



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

August 17, 2018

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VIA ELECTRONIC SUBMISSION

RE: FOR LOVE OF WATER PUBLIC COMMENTS AND REPORT ON MICHIGAN TECHNOLOGICAL UNIVERSITY INDEPENDENT RISK ANALYSIS FOR STRAITS PIPELINES AS REQUIRED PURSUANT TO EXECUTIVE ORDER NO. 2015 – 14 AND PROCEEDINGS OF PIPELINE SAFETY ADVISORY BOARD AND GOVERNOR-ENBRIDGE AGREEMENT, NOVEMBER 27, 2017

Dear Governor Snyder, Attorney General Schuette, Michigan Department of Environmental Quality (“MDEQ”) Director Grether, Michigan Public Service Commission (“MPSC”) Chair Talberg, Michigan Department of Natural Resources (“MDNR”) Director Creagh:

For Love of Water (“FLOW”) submits the following public comments for the public record regarding the proposed decisions and actions pursuant to recommendations of the Pipeline Safety Advisory Board (“PSAB” or “Advisory Board”), Executive Order No. 2015 – 14, and the Agreement entered into between Governor Snyder and Enbridge on November 27, 2017 (“Agreement” or “November 2017 Agreement”).

In the spirit of this public notice and request for thoughtful comments, FLOW submits the following analysis, comments, and conclusions regarding the Independent Risk Analysis for the Straits Pipelines (“Risk Analysis”). The following analysis and comments address: (1) the methodology and assumptions

utilized in the Risk Analysis assessments; (2) the conclusions reached in the Risk Analysis; (3) the discrepancies between the Risk Analysis' findings and Dr. Robert Richardson's report entitled, *Oil Spill Economics: Estimates of the Economic Damages of an Oil Spill in the Straits of Mackinac in Michigan* ("Economic Impact Report"), commissioned by FLOW; and (4) the lack of information regarding Enbridge's current insurance liability policies or other financial assurances covering the range of costs and damages estimated by the Risk Analysis and Economic Impact Report from a potential Line 5 oil spill.

FLOW would also like to thank Dr. Meadows and his entire team for their diligent work in preparing and completing the Risk Analysis, including the inclusion and evaluation of FLOW's previous technical reports and comments into the draft and final Risk Analysis.¹

SUMMARY OF COMMENTS

Based on our review and analysis of the Risk Analysis, as well as several technical and legal reports and recommendations previously submitted to the Governor, Attorney General, MDEQ Director, MDNR Director, MPSC, and PSAB, we submit the following comments:

1. Three years ago, the Michigan Petroleum Pipeline Task Force ("Task Force") recommended a comprehensive and independent risk assessment and independent alternatives assessment on Line 5. Created by Governor's Executive Order No. 2015 – 14, the PSAB was charged to implement and oversee both independent assessments. Because of conflicts of interest, the risk report process was derailed until the state retained Dr. Guy Meadows and Michigan Technological University ("MTU") to assist the PSAB recommendations on Line 5. The completion of this Risk Analysis represents the first point in time that an independent risk assessment has been provided to the PSAB and State of Michigan on Line 5 and Straits of Mackinac. As a result, the Governor-Enbridge 2017 Agreement narrowing the alternatives to a replacement of Line 5 in the Straits was premature and ignored independent risk and alternative recommendations as required by the Task Force and Executive Order No. 2015 – 14.
2. The Risk Analysis' definition of a worst-case scenario ("WCS") is consistent with the federal definition of "the largest foreseeable discharge of oil" in 40 CFR 194.105, and therefore is a more accurate estimate of the potential impacts from a Line 5 spill than the less reliable spill scenario identified in the 2017 Dynamic Risk Alternatives Report ("DR Report"). The DR Report admits that it does not comply with 40 CFR 194.105 and industry standards for hazardous risk analysis. Accordingly, the state should not rely on the DR Report in any decisions concerning an adequate risk analysis or alternative analysis for the high-level or imminent ("tier 1"²) risks associated with Line 5 in the Straits of Mackinac.

¹ Specifically, Dr. Richardson's study *"Oil Spill Economics: Estimates of the Economic Damages of an Oil Spill in the Straits of Mackinac in Michigan"* ("Economic Impact Report") that was produced for FLOW as well as Richard Kane's memo "Defining a Worst-Case Release Scenario for the Enbridge Crude Oil Pipelines Crossing the Straits of Mackinac – Line 5." Although there are differences both in the methodology and conclusions of FLOW's previous work and the Risk Analysis performed by Dr. Meadows, both studies clearly demonstrate that Line 5's Mackinac Straits crossing poses an unacceptable risk to the Great Lakes and the State of Michigan.

² Line 5 is categorized as a high level "Tier 1" risk and constitutes a substantial and imminent harm or endangerment. The definition of "imminent" risk of harm for transporting hazardous materials, like crude oil, is defined as "the existence of a condition relating to hazardous material that presents a substantial likelihood that death, serious illness, seer personal injury, or a substantial endangerment to health, property, or the environment..." 49 USC §5102 (Title 49, Transportation, Subtitle III, Chpt. 51).

