August 4, 2017

Dear Governor Snyder, Attorney General Schuette, Director Grether, Director Creagh, and Dynamic Risk project team:

The National Wildlife Federation (NWF) is America’s largest conservation organization with over 6 million members and supporters that make up a diverse set of interests including hunters, anglers, birders and outdoor enthusiasts. The NWF is dedicated to protecting wildlife and habitat and inspiring the future generation of conservationists. It is our mission to unite all Americans to ensure wildlife thrive in a rapidly changing world. NWF has been a leader in educating the public and decision makers on Enbridge Energy’s Line 5. NWF’s Great Lakes Regional Executive Director, Mike Shriberg, serves on the Michigan Pipeline Safety Advisory Board tasked in part with helping to oversee the Line 5 alternatives analysis.

On behalf of the members we represent, we have reviewed the Dynamic Risk Draft Alternatives Analysis (“Draft Report”) and would like to provide the following observations and suggestions. Our goal is for the final alternatives analysis to be sufficient for the state of Michigan to take appropriate actions on Line 5. Unfortunately, the draft available for public comments falls well short of this goal and needs significant revisions to meet the terms of the contract and the goals of the state and Michigan Pipeline Safety Advisory Board.

We would like to state at the forefront that the NWF fully supports the comments submitted by the 12 federally-recognized Tribes of Michigan, which raise critical concerns around proper assessment and acknowledgment of tribal treaty rights, we support the position and comments from over 30 members of the Great Lakes Business Network and we support the comments submitted by the five Michigan Pipeline Safety Advisory Board members that were submitted on July 20th, 2017.

**Evaluation of Interest**

As outlined in the Request for Proposals by the state of Michigan, this analysis has an “overall objective of [which] is to provide the state of Michigan and other interested parties with an independent, comprehensive analysis of alternatives to the existing Straits Pipelines, and the extent to which each alternative promotes the public health, safety and welfare, and protects the public trust resources of the Great Lakes.” (id. 1-2)
This objective makes it abundantly clear that Dynamic Risk is to develop an analysis from the perspective of the state of Michigan, its citizens and the importance of our natural resources. However, throughout the Draft Report, Executive Summary and the Appendices, Dynamic Risk appears to establish decision making for the six Alternatives from the position of risk towards Enbridge Inc. (Enbridge) and its business model vs. impact to Michigan citizens and resources.

*Action Requested*: Dynamic Risk must revise the report to come from the perspective of the interests of the client – the state of Michigan. Specific remedies are outlined below.

**Deficiencies in Risk Assessment**

Dynamic Risk was explicitly tasked with developing a “worst case spill scenario” as a baseline for comparing alternatives. The contractors ignored this direction and used industry standards which have been proven to vastly underestimate what a worst case scenario would be – the spill of Enbridge Energy’s Line 6b (now named Line 78) is a primary example of this failure. The Draft Alternatives Report only outlined what they call “true risk”, see id 1-20, which resulted in absurdly low estimates for spill impact both in cost and environmental damages.

These oversimplified risk and impact assessments coupled with the public’s understanding that a worst case scenario was to be carried out, have created misunderstanding between the public and decision makers on how this information is being interpreted and used throughout the decision making process. These deliverables need to be fully and openly addressed in the report, with the state of Michigan and all interested parties.

*Action Requested*: The risk assessment must be redone following the instructions of the state and PSAB in determining a true “worst case scenario” of at least 10,000 barrels released in the center of the Straits during a time with no chance for significant oil recovery and high probability of a long-distance spread.

The NWF would also like to reinforce the concerns raised by Dr. Ed Timm in the report titled “An Investigation into the Effect of Near Bottom Currents on the Structural Stability of Enbridge’s Line 5 in the Straits of Mackinac” as well as Dr. Timm’s submitted comments on the Draft Report, which question the use of the Monte Carlo Analysis for risk assessment.
In a similar vein, a large omission from this report is the lack of reference to the work of regional experts and their research specific to Line 5 to-date. It is expected that Dynamic Risk would have taken the time to understand and acknowledge the findings of regional experts, including (but not limited to) the spill modeling done by Dr. Schwab, world-renowned expert on hydrodynamic modeling of the Great Lakes, and the work of Dr. Meadows, expert on hydrodynamics and fluid dynamics in the Great Lakes. By not incorporate or even acknowledging regional experts and their work to-date, Dynamic risk is creating an impression, at the very least, of bias towards Enbridge given that much of the report is based on technical information that was provided by Enbridge.

