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Protecting the Common Waters of the Great Lakes Basin
Through Public Trust Solutions

VIA EMAIL to Braderv@michigan.gov and creaghk@michigan.gov

Mrs. Valerie Brader, Executive Director, MAE
Mr. Keith Creagh, Director, DEQ

**RE: Recommendations on Request for Information and Proposals (RFIs) for Risk and Alternatives Analysis to the Michigan Pipeline Safety Advisory Board**

Dear Co-chairs Brader and Creagh:

Thank you very much for the opportunity to submit comments on the Michigan Pipeline Safety Advisory Board's proposed request for information and proposals (RFIs) documents for the risk analysis and alternatives analysis.

It is our understanding that the overall process for conducting the risk and alternatives analyses is to first issue RFIs that will be used by interested, qualified, and independent consulting firms to develop detailed project proposals, time schedules, milestones, and cost estimates. As a threshold matter, however, the importance of this scoping process cannot be underestimated given that it defines the questions asked and answered about the risks, alternatives, and ultimately the fate of Enbridge's Line 5 pipelines occupying state-owned bottomlands in the Great Lakes. Ultimately, the State of Michigan must ensure that the proposals are comprehensive with defendable deliverables. A narrowly drawn scope of risks or alternatives analysis improperly precludes achievement of the goal to fully assess risks and alternatives that eliminate unacceptable risks or harms. Accordingly, in the interest of fairness and full public participation, FLOW urges the overseeing agencies – the Attorney General's Office and the Michigan Department of Environmental Quality's office – to extend the public comment period from five to 30 days.

Our comments primarily address issues and gaps that are important to include in the RFIs to ensure that the consulting firms fully understand and submit proposals that address a proper scope of work and identify their approach and methodologies for analyses that fully satisfies this proper scope. Section I provides recommendations on essential elements or aspects of a proper alternatives analysis. Section II provides essential recommendations on a proper risk analysis.[1]

As this process moves forward, FLOW intends to submit a more detailed list of expert questions and guidelines to assist the Advisory Board in reviewing and evaluating the requested proposals or subsequent review of information and reports. In sum, FLOW respectfully asks the Advisory Board and responsible state agencies to consider these recommendations to ensure that this scoping process creates a proper and comprehensive framework. The State of Michigan, in turn, can then fully satisfy its solemn legal duties arising under the common law public trust and the

[1] A number of our recommendations in these comments reaffirm ones FLOW previously submitted in expert reports to the State of Michigan on critical issues concerning on the risks, imminent harm, and alternatives to Enbridge's Line 5 pipelines in the Straits of Mackinac. See FLOW's website for links to the April 2015 Report (*A Composite Summary of Expert Comment, Findings, and Opinions on Enbridge's Line 5 Oil Pipeline in the Straits of Mackinac in Lake Michigan*), the September 2015 Report (*A Scientific and Legal Policy Report on the Transport of Oil in the Great Lakes: (1) Recommended Immediate Action on the Transport of Oil Through Line 5 Under the Straits of Mackinac; and (2) Supplemental Comments on the Michigan Petroleum Pipeline Task Force Report*) and the December 2015 Report (*Eliminating the Line 5 Oil Pipelines' Unacceptable Risk to The Great Lakes Through a Comprehensive Alternatives Analysis and Systems Approach*).

prudence standard of the 1953 Easement with Enbridge *and* eliminate the unacceptable risk Line 5 poses to the Great Lakes.

## I. COMMENTS ON THE ALTERNATIVES ANALYSIS REQUEST FOR INFORMATION AND PROPOSALS

### A. The Alternatives Analysis Must Be Subject to Public Peer Review During the Study and Prior to Finalizing The Report

The independent alternatives analysis for the Straits Pipelines must be subject to a public peer review during the study and prior to finalizing the report and paying the selected contractor. An effective alternatives analysis is transparent at every key stage of the process to ensure public stakeholder input and understanding (i.e. an absence of bias or use of inappropriate or ineffective methodologies).

### B. The Alternative Analysis Must Properly Define the System as a Broad Range of Alternatives that Are Identified, Screened, and Short-Listed.

In conducting a proper alternatives analysis for the Straits Pipelines, it is vital that the *system* is properly defined and a broad range of alternatives is identified, screened and the short list analyzed.[2] The Michigan Petroleum Pipeline Task Force ("Task Force") Report and scientific and legal principles direct a broad and comprehensive alternatives analysis.[3] Fundamental principles for impact and alternatives analyses require a full, fair, rigorous consideration of feasible and prudent alternatives that eliminate high adverse risk.[4] Accordingly, for this RFI, the pipeline system must include all relevant pipelines and their current or potential capacities in the Great Lakes–St. Lawrence Basin and the main feeders into and out of the system without regard to state and provincial boundaries or pipeline operator ownership or control.