3. Even though the Risk Analysis arrives at an adequate “worst-case-scenario” (“WCS”), underlying assumptions should be carefully reviewed for the final report as they relate to the conclusions about the ecological impacts (Task E), economic impacts (Task G), and broader impacts (Task X) from a worst-case scenario Line 5 spill in the Straits of Mackinac and extending across Lake Huron and Lake Michigan. For example, the Risk Analysis assumes only one year of impacts for decreased tourism expenditures. Similarly, the Risk Analysis takes a very conservative approach to commercial fishing and estimates one year of impacts of \$0.5 to \$1.6 million. In contrast, Dr. Richardson’s Economic Impact Report estimates that commercial fishing will face a \$61 million-dollar impact.
4. The Risk Analysis glosses over the complex landscape of determining when clean-up and remediation processes are complete. Baseline biological data must be incorporated into the report to fully comprehend the goals of any clean-up and remediation process and whether those goals were satisfied.
5. The Risk Analysis concedes that mental health issues and drinking water contamination are serious concerns after disasters such as a potential oil spill in the Straits. However, the Risk Analysis concludes that the public health and safety consequences following a WCS Line 5 spill would be minimal.
6. Differences in methodologies and assumptions explain the different economic outcomes posited in Dr. Richardson’s Economic Impact Report and the economic damage numbers of the Risk Analysis; a careful reevaluation of assumptions in the Risk Analysis is likely to lead to more realistic economic damage estimates affecting water resources, natural resources, public and private property, tourism, and tribal interests.
7. The PSAB should utilize the Risk Analysis as well as Dr. Richardson’s Economic Impact Report to conclude and finally determine that Line 5 poses an unacceptable risk to the Great Lakes, natural resources, public health, property, quality of life, and Michigan’s economy.
8. Given the high-level of damage and severe disturbance to the lives of communities and citizens of Michigan, the state’s current handling of Enbridge’s bond and/or equivalent coverage of the potential damage falls far short of protecting the water, natural resources, public health, quality of life and economy of the state. Accordingly, the state must demand that Enbridge secure immediate liability coverage for Line 5 in the amount of \$2 billion or more.

I. THE STATE OF MICHIGAN’S TROUBLED HISTORY OF IMPLEMENTING THE MICHIGAN PETROLEUM PIPELINE TASK FORCE RECOMMENDATIONS

Enbridge is known in Michigan for its catastrophic Line 6B pipeline rupture in 2010, causing the largest inland oil spill in U.S. history with clean-up costs exceeding \$1.2 billion along a 40-mile stretch of the Kalamazoo River.³ Between 2010 and 2013, Enbridge systematically and strategically expanded Line 6B’s (now Line 78) pipeline average capacity from 283,000 barrels per day (“bbl”) to 500,000 bbl from Flanagan, IL to Sarnia, Ontario (with ultimate design capacity at 800,000 bbl) and increased Line 5’s volume over 10 percent from 490,000 bbl to 540,000 bbl. After the Kalamazoo disaster, instead of systematically examining the impacts to Michigan’s air, water, and land and requiring Enbridge to

³ See <https://www.epa.gov/enbridge-spill-michigan>

evaluate feasible and prudent alternatives, the State of Michigan allowed Enbridge to expand its pipeline operations across the state in piecemeal fashion without the full public scrutiny required under law.

It wasn't until 2014 that State officials took steps to address the 65-year old Line 5 in the Straits of Mackinac. Governor Snyder established the Petroleum Pipeline Task Force ("Task Force") by executive order to make recommendations on Line 5 and other hazardous liquid pipelines in the state. A year later, the Task Force released its report with four key Line 5 recommendations to address the unacceptable risk of a release of crude oil in the Straits: (1) ban heavy crude oil; (2) demand additional information from Enbridge; (3) obtain a comprehensive independent analysis on risk (including "worst-case") and magnitude of harm; and (4) an analysis of alternatives that would lead to a removal of this unacceptable risk to the Great Lakes.

The Task Force recommendations formed the basis of the Governor's executive order that established the PSAB in September 2015 to facilitate the completion of these independent reports and make recommendations regarding decisions and actions of state officials to remove and prevent the high, unacceptable risk of Line 5. The PSAB included representatives not only from key state agencies but also from Enbridge and Marathon refineries as well as National Wildlife Federation and Tip of the Mitt.

Despite mounting evidence of Enbridge's ongoing serious violations of the easement and disclosure of evidence documenting the risk of Line 5, it took over two (2) years for completion and publication of the independent alternatives analysis. The independent risk report was not completed, because the draft submitted to the State had to be rejected and terminated because of a conflict of interest on the part of the consultant that had been hired for the report.

A circumstances surrounding the release of the DR's final Alternatives Report on November 20, 2017, also raised significant conflict of interest issues, in addition to nearly 45,000 submitted public comments that documented significant technical and legal errors and omissions, flawed assumptions, and missing data. The actions of Enbridge and handling of the reports by the consultants undermined and jeopardized the objectives of the Task Force, the PSAB, and the validity of any state actions or decisions, because of the endangerment to the waters, public health, property, quality of life and the economy.

In early October 2017, the public learned that Enbridge had failed to disclose evidence that it had in its possession for over three years concerning the condition and failing original design of Line 5 to both Michigan and federal officials. The underwater pipelines had potentially 80 bare metal spots and/or coating gaps close to the 128 total anchor locations in the Straits. Despite knowledge of Enbridge's deception about this engineering design flaw, the MDEQ and the U.S. Army Corps of Engineers ("Corps") approved an additional 22 screw anchors on Line 5 in March 2018. Enbridge's request to install another 48 anchors is pending before the MDEQ and Corps, which will bring the total to 198 anchors or almost three miles of pipeline elevated above the lakebed. The original design called for the heavy steel pipe to be placed on the bottom. The miscalculation of the powerful currents in the Straits has resulted in an original design that has failed, compromising the integrity of the line and increasing the risk even more. Enbridge's total design change that requires more and more anchor supports has never been evaluated or authorized under the Great Lakes Submerged Lands Act ("GLSLA"). This piecemeal authorization has continued because Enbridge and MDEQ have characterized and narrowed the analysis to a "repair" and "maintenance" operation, limiting evaluation to potential impacts around the footprint of each anchor, and ignoring the failing and altered pipeline design and risk from continued flow of crude oil as a whole. In fact, the GLSLA requires Enbridge to demonstrate two findings concerning the entire line: (1) no substantial likelihood of harm, impairment or pollution to public trust waters and resources; and (2)

no feasible and prudent alternatives to locating oil pipelines in the open waters of the Great Lakes.⁴ The GLSLA process is both mandatory and essential given the findings of the MTU Risk Analysis, FLOW reports, including the Economic Impact Report, and other reports that show alternatives to servicing the Upper Peninsula's propane needs and meeting regional crude oil demands within the existing pipeline system.

