 in Grand Rapids as well as the 250,000 gallon rupture in Cohasset in 2002. Also pay special attention to the footnotes on the 7/10/2003 memo that raises the probability that at least as much unknown oil has leaked below ground as above the ground due to "slow leaks". This, along with the fact that most of this oil is never recovered is why pipelines are NOT safer than other methods of transport. Scary stuff considering the proposed Sandpiper pipeline preferred route is over some of the most susceptible ground water aquifers in the state.

Pipelines deliver their product to fixed end points, while delivery by railroads is more flexible and delivers product to where it is needed. The big environmental issue for pipelines, is that when pipelines have a problem it is almost always a big one. Often these leaks or spills are in remote areas and may be where pipelines were installed in wetlands over frozen ground. Accessing this remote spill sites with recovery and repair equipment can be difficult and cause damage to the sensitive wetland area affected.

And pipelines often leak for days before the spill is even noticed. This was demonstrated most recently in North Dakota where a pipeline leaked over 20,600 barrels (865,200 gallons). This, the largest inland pipeline spill in recent US history, was not discovered until a farmer noticed the oil in his fields. Even the pipeline company cannot explain how long the leak was active, let alone what caused it.

In comparison, when a rail-car is involved in accident, the environmental impact is almost always limited. The capacity of today's tank car is between 25-30,000 gallons (just over 700 barrels) and the overwhelming majority of rail spills reported by the Department of Transportation involve amounts of less than 5 gallons. The spill locations are often far more accessible than pipeline leak sites and equipment for oil recovery and repair can reach these sites rapidly by rail or road.

These risks for pipelines are real and much greater than the pipeline companies are prepared to admit at public meetings. Having a public official like someone in your position with the Department of Commerce mislead the public about the relative safety of pipelines at meetings being held on Sandpiper does not show the impartiality you claim to adhere to in your statements made at the opening of each of these meetings.

I am not advocating for continued reliance on rail to ship Bakken crude from North Dakota. What I am advocating for is a full EIS of this route that will provide accurate facts for comparison of the risks from all alternatives and reveal a clear picture of the the high probability of any pipeline leaking and causing significant irreparable harm to our environment.

DEPARTMENT: POLLUTION CONTROL AGENCY

STATE OF MINNESOTA

Office Memorandum

DATE: July 10, 2003

TO: Cliff Zimmerman
National Transportation Safety BoardFROM: Stephen J. Lee, Supervisor
Emergency Response Team
Minnesota Pollution Control Agency

PHONE: 651/297/8610

SUBJECT: Accident # DCA02-MP002
Enbridge Pipe Line Company 34 Inch Crude Oil Line

A 34 inch diameter pipeline operated by Enbridge Pipe Line Company crosses northern Minnesota. Since the July 4, 2002, Cohasset rupture this pipeline has been under Federal order to operate at reduced pressure to reduce the risk of additional leaks or ruptures. Enbridge may ask the Federal Office of Pipeline Safety for permission to resume normal operating pressures in order to increase the volume of crude oil transported by the pipeline.

In my role as supervisor of the Emergency Response Team of the Minnesota Pollution Control Agency (MPCA), I have urged both the Federal and Minnesota Offices of Pipeline Safety to be extraordinarily cautious in considering increased pressures in this line, given the spill history of this pipeline and the very sensitive route of the line across Minnesota.

MPCA senior emergency response staff have been involved with spills from the 34 inch Enbridge line since the 1970's. The option that would be most protective of the public's safety and the environment would be replacement of all or major segments of this 34 inch line. Short of that, we are comfortable with continued operation of the 34 inch line at reduced pressure. We are not confident that internal inspections are sufficient to prevent additional spills. Hydrostatic pressure testing, coupled with follow-up internal inspections, might provide sufficient assurance to allow increased operating pressures.

Enbridge has pipelines as large as 48 inches in diameter running across northern Minnesota. The Enbridge pipelines carry mostly Canadian crude oil through some of the most sensitive environment in Minnesota. They also run through heavily populated neighborhoods, under and near the Mississippi River, and through a number of tribal lands.

One of the parallel Enbridge pipelines is a 34 inch pipeline carrying crude oil from Canada, through Clearbrook, Minnesota, to Superior Wisconsin. MPCA has records of nearly three dozen non-third-party spills, leaks, or ruptures of the Enbridge 34 inch line between 1972 and 2003. About 87% of the petroleum gallons spilled from all Minnesota pipelines in the period 1991 to 2002 was from the Enbridge 34 inch line. This is equal to about 48% of the reported gallons of petroleum spilled from all sources in Minnesota during that period. ⁱ

Included in the Enbridge 34 inch line spills are the 1.7 million gallon rupture in 1991 in Grand Rapids and the 250,000 gallon rupture on July 4, 2002 in Cohasset. The Grand Rapids spill was between a college and an apartment building. But for incredible luck an inferno could have resulted. 300,000 gallons of the Grand Rapids spill flowed to a river. Luck with the timing of the spill; river-ice conditions; and an aggressive and organized recovery by the company kept hundreds of thousands of gallons of crude oil from entering the Mississippi River. Oil in the Mississippi would likely have fouled St. Cloud, St. Paul, and Minneapolis drinking water intakes for months. Likewise, the Cohasset spill could have easily entered the Mississippi River if it had happened in a different segment of that 34 inch pipeline.

The Enbridge 34 inch line was built in the 1960's. From North Dakota to Clearbrook most of the steel pipe was manufactured by A.O. Smith Company. From Clearbrook to Superior most of the pipe was manufactured by U.S. Steel. Each pipe type has had differing patterns of manufacturing, installation, and/or maintenance issues. Each pipe type seems prone to differing patterns of leak and rupture failures.

Pipelines can be tested in several ways: Hydro testing in-line tool testing; or "the test of time, soil, and pressure." Enbridge's "pipeline integrity program" for testing, monitoring, and repairing pipelines is state-of-the-art. That is to be commended and expected from the largest pipeline company in the world. This program will reduce, but not eliminate, leaks and ruptures so long as the pipeline is operated.

After the 1991 Grand Rapids rupture the federal Office of Pipeline Safety required Enbridge to limit pumping pressures on the 34 inch line. Then Enbridge conducted in-line testing using an "elastic wave tool" to seek cracks, corrosion, or other faults in the line. A number of such faults were identified, many were excavated, and some were repaired. The federal OPS then allowed Enbridge to resume operation at full pressure in the 34 inch line.

On July 4, 2002, however, the 34 inch Enbridge line again ruptured, this time at Cohasset. Federal OPS has again placed a pressure limit on the 34 inch line

Recent examination of the in-line tool records from the after-Grand Rapids testing showed that a fault had been present at the Cohasset rupture site, but the fault was below the threshold criteria for further examination or repair.

Because of the Cohasset rupture, in-line testing of the 34 inch line was again done in 2003 using an in-line tool of increased capabilities. The A.O. Smith steel segment of the 34 inch line had dozens of features identified. The U.S. Steel segment had hundreds of features identified.