There’s an overwhelming need to re-evaluate all Alternatives with Michigan interests as the focus.

For Alternatives 1 through 5, Dynamic Risk conducted an analysis in the Draft Report largely from the perspective of Enbridge because it assumes it is the interest or responsibility of Michigan to find a pathway for the full capacity of Line 5 (540,000 barrels per day from Superior, Wisconsin to Sarnia, Ontario). In Alternative 6, the report outlines interests specific to Michigan by providing a focus on the delivery of propane (less than 5% of the product flowing through Line 5) and the infusion of Michigan crude (also less than 5% of the product flow on Line 5). Each alternative, particularly Alternative 2, should be reassessed through the lens that the citizens of Michigan have particular interest in understanding alternative pathways for only those products that stay within the state and NOT just an assessment of the entire 540,000 barrels per day.

Action Step: Determine the amount of oil and NGLs used in Michigan and utilize this as a baseline scenario for all applicable Alternatives.

Analysis of Michigan’s needs for Line 5 propane

The Draft Report does provide a brief analysis of a 4-inch pipeline for propane and an 8-inch pipeline for Michigan crude, but this is merely a side-note in the appendices (id. at K.4.1 and K.4.2) when it should be a focal point of this report and thoroughly reviewed under Alternative 1.

Action Step: Build into Alternative 1 a more robust analysis of the propane used by Michigan citizens in the Upper Peninsula, including: analysis of 10 year trends for Enbridge’s delivery of propane to Rapid River, alternative sources of propane in Michigan, alternative modes of transportation for the current propane that is traveled to Rapid River on Line 5.
For this section, it is also worth noting that the rail analysis in the Draft Report appears inadequate as Dynamic Risk indicates that a rail line is over 7 miles away from the Rapid River depropanizer facility (id 4-7). A review of the local rail lines indicates that there is a Canadian National Railway system that is less than two linear miles away from the facility (to the south) and another rail line that is around 5 miles (to the west). Dynamic Risk goes on to indicate that they cannot provide analysis due to scope and cost limitations.

Action Step: A much more extensive analysis should be conducting on connecting the nearby rail system to the Rapid River facility for the delivery of propane.

The Draft Report also provides analysis that are not equal. For Alternatives 1 and 3, Dynamic Risk outlines use of new pipelines and/or the use of rail - assessing risk and cost to each option. However, when carrying out these assessments, they did so for the entire length of the discussed Alternatives (from Superior, Wisconsin to Sarnia Ontario). This becomes an issues when comparing costs associated with Alternative 4, which only considers the risk and costs for the Straits of Mackinac pipeline crossing and not the entire 645 miles of Line 5. In addition, it is critical to note that the costs outlined for these alternatives are directly from the perspective of Enbridge and not the state of Michigan or its citizens.

Another area where the distinction of perspective on costs and impacts becomes incredibly important is when you consider Alternative 4 and how a tunnel or trench would impact tribal treaty rights, which were not properly assessed with any Alternatives identified. The analysis for the tunnel and trench also overlook critical information around resource impacts, including analysis of destruction to the bottomlands of the Great Lakes, how those projects would be permitted as well an analysis of comparable real-world projects to justify the low cost estimate.

Action Step: Dynamic Risk must use only apples-to-apples comparisons of risk in a final draft. In addition, all Alternatives that outline cost should clearly outline the costs to Michigan citizens over the costs to Enbridge.

Identified costs to Michigan appear to be negligible. In the few places where costs to Michigan citizens are outlined within the Draft Report, it is abundantly clear that Michigan would easily absorb any potential
fluctuation in price from the abandonment of Line 5, which assumed that the propane and Michigan crude product would no longer find its way to market. The Draft Report also notes that the projected increase in costs (.02 per gallon at the pump and $.10-.35 per gallon for propane) are within the normal flux of the market. In additional, the reality is that producers of propane and Michigan crude have access to alternative modes of transportation and the projected rise in costs to Michigan consumers, as outlined in the Draft Report, should be considered on the highest end. Lastly, it is important to note that the identified alternative modes of transportation are already being utilized with other distributors, which brings into question any concerns around increased risk.

A worst case scenario is missing and baseline spill analysis are inadequate.

As noted above, while Dynamic Risk outlines that this Draft Report was not intended to provide a worst case spill scenario, the expectation from the state of Michigan and the interested public appear to be very different. Since the release of this report, the feedback from the public proves that the figures are being misrepresented within the report as an analysis of worst case. This point alone requires the state of Michigan to immediately clarify the scope of work with Dynamic Risk and the public and for future drafts of the Alternatives Report to provide results of additional analyses, including plausible worst case spill scenarios.