On page 2 item "a" and page 6 item "2", in the RFI, the document appears to emphasize and favor constructing alternative pipelines over other pipelines, including existing ones. The Task Force Report listed this as one alternative that "should" be considered, not *the* alternative for defining the scope of analysis. As noted above, the purpose of the alternative analysis is to eliminate risks or high magnitudes of harm where other suitable or feasible and prudent alternative exist or could be accomplished. Previous reports submitted by FLOW indicated that the *system* currently has the capability with some modification to meet the strategic supply-chain objectives without Line 5. If the scope of the RFI focuses on installing new pipelines, and particularly limits the analysis to the assets of one company – the Enbridge network – the wrong conclusions will be reached. **An unrestricted systems analysis is mandatory to identify the best solution for the protection of the Great Lakes.**

Regarding rail car studies (page 6 of the RFI), the scope should cover discussions with shippers (oil companies) as well as the pipeline companies regarding their strategic use of rail cars. There is little debate that pipelines are safer but in uncertain times and with questions on oil reserve economics and life, rail shipments are preferred by shippers. Shippers do not want to enter into long-term contracts for pipelines they may not use due to economics/supply/demand oil reserve shifts. Comparing only safety statistics and numbers of rail cars without strategic input from shippers will result in the wrong conclusion. In other words, adjustments in the pipeline *system* in combination with limited use of rail cars as strategically desired by shippers could lead to the decommissioning of Line 5.

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[2] FLOW's December 2015 Report (*Eliminating the Line 5 Oil Pipelines' Unacceptable Risk to The Great Lakes Through a Comprehensive Alternatives Analysis and Systems Approach*), Part I, pp. 7-8.

[3] See Id. at 4; see also Michigan Petroleum Pipeline Task Force Report, pp. 47-48 https://ww:w.michigan.gov/documents/deq/M_Petroleum_Pipeline_Report_2015-10_reducedsize_494297_7.pdf .

[4] See supra note 2, FLOW's December 2015 Report, Part I, pp. 9-10. The purpose of the alternatives requirement is to assure that the decisionmaking agency has considered methods of achieving the desired goal other than the proposed action. *Sierra Club v. Morton*, 510 F.2d 813, 815 (5th Cir. 1975).

### C. The Alternative Analysis Must Identify and Review the Economic Impacts on the Great Lakes.

Following in the footsteps of the Task Force Report, the current scope of work creates an economic context that fails to even mention the impacts on the Great Lakes if Line 5 ruptured and caused a catastrophic oil spill. The importance of the Great Lakes as a regional economic engine is well documented and should be included in this analysis.[5] Accordingly, this alternatives analysis must include a detailed section on the economic impacts an oil spill would have on Great Lakes waters, aquatic and wildlife resources, drinking water supplies on the U.S. and Canadian sides, tourism, shipping, sports and commercial fishing, and recreational industries, and tribal fishing rights. An economic impact analysis that fails to even consider the Great Lakes as a public trust resource is not credible.[6]

## II. COMMENTS ON THE RISK ANALYSIS REQUEST FOR INFORMATION AND PROPOSALS

### A. The Risk Analysis Must Be Subject to Public Peer Review During the Study and Prior to Finalizing The Report.

The independent risk analysis for the Straits Pipelines should be subject to a public peer review during the study and prior to finalizing the report and paying the selected contractor. An effective risk analysis is transparent at every key stage of the process to ensure public stakeholder input and understanding (i.e. an absence of bias or use of inappropriate or ineffective methodologies).

### B. The Risk Assessment Must Allow Credible Worst-Case Scenario Recognized by Experts, Not Defined by DOT's Antiquated Regulations.

Worst-case discharges defined by 40 CFR 194.5 (DOT) and calculated by pipeline owner/operator assumptions have grossly underestimated actual releases. For example, recent major oil spills, Michigan (Line 6B in 2010) and California (Santa Barbara Plains All American Pipeline, 2015) have far exceeded the company worst-case scenarios indicating that the regulatory approach to relying on the expertise of pipeline owner/operators can result in a gross underestimates compared to actual incidents.

The current scope of work, however, specifically references these DOT regulations to define worst-case scenario: ". . . at a minimum, with the definition of that term in 40 CFR 194.5 as the largest foreseeable discharge of oil, including a discharge from fire or explosion, in adverse weather conditions . . . ."

By contrast, high hazard industries like the chemical and nuclear sectors apply best-practices approaches that consider inherently safe and zero-risk scenarios. Worst-case analyses in the chemical and nuclear industries by regulation and best practices typically begin by determining release quantities without assuming credit for engineering and procedural controls (except for inherently safe systems). Pipeline owner/operators do the reverse by calculating worst-case scenarios *after* applying engineering and procedural controls. This approach is not acceptable in other hazardous materials industries and hides potential consequences from public view if an engineering or procedure control did not function according to plan. *In conducting the risk analysis for the Straits, the worst-case scenario must be defined prior to applying mitigating credit for engineering and procedural controls.* As a second step in the analysis, appropriate credit for controls would then be applied to determine potential risk reduction.