The 34 inch line between North Dakota and Superior passes under or near the Mississippi River, past a number of large and very important resource lakes, through bogs and wetlands, and through or near very many other sensitive features. There are frightening potential consequences of another 34 inch line failure if it occurs at or near the Mississippi River, within a tribal boundary, within a neighborhood or city, or under or near one of the major lakes.

SJL:tf

ⁱ Spill statistic background information- Between January 1991 and December 2002 there were 23,301 spill or emergency incidents reported to MPCA. A majority of these incidents involved petroleum ranging from crude oil, to gasoline, to diesel fuel, to lubricating and waste oils. In the 1991 – 2002 period 4,593,053 gallons of petroleum were reported spilled in Minnesota

In contrast to long term storage tank or pipeline leaks, a sudden rupture of an underground pipeline or tank can be estimated with some accuracy. Between 1962 and 2003 there are 68 reports of large (>10,000 gallons) spills or ruptures from petroleum pipelines on MPCA records. The overall frequency and volume of pipeline ruptures has declined. About 22% (15) of these large pipeline ruptures involved the Enbridge 34 inch line. The 34 inch line is not 22% of Minnesota's linear pipeline distance or carrying capacity.

The largest pipelines can have the largest spills and ruptures. About 56 % of the reported volume of oil spilled in Minnesota in this period was from pipelines. The remainder of the oil spilled from trucks, trains, tanks, and other sources. Of the pipeline spills about 87 % was from the Enbridge 34 inch line.

[Great care needs to be taken in interpreting or extrapolating from historic spill reports. Most reports of aboveground spills, including pipeline ruptures, include an estimate of the spilled amount. However, reports that storage tanks or underground pipelines have leaked slowly usually do not include estimates of the lost product volume. Accurate estimation of an underground leak is very difficult, and is ultimately usually not very important in designing the needed cleanup. It is probable that at least as much petroleum has been leaked underground in Minnesota during that period as was spilled aboveground. For example, over 3 million gallons of petroleum have been recovered from under the Flint Hills Refinery, presumed to have leaked from tanks and underground lines during the 1960's to 1990's. Likewise, the pipeline operators have found a large number of locations where unknown volumes of oil have leaked over unknown periods. Those underground leaks are not included in the spill volumes cited above.]

June 27, 2003

Mr. Cliff Zimmerman, IIC – Accident # DCA02-MP002
Office of Railroad, Pipeline and Hazardous Materials Investigations
National Transportation Board
Washington, DC 20594

Re: IIC Technical Report – Accident # DCA02-MP002

Dear Mr. Zimmerman:

The Minnesota Office of Pipeline Safety (MNOPS) has reviewed the draft IIC Technical Report concerning the July 4, 2002 rupture of Enbridge's 34 inch pipeline near Cohasset Minnesota (Accident # DCA02-MP002) submitted to us electronically on May 30, 2003. We appreciate the opportunity to offer our input relative to this failure, the failure history of this pipeline, and the actions taken both prior and subsequent to the most recent rupture.

It is of primary importance to MNOPS that we ensure all reasonable and responsible measures are taken to prevent another in service failure of this pipeline. The recent inspection and mitigation program conducted by Enbridge, utilizing the UltraScan CD tool, FAST ultrasonic testing and magnetic particle inspection for field assessment, and conservative repair criteria, has certainly helped in this regard. The prior use of Elastic Wave internal inspection technology clearly demonstrates Enbridge's commitment to use the best available technology to identify and assess pipeline defects, even though our involvement with the defect assessment process did not lead us to the same conclusions concerning the tool's capabilities.

The available results from the most recent program provide clear indications of improved capabilities related to identification of longitudinally oriented defects. They also provide indications of a deteriorating pipeline, given the number and severity of anomalies that were identified between Clearbrook, Minnesota and Superior, Wisconsin. In addition to the threats of manufacturing defects and fatigue cracking in longitudinal seams, Enbridge is now faced with the threat of failure due to Stress Corrosion Cracking (SCC). Even though Enbridge had previously implemented a program to look for SCC, none had been found in the U.S. until this most recent inspection program.

The results of the recent UltraScan CD inspection between Clearbrook and Superior are unquestionably impressive, particularly when compared to the results achieved using Elastic Wave technology. It is important, however, to look very closely at these results from different perspectives, in order to avoid gaining a false sense of security. For example, the shortest defect reported by the UltraScan CD inspection was 1.00 inches. In fact, there were 15 defects reported that were below the 2.362 inch contracted threshold for length. Conversely, there were 207 defects greater than 1.00 inches identified during field assessments, that were not reported by the tool. Of these, 182 were in excess of the 2.362 inch contracted threshold. This provides some indication of the difficulty associated with the tool vendor's interpretation of ultrasonic signals.

It would be advantageous to compare defect size from the Elastic Wave inspection(s) to the UltraScan CD inspection, in order to better understand defect growth rates. Unfortunately, the only results available from the Elastic Wave inspections are those in or very near the longitudinal seam, as the remainder of the pipe body information had to be discarded due to data storage and processing constraints. Even so, there are some defects for which this analysis could be performed. A defect at M.P. 961.8437 was identified that was 4.5 inches long, with a maximum depth of 75% through wall. This same defect should have been visible from the prior Elastic Wave inspection, and an analysis would seem prudent. Other examples of defects that could be evaluated are; a 3.9 inch long, 50% through wall defect at M.P. 933.4289, a 1.35 inch long, 82% through wall defect at M.P. 954.7452, a 4.00 inch long, 40% through wall defect also at M.P. 961.8437, a 2.50 inch long, 40% through wall defect at M.P. 965.9056, a 3.1 inch long, 50% through wall defect at M.P. 969.1296, a 13.70 inch long, 42% through wall defect at M.P. 1003.0578, a 4.50 inch long, 28% through wall defect at M.P. 1005.3448, a 2.5 inch long, 44% through wall defect at M.P. 1018.3529, a 2.7 inch long, 35% through wall defect at M.P. 1018.8062, a 21 inch long, 33% through wall defect at M.P. 1021.7944, (2) defects 2.5 inches long, 32% and 35% through wall at M.P. 1040.6927 (the latter unreported by the UltraScan CD tool), a 14.60 inch long, 30% through wall SCC field at M.P. 1086.7558, a 36.50 inch long, 28.60% through wall SCC field at M.P. 1091.6776, and (2) SCC fields – 59.00 and 10.90 inches long, both 27% through wall. We would expect an Elastic Wave inspection to have seen these defects, and due to their location in or adjacent to the longitudinal seam, the Elastic Wave information should be available. This defect growth analysis is extremely important for future integrity and operational safety considerations.

MNOPS is particularly concerned that longitudinally oriented defects are growing much faster than expected by Enbridge and their third party consultants. Despite Enbridge's extensive in-house expertise, and their utilization of the foremost outside experts in fracture mechanics, it remains quite possible they do not have an adequate understanding of the pipeline's response to longitudinal defects and pressure cycles. Enbridge has provided extensive information related to their past and present thinking with regard to defect growth analysis, and has made every attempt to be conservative in their assumptions. We question though, whether their analyses properly consider the diverse operating history of this pipeline. From most reports, this pipeline was run relatively hard up until the rupture in Grand Rapids, MN, on March 3, 1991. Subsequent to that failure, operation and testing of the pipeline was subject to an RSPA Consent Order, as detailed in your draft report.