Just one week after DR's Report was released for public comment without knowledge by the PSAB or notice to the public, Governor Snyder unilaterally announced an agreement with Enbridge on November 27, 2017 to replace Line 5 in the Straits following a fast-track to select an alternative for such a replacement alternative by August 15, 2018.

In sum, the State of Michigan has established a multi-year, multi-phased process that has resulted in disqualifying conflicts of interest for the study consultants, delayed meaningful decisions to protect the paramount interests of the Great Lakes, and allowed Enbridge to continue to profit by transporting 540,000 barrels ("bbl") per day through an aging asset that threatens our public water, property, health, safety, economy and environment. It has taken three years since the Task Force's recommendations for an independent assessment to be completed on risks Line 5 poses to the Great Lakes and the State of Michigan. State decision makers must act now to decommission Line 5, as the Risk Analysis clearly demonstrates that Line 5 poses an unacceptable risk to the people, water, and natural resources of the state. In light of the Risk Analysis and Economic Impact Report's clear evidence that the magnitude of harm and risk are "tier 1" (a high, unacceptable risk of harm), at a minimum, state officials should temporarily suspend crude oil transport in Line 5, pending a directive to Enbridge to comply with the requirements and standards of the GLSLA, or, in the alternative, permanently terminate use of Line 5 in Straits, and implement another alternative that avoids the high risk to the Great Lakes, communities, businesses, and citizens.

II. THE RISK ANALYSIS' DEFINITION OF WORST-CASE SCENARIO

The Risk Analysis sets out to study the potential and likely effects and impacts of a "worst-case scenario" ("WCS") Line 5 spill in the Straits of Mackinac. The Risk Analysis' definition of a WCS is based on the accumulation of worst-case assumptions. The Risk Analysis' approach of determining the WCS is also consistent with the federal government's definition of a "worst-case discharge", which is defined as "the largest foreseeable discharge of oil, including discharge from fire or explosion, in adverse weather conditions" in 49 CFR 194.105.⁵ This definition of a WCS leads to a scientifically accurate estimate of the potential impacts from a Line 5 spill or release that would occur as the result of an Enbridge automation or personnel failure, similar to Enbridge's 2010 Line 6B spill in Marshall, Michigan.

The Risk Analysis starts with the above definition and considers several plausible scenarios of primary causes and secondary failures to ultimately determine the WCS for a Line 5 spill in the Straits of Mackinac. The Risk Analysis correctly utilizes only passive protection controls such as fixed secondary containment in arriving at the WCS, properly excluding active controls such as automated block valves that may not work due to mechanical or personnel failure. This approach differs greatly from the DR Report.

⁴ MCL 324.32502

⁵ Dr. Guy Meadows, *Independent Risk Analysis for the Straits Pipelines*, July 16, 2018, Michigan Petroleum Pipelines Safety Advisory Board, <https://mipetroleumpipelines.com/document/risk-analysis-straits-pipelines>, pg. 34 [hereinafter Risk Analysis].

The state-contracted 2017 DR Report, which did not follow 49 CFR 194.105, utilized active and tertiary controls that it assumed would reduce the magnitude of harm from a release.⁶ Because the DR Report evaluated alternatives to Line 5 in the Straits, it chose the Pipeline and Hazardous Materials Safety Administration (“PHMSA”) WCS for emergency response planning, which allows a lower level spill or alternative release scenario (“ARS”) based on assumptions of no personal or automated controls. For example, the ARS allowed the DR Report to assume shut-down valves would be closed by remote control operations. This assumption allowed the DR Report to drastically reduce the extent of a Line 5 spill. Moreover, the DR Report fell short of the defined ARS by subjectively selecting ideal or optimal results for active control measures, rather than a range based on history of Enbridge or the industry with other spills and releases. As a result, because of an appearance of a conflict of interest described above in section one and these improper assumptions, the DR Report is not credible and should not be relied on for any WCS, risk, or alternatives action or state decision.

However, it should be noted that both the Risk Analysis and the DR Report made assumptions about physical processes, which depending on the time of the year, weather, winds, and temperature, can result in a reduction of the extent of the effects of a spill.⁷ Yet, even with this assumption that the extent of harm could be reduced by physical processes, the Risk Analysis concludes that a WCS Line 5 spill in the Straits would result in 58,000 bbl of oil spilling into the Great Lakes, affecting 441 miles of shoreline and creating a potential \$1.37 billion economic impact and up to a \$1.3 billion dollar price tag to contain and clean-up discharged oil.⁸ Dr. Robert Richardson’s Economic Impact Report concludes that that impact and damage to a similar Line 5 spill could over \$6.2 billion.⁹ While the Risk Analysis may understate damage to tourism, property values, and restoration costs, both reports estimate massive damage and harm, which point to an extremely high “tier 1” risk category. These reports, with other documented evidence, point to only one conclusion: the risk and harm of a potential Line 5 spill are unacceptable. The potential effects and impacts from a WCS Line 5 spill are far more than “minimal” and would violate legal standards under the GLSLA, public trust common law, and the Michigan Environmental Protection Act (“MEPA”).