Finally, the assumptions and calculations used in determining the quantity of a worst-case release must be subject to public peer review and challenged early in the risk assessment process as this quantity will be the basis for determining the subsequent safety, public health, natural resource and environmental impacts, (transport and fate studies), and emergency response requirements. Thus, if the initial worst-case spill quantity is underestimated, or fails to consider a full range of data, effects and impacts, all subsequent impact analyses will be grossly in error and also underestimated.

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[5] The Blue Economy http://mieconomiccenter.org/News/tabid/90/ID/52/Water-Michigan-and-the-Growing-Blue-Economy.aspx; Michigan Blue Economy http://michiganblueeconomy.org/wp-content/uploads/2015/03/Michigan-Blue-Economy-Report.pdf

[6] The same holds true for risks to public health, quality of life, public safety, and communities.

### C. The Risk Analysis Must Examine An Alternative Release Scenario.

The pipeline industry claims for risk reductions from pipeline integrity programs, effectiveness of shutdown and safety instrumented systems, human factors, and engineering and emergency response have tragically fallen short of claims in practice. The facts of these claims, systems and recommendations must be transparent and available for subject matter expert review in the public sector. Moreover, an alternative release scenario must be analyzed and defined with assumptions as a small undetected leak occurring over a long period of time.[7] This scenario would be analyzed along with the catastrophic release and other scenarios.

### D. The Risk Analysis Must Establish an Alternative Worst-Case Scenario.

Alternative analyses are a normal practice for the chemical and nuclear industries, as well as on-shore facilities storing large quantities of oil. In the case of a pipeline, a critical alternative scenario would be an extended leak occurring below the detection threshold of the operator's instrumented, material balance calculation, and control system.[8] For example, 0.6% percent or more of total flow could go undetected from a leak under the Straits as a result of Line 5's instrumentation capability. In the winter with ice cover spanning the Straits Area, a pipeline leak could occur over a period of several weeks without detection resulting in a massive spill, only discovered in spring.

### E. The Risk Analysis Must Address Public Health Concerns.

Given the magnitude of harm from a worst-case scenario oil spill in the Straits of Mackinac, the risk analysis must address potential short- and long-term human health impacts from exposure to chemicals in the air, drinking water, and shorelines. The risk of polluting drinking water sources in the Great Lakes is extraordinary because Lakes Michigan and Huron serve as primary drinking water sources for many communities in the Straits Area, including ironic Mackinac Island, as well as the 85-mile potential disaster zone (Beaver Island to Rogers City) identified by the 2014 University of Michigan study.

Short- and long-term chemical exposure to contaminated air and drinking water result in moderate to severe public health impacts from oil spills like Enbridge's 2010 Kalamazoo disaster. Immediately following this historic heavy tar sands spill, there were air quality risks for nearby citizens. However, major delays in communicating these risks occurred due to a lack of awareness of the released product type from the operator and responding agencies, which resulted in a failure to evacuate nearby families. Alternative drinking water was not provided when the drinking water ban was announced.[9] Critical information on exposure was not gathered, and as a result a truth public health analysis was never completed. Finally, undocumented clean-up crews were not provided proper hazmat protection, threatening their health and breaking immigration laws. In total, the Michigan Department of Public Health identified at least 320 people that suffered adverse health effects, including cardiovascular, gastrointestinal, neurological and respiratory impacts from the Enbridge Line 6B's Kalamazoo oil spill disaster.

### F. The Risk Analysis Must Expand Its Geographic Scope.

The geographic scope of the risk analysis should be extended to include the inland portion of the pipeline that runs within a mile of the shore on either peninsula. This geographic extension is more than justified given the circumstances that unfolded during the 2010 Enbridge oil spill and other national oil spills discussed below. The 2010 Enbridge spill, in particular, did not occur directly in a major body of water but instead in a wetland area that overflowed into Talmadge Creek and then traveled several miles before making contact with the Kalamazoo River and ultimately contaminating 40 miles of the watershed.

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[7] A broad range of risk analysis is required so as not to preclude full consideration and balancing of all relevant consequences. See *Isle of Hope Historical Association, Inc. v. United States Army Corps of Engineers*, 646 F.2d 215, (5th Cir. 1981); *Sierra Club v. Morton*, *supra* note 4 at 819.

[8] Failure to include alternative worst- case scenarios would undermine the reliability of the alternatives analysis.

[9] 5 days following the release: http://www.cnn.com/2010/US/07/29/michigan.oil.spill.evacuation/

The rapid migration of oil through waterways that occurred during Enbridge's Marshall spill is not an isolated incident. During the Mayflower, Arkansas oil spill in 2010, communities were not evacuated and oil flowed through draining systems toward drinking water sources. In 2015, a pipeline in Santa Barbara discharged over a mile from the ocean but found its way to a biologically diverse span of oceanfront before being discovered. In both those disasters, the release of oil was not immediately identified, which caused greater-than-anticipated human health risks, water contamination, and major response challenges.

**CONCLUSION**

For the foregoing reasons, FLOW requests that the Advisory Board and implementing agencies incorporate these additional recommendations into the scopes of work for the alternatives analysis and risk of assessment of Line 5. Thank you for your consideration.

Sincerely,

Liz Kirkwood,
FLOW Executive Director