The RSPA Consent Order was closed early in 1999. And the pipeline was allowed to be operated at the full operating pressure provided for by CFR Part 195 until the July 4, 2002 rupture near Cohasset. The pressure cycle analysis used by Enbridge applies data from a two month time period which exhibits the most severe pressure cycles, and uses the information to determine and evaluate constants applicable to the Paris Law equation for known defects that have been identified in the pipeline. One concern is that using conservative pressure cycle data could artificially drive down the values of the constants "C" and "n" in the Paris Law equation, which could then under-predict defect growth during actual pressure cycles. Another concern is that too much emphasis may be placed on the expert's conclusions for predicted time to failures, given the assumptions that have to be made, and the number of variables that can affect an individual defect's response to operating characteristics. With just general knowledge of past failures and all of the recently identified defects, MNOPS is quite concerned that the pipeline is not responding well to the increased pressures allowed by closure of the 1991 RSPA Consent Order.

The Draft Technical Report discusses a significant amount of history related to the 34 inch pipeline, but does not appear to fully take into account the substantial failure history of this pipeline, other than longitudinal seam failures. It is in the best interest of our public and the environment to fully consider all of the integrity concerns associated with operation of this pipeline, rather than just the seam failures. There is a documented history of maintenance weld failures which have occurred over the past few years, both on repair sleeves and stopple fittings, which point to inadequate workmanship and inspection of maintenance welding. While Enbridge has undertaken a substantial program to inspect and repair many of these welds, there are hundreds more that haven't been looked at.

In addition to maintenance weld failures, there have been several flange and fitting leaks, and recently a cracked girth weld from original construction that failed. These types of defects and failures cannot presently be addressed reliably through in-line inspection.

The Draft Technical Report also discusses the prevailing theory that the longitudinal defects in the U.S. Steel pipe are the result of transportation induced fatigue cracks due to railroad shipment. While familiar with the theory, MNOPS questions whether there shouldn't be discussion within the report of plausible alternatives to crack initiation that have been considered and eliminated. We are particularly concerned with the discussion of the potential number of pipe joints that could have sustained railroad fatigue cracking during transportation. Any estimate of the number of joints that could have been exposed to worst case conditions is purely speculative, and probably should be excluded from the Technical Report. If included, it should be specifically acknowledged as an attempt to guess what the extent of the problem could be, rather than stated as facts and conclusions.

The Draft Technical Report briefly discusses the pipe movement which occurred on February 5, 2002 during the Terrace Phase III construction project, and the analysis that was performed. However, the analysis did not consider the effect of having a deep crack in the longitudinal seam of the pipe, and it seems obvious that the pipe movement was a contributing factor to the ultimate failure, given what we now know about the defect that existed at that location. We believe more attention needs to be paid to the effect of pipe movement on this defect, particularly as it relates to Enbridge's defect growth analysis, and any future recommendations related to evaluation of the pipeline when movement has occurred.

Mr. Zimmerman, according to information available from the Minnesota Pollution Control Agency (MPCA), the Enbridge 34 inch pipeline accounts for 87% of reported petroleum gallons spilled from pipelines in Minnesota from 1991 – 2002, and almost 50% of petroleum gallons spilled from all sources during the same time period. While we certainly acknowledge Enbridge's efforts to establish the integrity of this pipeline through inspection and repair, we are not satisfied that their preferred approach is sufficiently reliable at this time to prevent another in-service failure. It is our recommendation that confirmatory hydrostatic testing be performed on selected segments of the pipeline in order to establish that the UltraScan CD inspection has not missed any critical defects. We further recommend a follow-up inspection using the best available crack detection technology within two years of the hydrostatic test. We also request additional evaluation of the defect growth analysis for this pipeline using some of the recently identified anomalies, in order to more accurately determine the pipeline's response to actual pressure cycles and increased operating pressures.

We believe it's possible for this pipeline to be operated safely until such time that replacement is a viable option. Given the age, failure history, and integrity concerns, we believe it's prudent to limit the operating pressure of this pipeline until an adequate understanding of defect growth is established, and the ability for defect detection can be established with the highest degree of confidence. Given this pipeline is an integral factor in our nation's energy supply we must ensure it is operated safely throughout the remainder of its useful life.

We appreciate the opportunity to provide our input into the report, and remain available to assist in any way possible. The review was prepared by Brian Pierzina, Senior Engineer and Ron Wiest, Chief Engineer. If you have technical questions please contact Brian at 218 -327-4218 or Ron at 651-296-5123. Brian is the assigned lead investigator for MNOPS for this case.

Sincerely,

Ronald J. Wiest, Chief Engineer

Charles R. Kenow, Administrator

CC: Ivan Huntoon, Director – Central Region Office of Pipeline Safety

Jeff Mosner
18506 Evening Dr
Park Rapids, MN 56470

April 4th 2014

To:

Larry Hartman, Environmental Review Manager
Energy Environmental Review and Analysis (EERA)
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101

Re: Enbridge and North Dakota Pipeline Company, LLC Sandpiper Pipeline Route, Docket Number PL-668/PPL/PPL-13-474

Mr. Hartman,

I live near Park Rapids in Hubbard County, home to the headwaters of the great Mississippi river and hundreds of the cleanest lakes in Minnesota. I am opposed to Enbridge Pipeline's (North Dakota Pipeline Company, LLC) proposed southern route for the Sandpiper Pipeline.

Relating to Need

Regarding the certificate of need process "to determine the size, type, and timing of the proposed pipeline and whether there is a better alternative for meeting NDPC's stated need". The NDPC has a need to move oil from Tioga, North Dakota to Superior, Wisconsin, presumably to make money for their employees and shareholders. But shouldn't the PUC be primarily concerned with the need (public good) for this oil they wish to transport across our state? Especially considering that, if the PUC grants this pipeline its approval, the NDPC can take a resident's land (eminent domain) based on the "public good" of this project. When does this process begin to look at this "public good" based need? According to the US Energy Administration Information (EAI) in 2012, 40% of US net oil (imports minus exports) was imported. However, at the same time the US exported 3.2 million barrels of crude and petroleum products in 2012. U.S. dependence on imported oil has been declining since peaking in 2005. Even as the NDPC claims the US needs this oil from North Dakota to reduce our dependence on foreign oil, the NDPC has not been willing to indicate the ultimate destination of this oil. Wouldn't we be fools to place our precious resources at risk to pad the bottom line of a foreign company selling our oil to foreign countries?

While many feel it makes sense to transport that petroleum through a pipeline across Minnesota, we should keep in mind, that while transporting petroleum across Minnesota *might* be good US national policy for the benefit of all Americans (and Canadian citizens in the east) it has no other direct benefit to the citizens of Minnesota. The three refineries in Minnesota already have an adequate supply of crude oil from within North America.

Relating to Route

Risk of spills

As further explained below there is a reasonably high probability that there will be a Sandpiper pipeline rupture that will result in catastrophic damage to private property owners in Minnesota.