III. THE BASELINE ASSUMPTIONS AND METHODOLOGIES THAT SIGNIFICANTLY AFFECT THE RISK ANALYSIS’ FINDINGS

The Risk Analysis explicitly states that the analysis utilizes several assumptions in reaching its conclusions on the amount and dispersion of oil spilled, as well as the impact and damage that a spill would likely cause to public trust uses, such as fishing, shipping, drinking water, swimming, boating, tourism, public and private coastal property, and other losses and costs to the state, local communities, public health, and sensitive environments.¹⁰ While the use of assumptions is common in economic forecasting and other scientific studies such as economic and natural resource impact modeling, it is essential to understand the Risk Analysis’ underling the assumptions to fully understand how Dr. Meadows and his team came to the final conclusions. In reviewing the Risk Analysis’ assumptions, it is readily apparent that the Risk Analysis uses baseline assumptions that help provide an accurate estimate

⁶ *Risk Analysis* at 39.

⁷ *Id.* at 38.

⁸ *Id.* at 277.

⁹ Dr. Robert Richardson, *Oil Spill Economics: Estimate of the Economic Damage of an Oil Spill in the Straits of Mackinac in Michigan*, May 2, 2018, flowforwater.org/wp-content/uploads/2018/05/FLOW_Report_Line-5_Final-release-2.pdf, pg. 32 [hereinafter Economic Impact Report].

¹⁰ *Risk Analysis* at 38.

of the amount of oil dispersed from WCS Line 5 spill in the Straits. However, other assumptions utilized in the Risk Analysis estimates of WCS' economic impact demonstrate how assumptions can clearly compromise the reliability of the conclusions reached in the Risk Analysis.

The following baseline assumptions underpin the amount of oil dispersed: that a Line 5 leak would be detected immediately, that it would take Enbridge personnel 13.5 minutes to determine the nature and magnitude of the leak and isolate the leak, and that Enbridge personnel could be deployed to Line 5 in the Straits area and manually shut the secondary valves to the dual Line 5 pipelines in the Straits within two hours of leak detection.¹¹ All of these assumptions are key to determining how much oil is likely dispersed into the Great Lakes during a WCS Line 5 spill in the Straits.

These assumptions about Enbridge's rapid response to a Line 5 leak or rupture affect the predicted volume of oil released and subsequently the distance of shoreline that would be oiled from a WCS spill in the Straits. However, the assumptions employed in the Risk Analysis lead to a rational conclusion that a WCS Line 5 spill would cause approximately 58,000 bbl of oil to be released into the Great Lakes. Although there are scenarios that could produce higher estimates of oil spilled, the Risk Analysis baseline assumptions are reasonable given the vast number of factors that could influence these critical findings.

Although the assumptions that contribute to the Risk Analysis' findings on the amount of oil spilled during a WCS Line 5 spill are reasonable, the same cannot be said for the Risk Analysis' assumptions pertaining to the economic impact a WCS Line 5 spill would cause. The assumptions employed in the Risk Analysis' economic impact analysis greatly underestimate the likely economic impact that would follow a WCS Line 5 spill. Specifically, the Risk Analysis operates under the assumption that an oil spill in the Straits will only have a short-term effect on the region's tourism and recreational economies, commercial shipping industry, commercial fishing, and coastal property values.¹²

For example, the Risk Analysis assumes that the impact to the Michigan's recreational and tourism economy will only last one (1) year from a WCS Line 5 spill in the Straits.¹³ This includes impacts to: the number of day-trips to state and national parks, the number of overnight camping trips, and the economic benefits from recreational boating and fishing. The Risk Analysis bases this assumption of a short-term economic impact on a recreation assessment for the Deepwater Horizon ("DWH") oil spill.¹⁴ The recreational assessment for the DWH spill found the number of shoreline visitations had recovered in most areas after one year and recovered in all areas after two years.¹⁵ However, the Risk Analysis does not recognize that the DWH spill and a Line 5 spill are drastically different scenarios. Mainly, that the DWH spill occurred roughly 41 miles off the coast of Louisiana, while a potential Line 5 spill would occur approximately two miles offshore at most.¹⁶ This proximity to the shoreline and coastal communities drastically amplifies the immediate and long-term impacts that a WCS Line 5 spill would likely cause to the recreational and tourism economies of northern Michigan. Moreover, the Risk Analysis does not provide definitions of what constitutes a determination that the recreational economy is no

¹¹ *Id.* at 48.

¹² *Id.* at 289.

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ Richard Pallardy, Deepwater Horizon Oil Spill of 2010, Encyclopedia Britannica (April 13, 2018), <https://www.britannica.com/event/Deepwater-Horizon-oil-spill-of-2010>.

longer affected, and a lack information regarding how long the loss in economic multiplier effect would last.

In addition, the Risk Analysis grossly underestimates the amount of time it will likely take to remove the dispersed oil and start restoring the water and shorelines of Lake Michigan and Lake Huron. If a WCS Line 5 spill were to occur, and approximately 441 miles of shoreline were affected, then clean-up crews would have to restore over a mile of beach every day to ensure the shoreline would be in adequate condition for the next summer season, when the majority of Michigan tourism and recreational activities take place. Moreover, the Risk Analysis does not provide a clear definition of what constitutes “restoration”, “recovery”, or “clean-up”, and makes no mention of baseline data or measurements that independently verify the effects and impacts are no longer present in the water, shoreline, or affected environment. Without an understanding of when clean-up and remediation may be deemed adequate, the estimate to recreational impacts is difficult to accurately quantify.