An earlier modeling analysis of potential spills in the Straits was carried out by Dr. David Schwab at the University of Michigan Water Center. Though using different software for hydrodynamic and oil spill modeling, it appears the results (e.g. extent of oiled shoreline) reported in the Draft Report are broadly similar to the findings of the Schwab (2016) study, for similar oil spill scenarios. On the other hand, the Schwab (2016) study utilized three oil spill scenarios, with the largest 25,000 barrels (see Schwab, D.J., comments submitted to Michigan Pipeline Safety Advisory Board, July 21, 2017). Consistent with language in Dynamic Risk’s original proposal.

Action Step: NWF believes Michigan should request that Dynamic Risk carry out further spill modeling that better represents worst case scenarios, including of the magnitude modeled in the Schwab (2016) analysis.

Even when accounting for the fact that the spill analysis in the Draft Report is not meant to be worst case, as it should have been, the provided analysis still falls short on many levels. In particular, the report talks in generalities about the
different species that could be impacted by a spill (e.g., birds, fish, and mammals) but they fail to do any detailed analysis of the biologically diverse ecosystem in this location. The Draft Report notes that they only did a “screening of possible ecological consequences” and did not assess critical local information such as habitat for protected species. In addition, other relevant factors for fish and wildlife (such as migratory patterns and breeding periods) were not considered in their environmental analysis for a spill. *(id 2-18)*

From the NWF perspective, there is no appropriate or responsible way to outline potential impacts from a spill without fully incorporating this critical information. As previously noted, to provide figures that represent their so-called “true risk”, which Dynamic Risk largely derived from industry standards and equations, this report has produced information of limited value in appropriately characterizing ecological threats, and thus not serving fully the interests of the people of Michigan. Other recent efforts have considered potential oil spill risks to shoreline environments, which included, for example, identification of substrate *(Marty, J., Nicoll, A., 2017, Environmental Sensitivity to Oil Exposure in the Great Lakes Waters: A Multimodal Approach, Report to the Great Lakes Commission, June 2017)*. In addition, a broader assessment would include consideration of aspects such as type of oil, wetlands, and cumulative impacts *(e.g. Lee, Kenneth (chair), Michel Boufadel, Bing Chen, Julia Foght, Peter Hodson, Stella Swanson, Albert Venosa. (2015). Expert Panel Report on the Behaviour and Environmental Impacts of Crude Oil Released into Aqueous Environments. Royal Society of Canada, Ottawa, ON. ISBN: 978-1-928140-02-3)*.

**Action Step:** NWF believes Michigan should take action to complete the separate Risk Assessment and ensure that any future analysis remain independent. Future contractors should fully understand the need for a real ‘worst case scenario’ that looks specifically at regional environment and economic factors. This analysis should rely solely on industry modeling or federal pipeline safety standards as a bases for the assessment.

**Additional missing factors that are critical for any realistic spill scenario analysis:**
- Tribal treaty rights for fish, hunt and gather.
- A full evaluation of nearby community resource limitations for a response to a spill.
- The interests of businesses that depend on the Great Lakes directly and indirectly.
• The need for long-term alternative drinking water access for all surrounding communities that source directly from Lake Michigan or Lake Huron.
• A spill analysis that includes a release of both transported product types (oil and NGL) at the same time.

**Omitted entirely from the report:**
• A full analysis on the increased use of renewables in the state of Michigan as well as a forecast look at Michigan crude, which the report notes in appendixes G-12 has been on a decline.
• An analysis of the extensive expansions that have already occurred on the entire Lakehead system, including Line 5, increasing product flow throughout the Great Lakes by at least 300,000 bpd in the last 5 years. These expansions have been heavily documented to serve the interests of Canada and overseas markets and not the interests of Michigan or the Great Lakes. These projects represent a larger strategy to move oil beyond our region - an effort, by Enbridge, that should not be overlooked when considering the realistic importance of Line 5 product to Michigan.
• For Alternative 5, Dynamic Risk failed to fully assess the risk associated with the entire length of the Line 5 pipeline. In particular, the ongoing (and growing) integrity dig program is going to continue to disturb Michigan citizens and communities. An entire risk assessment of Enbridge’s Line 5 pipeline should be carried out especially when comparing Alternatives 1 and 3 with 5.

We appreciate the opportunity to comment and thank you for reviewing the above comments.

Sincerely,

Mike Shriberg, Ph.D.
Regional Executive Director, Great Lakes National Wildlife Federation