Pipeline ruptures occur and they are not rare. Since 1990 more than 110 million gallons of petroleum have been spilled from US pipelines, 70% of which occurred due to equipment failure and corrosion. Everyone wants to prevent spilling any petroleum anywhere and that includes NDPC. The NDPC states that “Enbridge designs, constructs, operates and maintains its facilities to comply with or exceed all appropriate regulations, federal laws and national standards.” Enbridge likes to point out that it transports 99.9993% of its oil safely. Even with these major efforts there have been a significant number of spills from NDPC facilities and some of those had major negative impacts. Unfortunately, this means they spill, on average, about 236,000 gallons of oil per year, of which only 40% is recovered. There have been major NDPC petroleum spills in Grand Rapids and Cohasset Minnesota and the Minnesota DNR had to burn the petroleum at the spill site to prevent it from reaching the Mississippi River. Another major NDPC petroleum spill went into the Kalamazoo River in Michigan in 2010 when over 800,000 gallons of tar sands oil was spilled, that is still being cleaned up. Investigators found that Enbridge’s missteps constituted “an organizational accident,” or the result of multiple errors by the Canadian pipeline company. In addition to citing a prevalence of recurring poor safety practices throughout Enbridge’s organization, investigators found that the Kalamazoo spill manifested errors observed in previous Enbridge accidents that the company has failed to learn from. NTSB Chairman Deborah Hersman has likened Enbridge’s systematic poor performance to the Keystone Kops for its systematic poor performance – an alarming prospect given that Enbridge is proposing to build half a dozen new tar sands pipelines in highly sensitive regions of Canada and the United States. By one calculation, on average, NDPC has experienced one spill for each 21 miles of pipeline used by that company over an eleven year period.

Pipeline ruptures must be expected. The Sandpiper project will require tens of thousands of sections of 30 inch diameter pipe and somewhere around 100,000 welds performed outdoors some in difficult weather conditions. Each weld will be nearly 100 inches in length performed in a vertical circle to connect pipes extending outward away from the welding area for many feet. The petroleum in the pipes is under pressure and the pipes are subject to occasional rapid up/down pressure fluctuations, expansion and contraction with changes in temperature and earth shifts due to such things as frost heaves. Steel pipe cannot be manufactured without some undetectable defects. The pipeline may pass a high pressure leak test prior to use to transport petroleum; however, a defect in the steel of a section of pipe or a less than perfect weld can give way due to metal fatigue after a period of time being subject to those types of factors. It is a fact of life that spills cannot be prevented and sometimes they can occur where the damage is catastrophic.

The impacts of any pipeline spill depend on the amount of petroleum spilled and the location of the spill. NDPC plans to initially transport up to 375,000 barrels of Bakken shale oil petroleum over this proposed pipeline each day. However, recent news reports indicate that NDPC will be looking at expanding capacity of it's Line 3 Alberta Clipper pipeline (which will feed the Sandpiper at its terminal in Clearwater) in order to carry additional Alberta tar sands oil to Superior. You can be sure NDPC will expand pipeline capacity in the Sandpiper corridor to carry this tar sands oil also. While the highly volatile Bakken shale oil is bad enough due to all the carcinogenic chemicals that need to be used in the fracking process, the news that they are considering sending tar sands oil, extracted in Canada down this Sandpiper corridor is frightening. It would be nothing short of an environmental crime to have tar sands oil transported through our county (and once the pipeline is approved, there is nothing stopping the NDPC from shipping whatever they want through it). Tar sands oil is a sludgy form of bitumen (or asphalt) diluted with gas condensate made from a plethora of carcinogenic chemicals needed to make it flow. The higher temperatures and pressure make it more corrosive and leads to greater chances of pipeline breakage. Again this is the chemical cocktail that breached Enbridge's pipeline in Michigan.

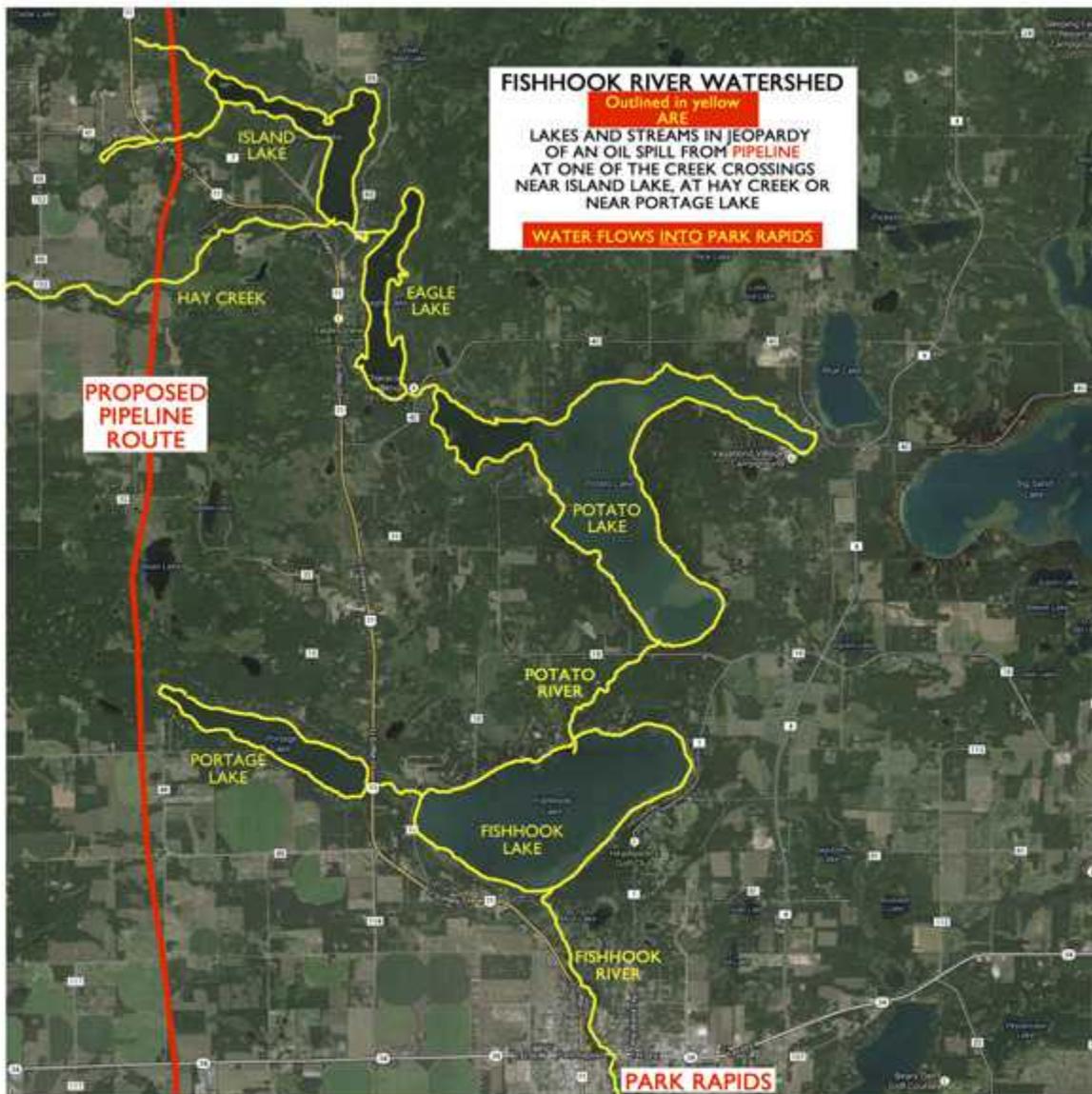
U.S. scientists are warning that there are environmental risks, regulatory holes and serious unknowns regarding the shipment of Alberta oil-sands products by pipeline, rail and tanker. The findings are in a 153-page report from last September by the emergency response division of the U.S. National Oceanic and Atmospheric Administration. I urge you to take a look at this recent report on the study: [http://m.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/us-study-renews-focus-on-risks-of-shipping-from-alberta-oil-sands/article16506043/?service=mobile&post_id=1387244201_10201399122085145#_ =](http://m.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/us-study-renews-focus-on-risks-of-shipping-from-alberta-oil-sands/article16506043/?service=mobile&post_id=1387244201_10201399122085145#_=)