The Risk Analysis’ assumption of a short-term economic impact does not account for any lingering stigma effects that a catastrophic environmental disaster would likely have. The long-term taint and diminution of property values from a release of hazardous substances and water pollution are well documented.¹⁷ The Risk Analysis’ assumption that the reduction in the value of lakefront properties would only amount to \$2.6 million is an underestimate of the effects an environmental catastrophe would have on the residential housing market. Furthermore, a WCS Line 5 spill would significantly influence the general public’s perception about the quality of recreational activities available in Michigan, such as boating, swimming, and fishing. The Risk Analysis fails to address how a Line 5 spill would affect the “Pure Michigan” brand that helped spur \$2.1 billion in visitor spending last year.¹⁸

The Risk Analysis also assumes that the effects to commercial fishing from a WCS Line 5 spill would only persist for one (1) year. The Risk Analysis concludes that reduction in whitefish, trout, walleye, yellow perch, and chinook salmon harvests would not be impacted in the second season after a WCS Line 5 spill.¹⁹ This assumption contradicts the Risk Analysis previous conclusion that there would likely be irreversible harm to fish populations and fish habitat in the Straits area.²⁰ Additionally, studies of prior oil spills, such as the Exxon Valdez spill, have determined that these spills significantly affected marine wildlife and habitat for over a decade.²¹ Therefore, the Risk Analysis assumption that commercial fishing will only be impacted for a year after a WCS Line 5 spill is highly unlikely.

In conclusion, the assumptions made in the Risk Analysis significantly affect the Risk Analysis’ ability to accurately estimate the natural resource damage, impacts to coastal and adjacent property values, and impacts to the Straits and “Pure Michigan” economy from a WCS Line 5 spill in the Straits. The Risk Analysis fails to assess the long-term damages from a WCS Line 5 spill in the Straits, and ultimately

¹⁷ *Economic Impact Report* at 31.

¹⁸ Lansing State Journal Editorial Board, *Editorial: Who Knew Michigan was a Tourist Destination? Everyone Apparently*, Lansing State Journal (May 24, 2018), <https://www.lansingstatejournal.com/story/opinion/editorials/2018/05/24/editorial-medc-statistics-show-pure-michigan-gaining-momentum/641696002/>.

¹⁹ *Risk Analysis* at 307.

²⁰ *Id.* at 211.

²¹ Justin Gillis and Leslie Kaufman, *After Oil Spills, Hidden Damage Can Last for Years*, New York Times (July 17, 2010), <https://www.nytimes.com/2010/07/18/science/earth/18enviro.html>.

underestimates the risk Line 5 poses to the State of Michigan, Wisconsin, Canada, and the Great Lakes. Therefore, the Risk Analysis assumptions must be reevaluated and revised to ensure the final report accurately represents the risk Line 5 poses to the Great Lakes and the State of Michigan.

IV. THE RISK ANALYSIS LACKS CLEAR DEFINITIONS AND STANDARDS FOR THE CLEAN-UP AND REMEDIATION PROCESS OF A WCS LINE 5 SPILL

The Risk Analysis estimates that time to clean up oils on the shorelines of Lake Michigan and Lake Huron will take anywhere from one (1) to two (2) years.²² The Risk Analysis briefly explains that “the decision for when cleanup is complete is made by the [Federal On-Site Coordinator] FOSC.”²³ This brief explanation does not adequately describe the complex process of determining when clean-up and remediation efforts are complete, and what standards and/or processes must be completed or met before such a critical decision is made.

While there is no singular federal or state guideline for oil spill clean-up standards, the Federal On-Site Coordinator (“FOSC”) is guided by several key factors, including the results from net environmental benefit analysis (“NEBA”) and mass balance calculations that determine the percentage of oil recovered. Understanding how the FOSC and appropriate state officials determine when water resources or shoreline are “clean” or “remediated” is fundamental to evaluating the potential duration of the clean-up process after a WCS Line 5 spill.

The final Risk Analysis should articulate the complex nature of clean-up standards and guidelines in the event of a catastrophic oil spill. Without an explanation of how the FOSC and coordinated state officials determine when a segment of shoreline is deemed “clean” or “remediated,” the Risk Analysis fails to fully describe how shoreline clean-up would be completed within 12 to 24 months.²⁴ Furthermore, the Risk Analysis also should explain how baseline biological data can help evaluate the remediation process. If no such baseline biological data currently exists for the Straits area that could be impacted by a WCS Line 5 spill, the Risk Analysis should recommend that baseline data be acquired as soon as possible so that if a Line 5 spill were to occur, the FOSC and appropriate state officials can utilize this baseline information to efficiently determine when the necessary clean-up and remediation processes are complete.

V. UNDERSTANDING THE DIFFERENCES BETWEEN THE RISK ANALYSIS AND DR. RICHARDSON’S ECONOMIC IMPACT REPORT

The Risk Analysis and Dr. Richardson’s Economic Impact Report both seek to quantify the economic and ecological impacts from a Line 5 catastrophic oil spill in the Straits of Mackinac. Despite differences in economic impact costs, both reports demonstrate that Line 5 poses as an unacceptable and imminent risk to a complex dynamic and vulnerable ecosystem. This section, however, details what assumptions contributed to numerical differences between the reports.

One fundamental difference between the reports is that the State of Michigan tasked Dr. Meadows’ team to conduct a worst-case-scenario risk analysis, where as Dr. Richardson’s Economic Impact Report

²² *Risk Analysis* at 120.

²³ *Id.* at 118.