NDPC has demonstrated that company employees monitoring the control centers have had difficulty determining that a spill has occurred. Many (maybe most) spills of petroleum from pipeline facilities are discovered by local residents and they may not be discovered for many hours (maybe over night) after the spill begins if the spill is in a remote area like those through which the NDPC preferred route passes and/or the spill is at a time when many recreational property owners are not in residence.

NDPC proposes that the initial pipe in this route be 30 inches in diameter. A quick calculation shows that there would be approximately 132,000 tons of petroleum moving through the 300 mile length of this pipe continuously. The mass of moving oil in that pipe is the equivalent of **six 100 tank car trains fully loaded with petroleum!** A high school course in physics includes study of Newton's laws of motion that shows that there is an enormous amount of kinetic energy in all of that moving petroleum. Things that are in motion tend to stay in motion. The point is that it is not possible to simply close a valve to instantly shut down the flow of the petroleum just as it is not possible to instantly stop a moving freight train by simply applying the train brakes. To do so would cause enormous pressure in the pipe that would most likely cause many ruptures. This all means that it takes a long time (hours) to shut down the flow of petroleum in a pipeline after a spill is detected and verified. Although this in no way excuses the catastrophe that occurred in Michigan, one can understand how this can happen and the enormous risk we create when we allow pipelines to be located over or near our vulnerable resources.

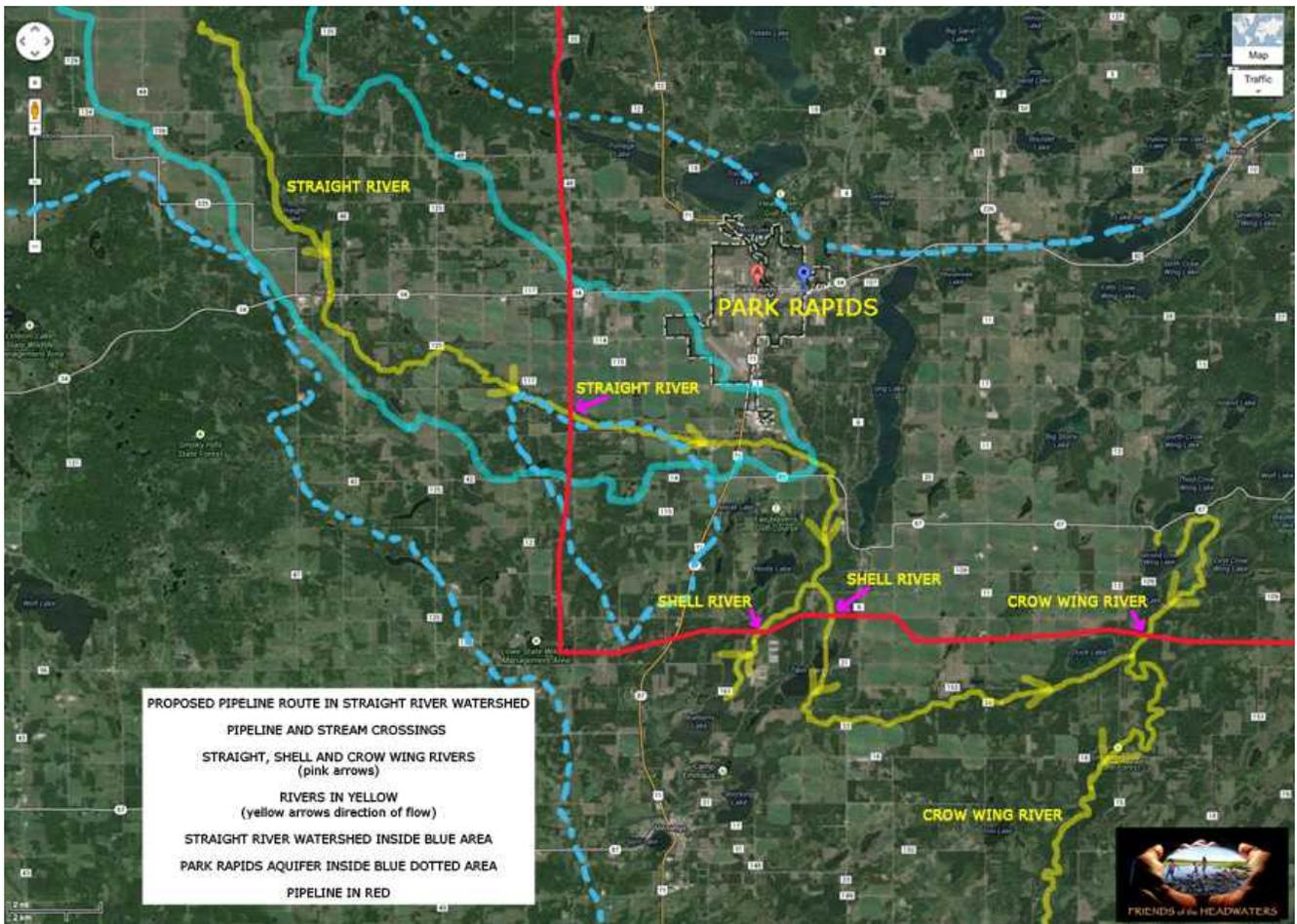
Impact to our Lakes and Rivers

For instance, in Hubbard County, a Kalamazoo-like rupture near Hay Creek (which the proposed route crosses) just north of Park Rapids, would very quickly spread to the very popular 4700 acre lake chain that includes Island, Eagle, Potato, Fish Hook lakes, before emptying into the Fish Hook River which would take this river of oil right through Park Rapids. That is enough to render worthless the value of all lakeshore, off lake and business real property; boats and marine apparatus on and near the entire chain in one day. Aquatic birds, and in some seasons migratory birds, would suffer and die. The entire fish population along with other marine life including crayfish, fresh water clams and snails, and aquatic vegetation would all die. There would be no swimming, fishing or any form of boating on the entire chain. The odor of the petroleum would keep most people well away from the lake. It could take many years to recover significant value to this area and some marine life might never return. The map that follows shows the water resources that would be immediately affected.