²⁴ *Id.*

constructed a high impact spill scenario. Interestingly, the amount of oil discharged in both reports is approximately the same. The Risk Analysis maintains that 58,000 bbl (2,436,000 gallons) of oil would be discharged under a WCS Line 5 spill in the Straits, while the Economic Impact Report applies approximately 59,500 bbl (2,499,000 gallons) of oil under a high impact spill scenario.²⁵ Therefore, the differences between the Risk Analysis and the Economic Impact Report do not concern the amount of oil discharged from a Line 5 spill in the Straits, but rather the extent, magnitude, duration, and impacts that a Line 5 spill would have on water, natural resources, public health and safety, property values, tourism, recreation, fishing, shipping, taxes, and other costs.

The main reason for the difference in economic impact estimates between the two reports is that the Economic Impact Report assumes tourism expenditures would be affected on a declining basis for five (5) years. This amount represents the majority of the total estimate (\$4.8 billion of a total of \$5.6 billion). By contrast, the Risk Analysis assumes that fewer counties would be affected under a WCS, and further assumes only one (1) year of impacts to Michigan's tourism economy.

Although, the Risk Analysis did not use the same method, it estimates lost utility or satisfaction accruing to recreation users, represented as foregone "willingness-to-pay for recreation."²⁶ The Risk Analysis estimates only \$7 to \$20 million in foregone 'net willingness to pay' for recreation day trips. This does not include foregone spending at local businesses (economists refer to the difference between 'willingness to pay' and actual spending as the net economic benefit, or in this case, net economic loss), but not lost spending. It only reflects lost satisfaction to visitors to state parks, state recreation areas, Mackinac state historic parks, national parks, and national forests.²⁷

By contrast, Dr. Richardson's Economic Impact Report assumes lost expenditures accruing to tourism businesses. The Economic Impact Report considered tourism to include visitors beyond this narrow context of outdoor recreation on public lands. The Economic Impact Report also cited evidence that previous oil spills had tourism impacts that endured beyond one year.²⁸

The Risk Analysis also estimates recreational fishing and boating impacts separately, with only one (1) year of impacts. On the other hand, the Economic Impact Report includes these categories under tourism and estimates that impact will last for five (5) years on a declining basis. Additionally, the Risk Analysis estimates that impacts to the commercial fishing industry will only occur for one (1) year after a spill. As a result of this conservative approach to commercial fishing and rebound of resources, the Risk Analysis estimates impacts of \$0.5 to \$1.6 million to the commercial fishing industry. The Economic Impact Report yields larger losses due to its assumption that commercial fishing will experience three (3) years of declining impacts, totaling a present value of \$61 million.²⁹

Additionally, the Risk Analysis estimates that the commercial shipping industry would face a \$42 million impact if a WCS Line 5 spill were to occur.³⁰ Although the Economic Impact Report does not quantify the economic impact to the commercial shipping industry, the Economic Impact Report's inclusion of

²⁵ *Risk Analysis* at 41; *Economic Impact Report* at 1,4.

²⁶ See *Risk Analysis*, Table G14 on p.294 for a summary of the estimates.

²⁷ *Risk Analysis* at 293.

²⁸ *Economic Impact Report* at 13, 24-25.

²⁹ *Id.* at 29.

³⁰ *Risk Analysis* at 308.

secondary economic impacts would demonstrate the ripple effect a delay in commercial shipping would cause. There are many manufactures that rely on Great Lakes shipping to provide raw materials for their production processes. Therefore, the Risk Analysis' \$42 million impact is likely an underestimate of the overall impact a delay in commercial shipping would cause.

There are also drastic differences between the approaches to coastal property values, as Dr. Richardson's report assumed five (5) years of declining impacts for the \$485 million estimate; the Risk Analysis uses "lost amenity value" to generate estimates of only about \$2 million. For other comparisons, see the Economic Impact Report's summary table³¹ and the Risk Analysis' summary of impacts.³²

Despite the discrepancies mentioned above, the Risk Analysis and the Economic Impact Report both demonstrate that Line 5 poses an imminent and unacceptable risk to the Great Lakes and the State of Michigan. State officials should utilize the findings of both reports to ensure that the state upholds its duties as public trustees of the Great Lakes and natural resources of Michigan.

VI. THE RISK ANALYSIS CONCLUSION ON PUBLIC HEALTH AND SAFETY CONSEQUENCES ARE NOT CONSISTENT WITH ITS FINDINGS REGARDING MENTAL HEALTH ISSUES AND DRINKING WATER CONTAMINATION

The Risk Analysis acknowledges that "mental health issues are a significant concern after disasters such as a potential oil spill at the Straits of Mackinac."³³ This finding is consistent with mental health studies conducted after the DWH spill which found individuals experienced symptoms such as mistrust, anger, anxiety, as well as acute stress with symptoms of posttraumatic stress disorder.³⁴ These symptoms demonstrate that adverse mental health impacts a WCS Line 5 spill could cause. Additionally, tribal members have significant and sacred connections with the water, natural resources, and wildlife that would be directly impacted by a WCS Line 5 spill. The Risk Analysis indicates that "restrictions of access to cultural heritage sites, recourse allocation, and equitable compensation issues may include legal proceedings, and these could potentially lead to post-traumatic chronic stress disorder."³⁵ As significant as the effects to mental health on residents and tribal members, the Risk Analysis fails to discuss the potential costs of long-term mental health counseling, therapy, and other services that needed to prevent or treat the mental health symptoms caused by a WCS Line 5 spill.