P.O. Box 583
 Park Rapids, MN 56470
 mnfriendsoftheheadwaters@gmail.com
<https://www.facebook.com/savemississippiheadwaters>
<https://www.friendsoftheheadwaters.org>

A similar size rupture near the proposed pipeline crossing of the Straight (a Blue-ribbon, naturally producing trout stream), Shell or Crow Wing rivers would have similar affects to the immediate water resource and downstream environments and communities. The map that follows shows the water resources that would be immediately affected.



Or, consider a spill near the headwaters of the Mississippi, home of Minnesota's oldest and most visited State Park – Itasca, visited by more than 500,000 people/year. Itasca State Park is the home to a major biological research center for the University of Minnesota. It's very name is derived from its honor to be the source of our nation's 3rd longest river, the Mississippi. The Mississippi River is one of the world's major river systems in size, habitat diversity and biological productivity. The Mississippi River watershed is the fourth largest in the world, measures approximately 1.2 million square miles, covering about 40% of the lower 48 states. **It is depended on by over 15 million people for their drinking water.** The proposed Sandpiper pipeline crosses this watershed twice on its way to Superior. The following map shows where the pipeline crosses the Mississippi just a few miles from the headwaters.



Minnesota has 11,742 lakes, however, they are not distributed evenly over the state and, as we know, our lakes do not all share the same water quality. Most of the lakes in Minnesota are located in two groups one west of the Twin Cities out to Willmar and the other from the general area of Alexandria and Fergus Falls to Grand Rapids and Aitken. Our lakes in the northern part of the state still have the highest water quality. Lakeshore property in this area is among the highest priced real estate in the entire state of Minnesota and the NDPC preferred Sandpiper route closely passes some of these very best lakes. See the following map which indicates where the proposed pipeline passes by our cleanest lakes.

Minnesota Lakes

A View from Space

ENBRIDGE SANDPIPER
PROPOSED PIPELINE ROUTE
IN RED

ENBRIDGE
SANDPIPER
PROPOSED
PIPELINE
ROUTE

GRAND FORKS

LOOK
WHERE THE
CLEAREST LAKES
ARE

Census of Water Clarity

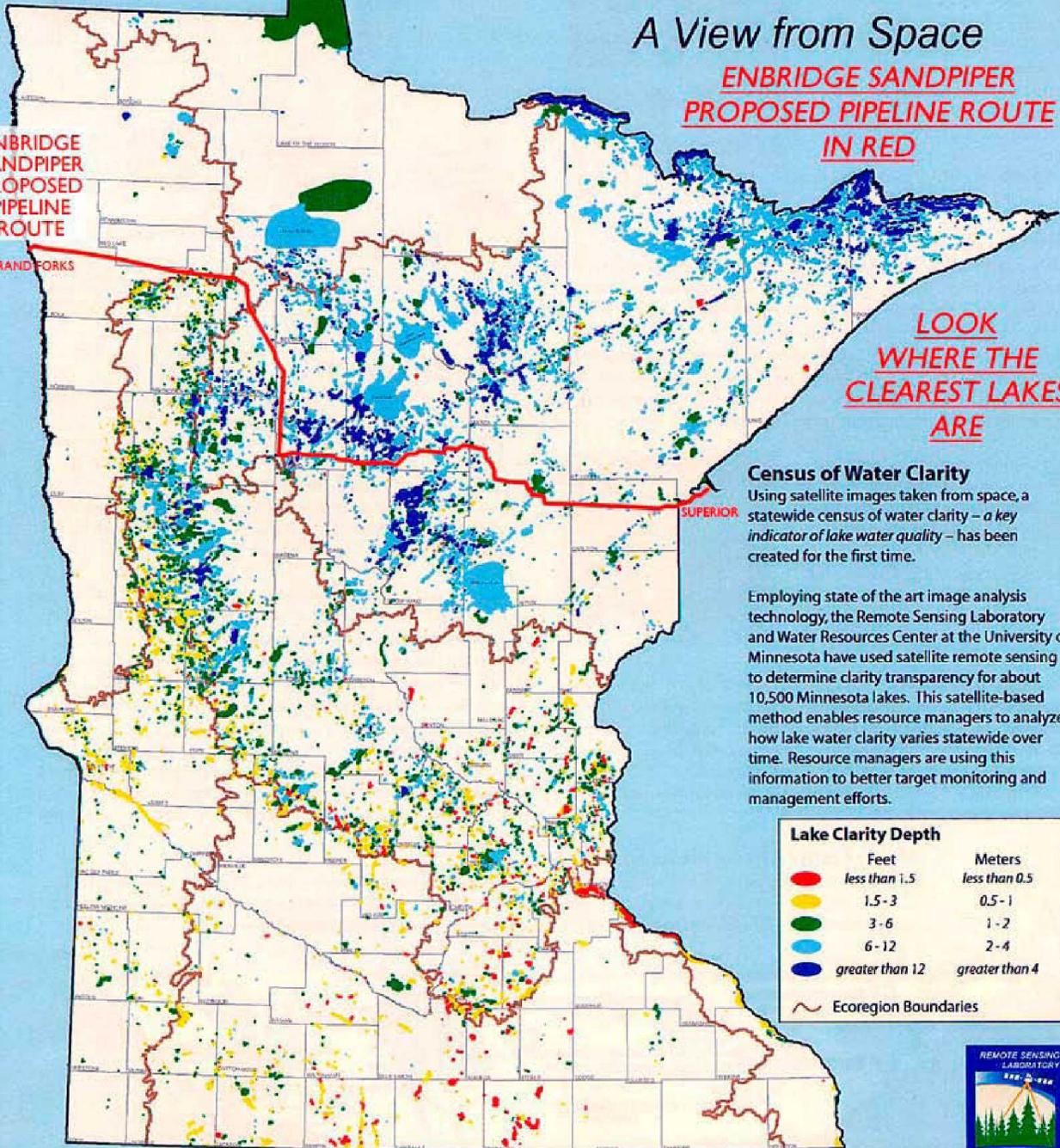
Using satellite images taken from space, a statewide census of water clarity – a key indicator of lake water quality – has been created for the first time.

Employing state of the art image analysis technology, the Remote Sensing Laboratory and Water Resources Center at the University of Minnesota have used satellite remote sensing to determine clarity transparency for about 10,500 Minnesota lakes. This satellite-based method enables resource managers to analyze how lake water clarity varies statewide over time. Resource managers are using this information to better target monitoring and management efforts.