In addition to the mental health concerns a WCS Line 5 spill presents, the Risk Analysis also demonstrates that a Line 5 spill presents risks to drinking water supplies in the Straits area.³⁶ The Risk Analysis identified 12 municipal drinking water intakes within the Straits area, as well as 306 private water wells that are located within approximately 200 feet of the shoreline within the Straits channel that are at potential risk of oil contamination.³⁷ These private and public drinking water sources would have to be monitored and possibly closed after a WCS Line 5 spill to ensure that drinking water sources were not

³¹ *Economic Impact Report* at 2.

³² *Risk Analysis* at 321.

³³ *Id.* at 160.

³⁴ *Id.*

³⁵ *Id.* at 161.

³⁶ *Id.* at 156-158.

³⁷ *Id.*

contaminated and met federal and state drinking water quality standards pursuant to the Safe Drinking Water Act (“SDWA”).

The potential for drinking water contamination on Mackinac Island is high in the event of a WCS Line 5 oil spill. The Island’s public water supply draws directly from Lake Huron, in an area that is predicted to be covered by oil during a WCS Line 5 spill.³⁸ However, the Risk Analysis fails to evaluate the risks to the public drinking water supply on the island as well as the emergency response plan that would have to be implemented to ensure Mackinac Island residents and visitors have adequate drinking water supplies following a WCS Line 5 spill.

Despite the significant risks laid out in the Risk Analysis, the report concludes that the short- and long-term risks to public health and safety due to a WCS Line 5 spill are relatively low.³⁹ This conclusion contradicts the Risk Analysis findings concerning the potential effects to resident’s mental health and public and private drinking water supplies within the Straits area. The Risk Analysis conclusion to Task D – evaluating risk to public health and safety, must be revised to accurately reflect the Risk Analysis’ findings concerning mental health impacts and drinking water contamination.

VII. THE RISK ANALYSIS’ FINDINGS DEMONSTRATE THAT LINE 5 POSES AN UNACCEPTABLE RISK TO THE GREAT LAKES AND THE STATE OF MICHIGAN

The Risk Analysis concludes that a WCS Line 5 spill in the Straits of Mackinac could cause up to 58,000 bbl (2,436,000 gallons) of oil to be released into the Great Lakes.⁴⁰ This released oil would disperse over 1,000 square miles of Great Lakes surface water and affect approximately 441 miles of shoreline.⁴¹ This potential environmental disaster would cost approximately \$1.3 billion to contain and clean-up and would also leave permeant impacts that could change the character of the Straits indefinitely.⁴²

The State of Michigan is the trustee of the public’s irrevocable interest in the waters and bottomlands of the Great Lakes. Thus, the state has a paramount duty to protect the natural resources found within the Straits area and ensure that the public’s interest in the Straits for such activities as boating, fishing, and swimming are not impaired. The State’s paramount duty to protect natural resources is also incorporated into Michigan’s constitution which expressly holds that, “the legislature shall provide for the protection of the air, water, and other natural resources of the state from pollution, impairment and destruction.”⁴³

The Michigan legislature must acknowledge the unacceptable risk the Line 5 poses to the air, water, and natural resources of this state and decommission the flow of oil through the heart of the Great Lakes before a WCS spill occurs. Line 5 like any other piece of infrastructure cannot operate indefinitely and will eventually fail. Therefore, it is not a matter of if a Line 5 spill will occur, but when. Our state leaders must be proactive about this critical issue, and ensure that the Straits of Mackinac are swimmable, navigable, and fishable for current and future generations.

³⁸ *Id.* at 100-101.

³⁹ *Id.* at 164.

⁴⁰ *Id.* at 345.

⁴¹ *Id.* at 41,75 -77.

⁴² *Id.* at 277.

⁴³ MI. CONST. ART. 4, §52.

The Risk Analysis also demonstrates that a WCS spill would also have a \$1.37 billion impact to the State of Michigan's economy.⁴⁴ The significant amount of the \$1.37 billion economic impact would directly affect northern Michigan communities that depend on the summer tourist and recreational season to support them through the winter months⁴⁵ with potential beach closures up to 24 months, these local economies would miss two critical summer seasons. Such a drastic impact to the region's tourism and recreational economies could potentially initiate indirect economic effects that would ripple into industries that might not be directly affected by a Line 5 spill in the Straits. With unemployment rates as high as twenty percent in Mackinac County, it is critical that the coastal communities of northern Michigan continue to generate economic revenue through the recreational and tourism industries.

In addition to the unacceptable risks to natural resources and Michigan's economy, the Risk Analysis also demonstrates that Line 5 poses an intolerable risk to the federally recognized tribes' cultural and historic traditions. In 1836, the tribes reserved the right to fish the Straits of Mackinac.⁴⁶ This reserved right to fish is not a reserved right to the actual fish population within the waters of the Straits, but rather is a reserved right to have a connection with the fish, to pray for the fish, to dance with the fish, to harvest the fish, as well as preserve and pass down these culturally significant acts from one generation to the next. A WCS Line 5 spill will undoubtedly affect tribal members' ability to engage in the act of fishing and the sacred connection to the waters and fish that are essential to their way of life.

Overall, the Risk Analysis demonstrates that Line 5 poses an unacceptable risk to the Great Lakes, coastal communities, tribes, and the State of Michigan. State officials have a duty under public trust common law and Michigan's Constitution to protect the Great Lakes and other natural resources of this state. Therefore, state officials must take immediate action and stop the flow of oil through Line 5 to ensure the protection of our environment, our economy, and our way of life.