Lake Clarity Depth

	Feet	Meters
●	less than 1.5	less than 0.5
●	1.5 - 3	0.5 - 1
●	3 - 6	1 - 2
●	6 - 12	2 - 4
●	greater than 12	greater than 4

~ Ecoregion Boundaries



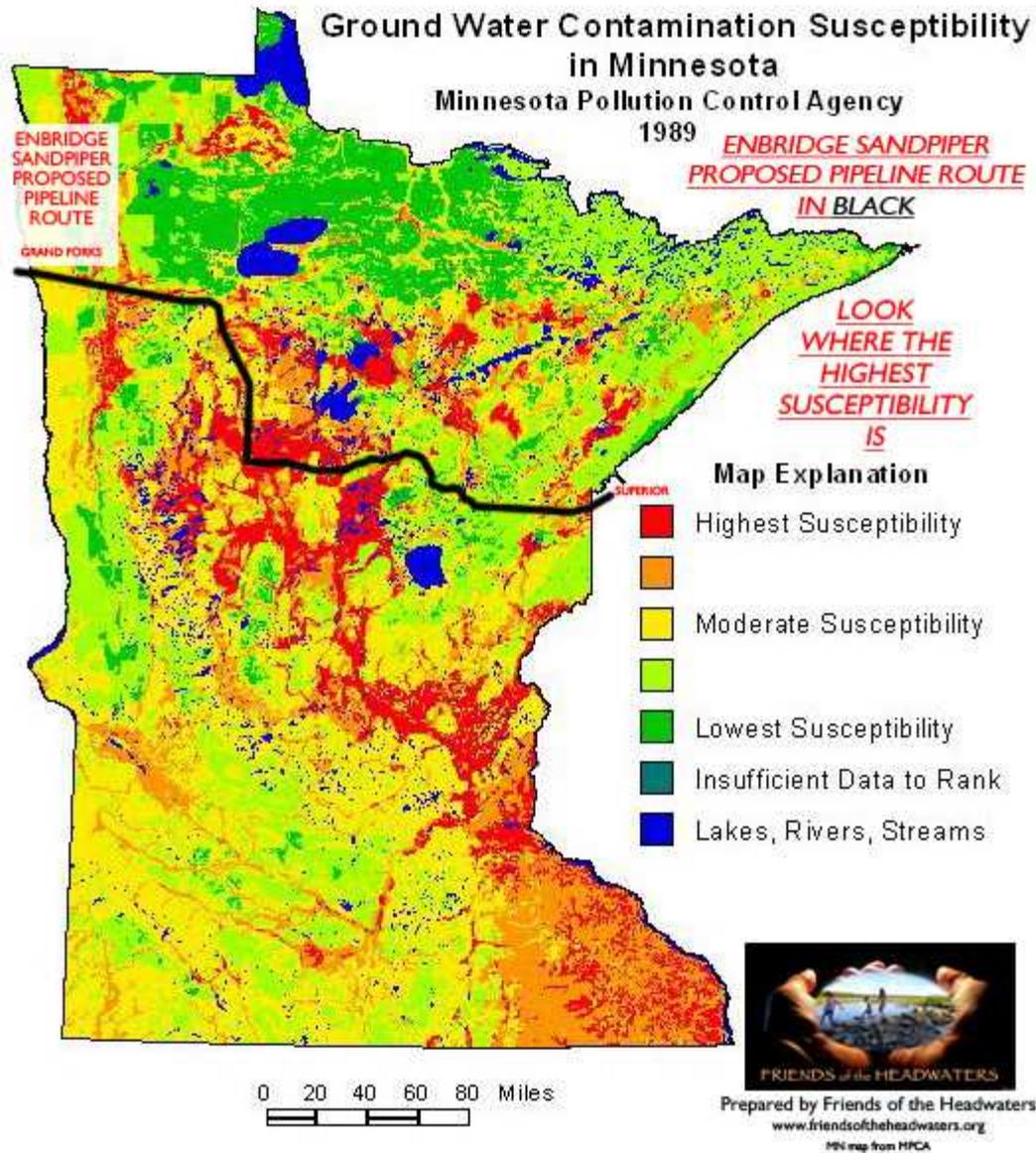
Prepared by Friends of the Headwaters
MN Lakes map from Water Resources Center, Univ. MN



Impact to our Ground Water

Ground water contamination susceptibility in Minnesota

In 1989, the Minnesota Pollution Control Agency published a statewide evaluation of ground water contamination susceptibility. The assessment used four parameters (aquifer materials, recharge potential, soil materials, and vadose zone materials) to delineate areas of relative susceptibility to ground water contamination. The following map was developed as a result of this MPCA study.



As you can see, the proposed pipeline's route passes over some of our most vulnerable ground waters in Hubbard and Cass County. Could they have picked a worse location? We recently learned that the aquifer used for Park Rapids drinking water has been compromised by nitrates due to regular application of fertilizer on our surrounding agricultural fields. Park Rapids residents have been notified they will need to foot the bill for a \$2.5M water treatment facility. This problem is made worse because of the relatively porous soil and shallow aquifers as clearly noted in the map above. A pipeline carrying dirty oil across this land is a catastrophe waiting to happen. Studies of pipeline safety find that the probability of major leaks and spills is surprisingly high virtually

guaranteeing multiple major leaks or spills over the life of the line. A major spill or even a small underground leak that went undetected could endanger the water supply these communities depend on for their very existence.

Economic Impact

The tax capacity of lake shore real estate in Hubbard County (2012 data) is approximately \$20 million annually. (Hubbard County, a county blessed with an abundance of lakes has an annual tax capacity of \$34 million dollars. 59% of its properties are “water-influenced” meaning that they abut or have a view of a lake or river, yielding the \$20 million figure). Assuming a major oil spill in the area just north of Park Rapids that contaminated the 4700 acre lake chain that includes Island, Eagle, Potato, Fish Hook lakes this would result in a loss in real property values. The tax capacity of the properties on these lakes found in Todd and Arago townships is valued at approximately \$2 million annually. Since these lakeshore owners can no longer enjoy the water-based activities they once could, due to their now polluted lakes it would not take long for their property's values to plummet. How would you like to buy property on an oil-fouled lake that is now off-limits to fishing, swimming, water-skiing, etc.? Assuming a 50% reduction in property values this would represent a loss of about \$1 million dollars each year in property taxes paid to Hubbard County, other subdivisions of the state in Hubbard County including Park Rapids, various school districts, and other special taxing districts. The business revenue brought into Hubbard County each year by tourists alone is estimated to be \$30 million dollars. This tourist revenue is easily impacted by natural occurrences such as a late ice-out or lack of snow for winter activities. Imagine the impact of a major oil spill contaminating our rivers or lakes. Government officials need to understand that this result is not a loss of tax revenue for one year but loss of that revenue every year for many years.

I have no idea who the owners and controlling parties are of the legal entity North Dakota Pipeline Company, LLC and I have no idea what net assets they control. In the past, however, there have been too many situations in which after the fact it is discovered that an entity that is responsible for a disastrous event simply walks away and it is found that there are almost no net assets available to pay those parties that were damaged. The responsible entity's assets are pledged as collateral for huge loans and the liability shielded parent owner entity drained earnings from the responsible entity for years in management fees. Often most if not all of the small net assets of the responsible entity are used to pay legal and accounting fees and expenses. In any event, it is normally the fact that it takes years for damaged parties to receive any compensation. Consider what happened when Freedom Industries in Charleston West Virginia filed for bankruptcy without hiring a single defense attorney after the first law suit was filed against the company for the chemical spill that entered the drinking water supply for the Charleston Metropolitan Area in December 2013.

Private property owners will be unable to claim loss in value of their lake front property on their home owners insurance policy. Those policies are written to compensate the insured against damages to structures and the contents of structures along with some small coverage for some consequential losses only. Petroleum spilled and spread across the lake in front of their structures does not cause any damage to the structures or the contents.