VIII. THE RISK ANALYSIS SHOULD BE EVIDENTIARY PROOF THAT ENBRIDGE DOES NOT POSSESS ADEQUATE INSURANCE OR OTHER FINANCIAL ASSURANCES TO SUFFICIENTLY COVER ALL LIABILITY FOR ALL DAMAGES AND/OR LOSSES RESULTING FROM A LINE 5 SPILL IN THE STRAITS OF MACKINAC

The Risk Analysis estimates that the likely costs for containing and cleaning-up dispersed oil from a WCS Line 5 spill in the Straits would likely cost Enbridge \$1.3 billion.⁴⁷ Furthermore, the Risk Analysis also establishes that the economic impact from a WCS Line 5 spill in the Straits is also approximately \$1.3 billion.⁴⁸ Therefore, the total amount of liability for a WCS Line 5 spill is estimated at \$2.6 billion.

As significant as this liability is, the 1953 Easement authorizing Enbridge to operate Line 5 in the waters and the bottomlands of the Straits of Mackinac only requires Enbridge to possess a "comprehensive bodily injury and property damage liability policy . . . in the sum of at least one million dollars, covering the liability herein imposed upon [Enbridge]."⁴⁹ This binding provision of the 1953 Easement is beyond

⁴⁴ *Risk Analysis* at 324.

⁴⁵ *Id.* at 127 ("According to a Tourism Economy study (2016), visitor spending contributed \$89.91 million, \$363.39 million and \$219.98 million to the economies of Cheboygan, Emmet, and Mackinac counties respectively")

⁴⁶ *People v. LeBlanc*, 399 Mich. 31 (Mich. 1976).

⁴⁷ *Id.* at 277.

⁴⁸ *Id.* at 324.

⁴⁹ State of Michigan's 1953 Easement with Lakehead Pipeline Company, Inc., pg. 10.

outdated and is wholly inadequate for the significant liability that Enbridge will face in the event of a Line 5 spill.

Although the 1953 Easement's liability provision has been inadequate for many years, the State of Michigan finally recognized its inadequacies and inquired about Enbridge's insurance policies in a March 2015 letter to Enbridge.⁵⁰ Enbridge responded to the State of Michigan in an April 2015 letter verifying that Enbridge possess a global liability insurance policy that covers sudden and accidental pollution events, in the total amount of \$700 million.⁵¹ Although, the \$700 million-dollar policy is much greater than the 1953 easement's million-dollar requirement, it still is inadequate to cover the Risk Analysis' estimate of \$2.6 billion in liabilities stemming from a WCS Line 5 spill. In addition, it should be noted that insurance policies contain multiple exemptions and exclusions for various occurrences or damages and costs, which are not covered by such insurance policies. For example, state regulators in Minnesota recently concluded "that Enbridge's current general liability policies for its entire U.S. mainline oil pipeline system, which would include new Line 3, has 'significant exclusions for insurance coverage related to damages caused by a crude oil spill.'"⁵²

State officials, as well as the public, must be ensured that Enbridge can financially cover the liabilities associated with a WCS Line 5 spill in the Straits. State officials must demand that Enbridge demonstrate that its current insurance policies and financial statements show it can and will cover the liabilities and estimated worst-case scenario costs and damages associated with the risks that are presented in this Risk Analysis and Dr. Richardson's Economic Impact Report.

IX. CONCLUSION AND RECOMMENDED ACTIONS

The Risk Analysis and the Economic Impact Report clearly demonstrate that Line 5 in the Straits of Mackinac poses an unacceptable risk to the Great Lakes and the State of Michigan. Michigan should not put the Great Lakes, our economy, health, drinking water, fisheries, and way of life at risk from a catastrophic oil spill any longer. Now armed with this latest report on risk, the State of Michigan should exercise its legal duty as public trustee and revoke the 65-year-old Easement that authorizes Enbridge to conditionally occupy our public waters.

The Governor's 2017 agreement with Enbridge to find a replacement alternative for Line 5 was severely premature and does not address the imminent and unacceptable risks that are presented in the Risk Analysis' findings. State officials should not be evaluating far-off alternatives to Line 5, but determining what steps need to be taken to mitigate the imminent and unacceptable risks Line 5 poses today.

It is time for the state to stop delaying action with more studies, but rather exercise its legal duty as public trustee, and revoke Line 5's easement. As public trustee of the waters, the state should then require Enbridge to submit and demonstrate through comprehensive alternative analysis that there are no other feasible and prudent alternatives to the continued operation of Line 5 in the Straits of Mackinac.

At the very minimum, state officials must demand that Enbridge demonstrate that they possess sufficient liability coverage for all liabilities and/or damages stemming from the WCS Line 5 spill outlined in the

⁵⁰ State of Michigan's March 12, 2015 letter to Enbridge.

⁵¹ Enbridge's April 17, 2018 letter to the State of Michigan.

⁵² Star Tribune, "Enbridge oil spill insurance inadequate, Minnesota regulators say," August 15, 2018, Minn., MN <https://insurancenewsnet.com/oarticle/enbridge-oil-spill-insurance-inadequate-minnesota-regulators-say>

Risk Analysis. Without proof that Enbridge maintains sufficient liability coverage, the state may face lengthy litigation and negotiations with Enbridge to ensure that the company is held fully responsible for the costs associated with a Line 5 spill in the Straits.

Again, FLOW thanks Dr. Meadows and his team for all their hard work on this comprehensive Risk Analysis, as well as the PSAB for this opportunity to comment on the draft report. We hope our comments are seriously considered, and the revisions to the Risk Analysis are made to address some of the flaws highlighted in our comments. Should you have any questions or desire further information, we are willing to meet with you and technical experts to discuss the above.

Sincerely yours,



James Olson
President



Elizabeth R. Kirkwood
Executive Director

cc: U.S. Senator and Hon. Gary Peters
U.S. Senator and Hon. Debbie Stabenow