In addition to tax dollar losses to governments, there may be widespread failures of most businesses in the Park Rapids and surrounding areas if the spill impacts the Island-Eagle-Potato-Fish Hook chain or to Bemidji, which has the distinction of being “the first city on the river”, if the spill impacts the Mississippi River headwaters. Banks that have made mortgage loans on business, home and lakeshore recreational properties may fail as property owners walk away from worthless properties for which they have not been compensated at anywhere near an amount equal to the remaining principal amount of the mortgage.

Method

The PUC/DOC or other state entity should require Enbridge provide a "financial assurance" fund or an escrow account for long term recovery or cleanup and ultimate removal of the Sandpiper pipeline from the ground when it has outlived its usefulness. Also, this routing process for this new line should be done with sufficient foresight such that ultimate pipeline removal does not cause secondary damage to sensitive resources such as bogs, swamps and other large wetlands.

When attempting to determine the best route for the pipeline, an excellent method that does GIS route optimization would be to contract with a company such as Foster Wheeler. The following describes their services which would nicely answer the environmental comparative factors the PUC needs to be analyzing in it's review. We NEED to be making use of these modern tools! From their website, "Our skills in Geographical Information Systems (GIS) add real value. This is an indispensable tool for defining and optimizing pipeline routes as it enables the collection and inclusion of all relevant data, including geographical considerations (topography, vegetation/habitat types), community limits, crossings of roads, rivers and railways etc. from a wide array of different sources. Collating and displaying these environmental and anthropological constraints the software allows spatial analysis and preliminary modeling of multiple factors and key considerations in pipeline routing, and subsequent presentation of this data in a variety of map-based contexts." This is a link to their site: <http://www.fwc.com/What-We-Do/Upstream-Oil-Gas/Expertise-Upstream-Oil-Gas/Onshore-Pipelines,-Terminals-Storage.aspx>

Considering all of the environmental risks that I have outlined, I urge you to begin a full Environmental Impact Study on this project as soon as possible. The risks to the highly vulnerable lakes, rivers, wetlands and watershed in our community demand it.

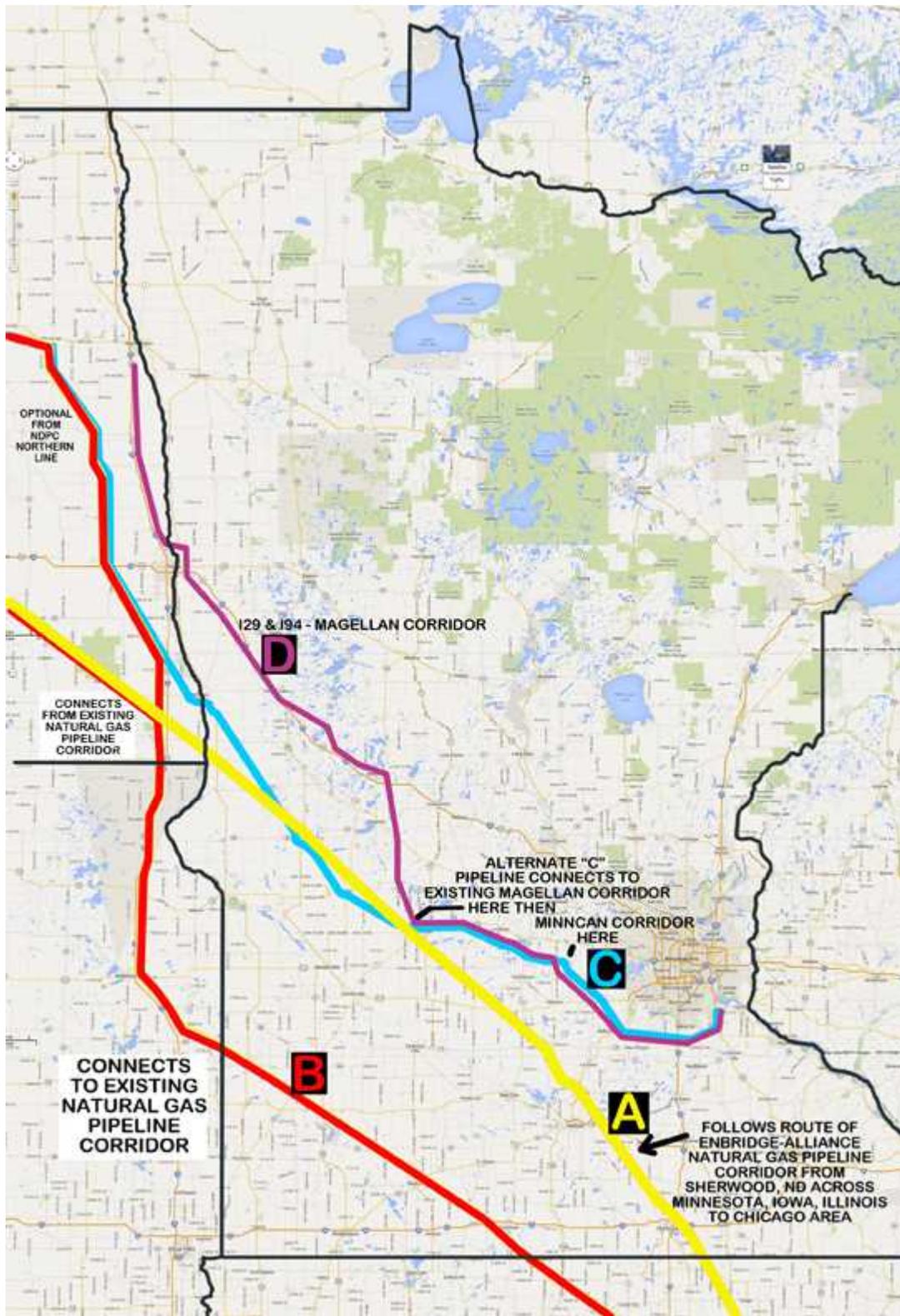
Directly from the Minnesota Environmental Protection Act.

"No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify such conduct."

Only through a full EIS can those words have substance.

If not this route, where then? Alternate Routes to Consider

I believe we need to stay away from our lake country in northern Minnesota due to all the reasons provided above. Instead, I urge you to consider the following 4 routes, as shown on the map below:



As you can see, each of these alternate routes avoid northern MN lake country and Lake Superior completely and the ground water areas most susceptible to contamination. Options A and B connect to the Enbridge system in the Chicago area. Options D and C commits Enbridge to the refineries in the Twin Cities so Minnesotans may actually benefit from Bakken crude. All 4 of these routes keep Enbridge and their proliferation plans out of our lake country. These should also prove better routes for Enbridge because it's mostly all agricultural land which they are on record preferring.

Finally, I'd like to express my dissatisfaction with this process that is coercive and puts the burden on the public rather than Enbridge or the Regulatory agencies to demonstrate that the route ultimately chosen is the most reasonable and prudent alternative. If the pipeline project were scrutinized by a full Environmental Impact Study (EIS), Enbridge would have the burden of proof to show that the ultimate project design and location met the test of being the most reasonable and prudent alternative. Instead you are expecting the public, without the means (GIS tools, etc) to come up with routes. Really?

Respectfully submitted,

Jeff Mosner
Park Rapids