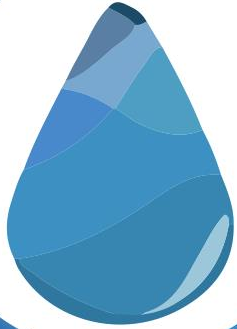


FLOW



FOR LOVE OF WATER



University of Toledo

Line 5 Pipeline

November 6, 2015

FLOW (For Love Of Water)

Liz Kirkwood

Executive Director

LINE 5 UNDER THE STRAITS



ENBRIDGE'S NORTH AMERICAN ENERGY OUTLOOK

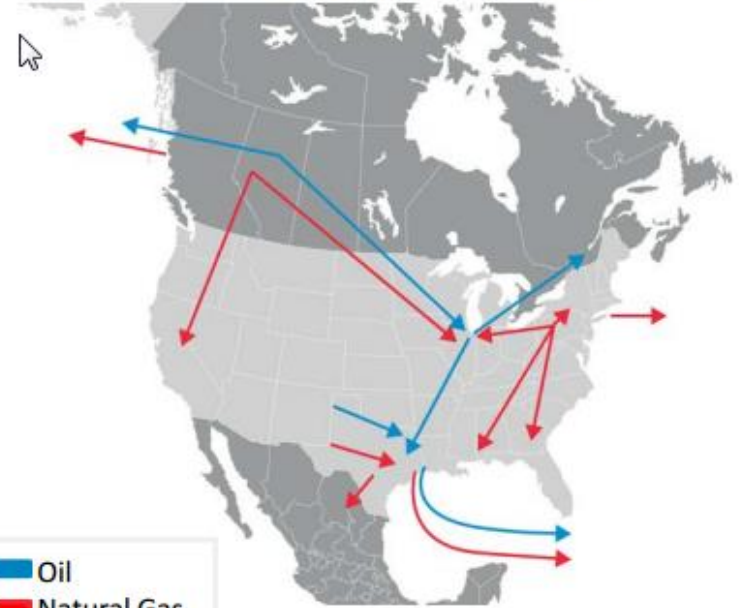


Canadian and U.S. Oil Pipelines

- Enbridge Pipelines, AB Clipper and connections to the U.S. Midwest
- Kinder Morgan Express
- Kinder Morgan Trans Mountain
- TransCanada Keystone
- Proposed pipelines to the West Coast
- / ... Existing / Proposed pipelines to PADD II
- Expansion to existing pipeline

© Enbridge

North American Energy Flows



\$800B infrastructure opportunity set through 2035²

ENBRIDGE LINE 5: CANADIAN SHORT-CUT

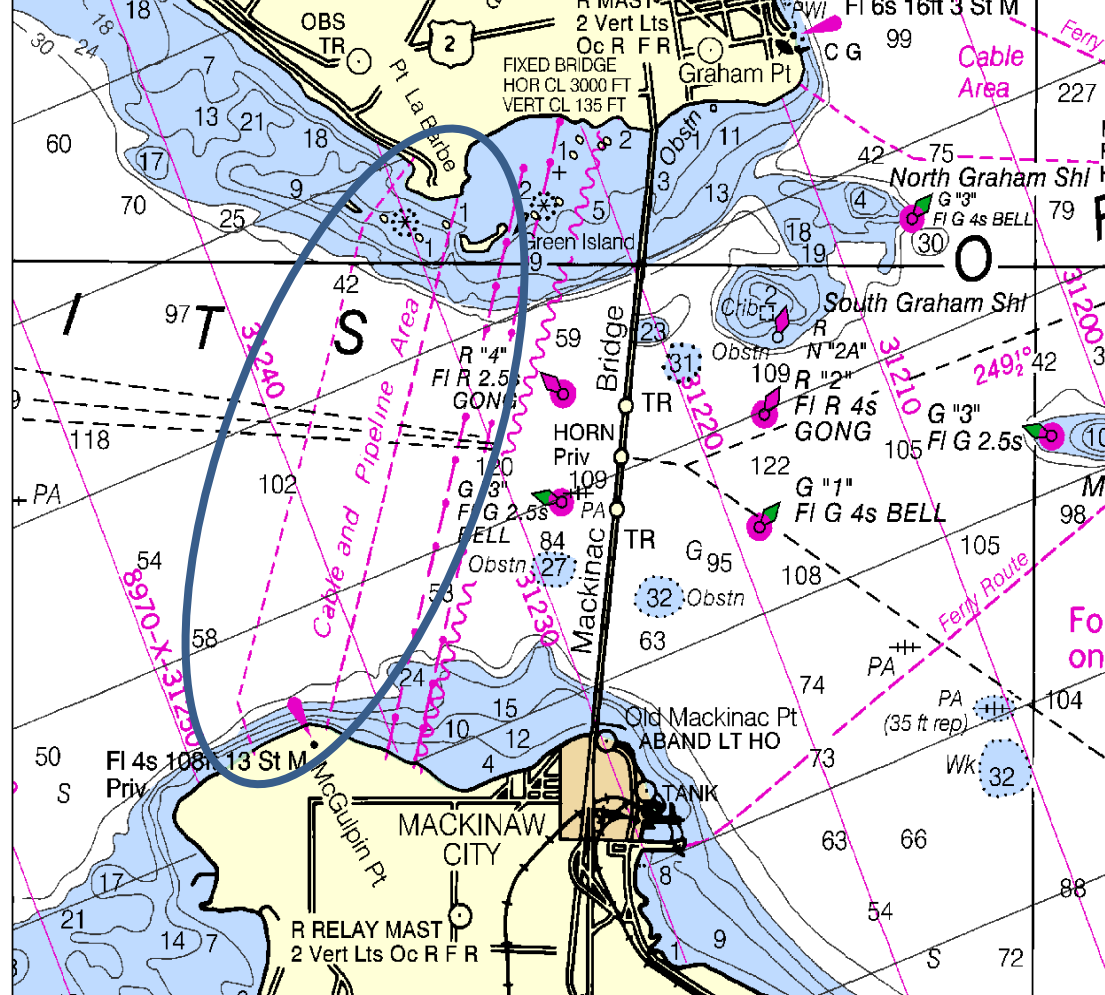
- 645 miles long from Superior, WI to Sarnia, Ontario
- 30-inch pipeline on land
- Twin 20-inch pipelines under Straits of Mackinac, 4.6 miles long
- 23 million gallons transported daily
- (540,000 bpd) – 80% increase over original design (120,000 bpd)
- 1 million gallons of oil in pipelines



LINE 5 PIPELINES 1953 EASEMENT WITH STATE OF MICHIGAN

Act 10, PA 1953

1. Authorized utility easements on GL bottomlands
2. Subject to Public Trust and State Title in Great Lakes.
3. Subordinate to perpetual and continuing duty under public trust doctrine.
4. "Reasonably prudent person" covenant to protect public and private property



ENBRIDGE LINE 5 - 12 PUMP STATIONS



2010 ENBRIDGE KALAMAZOO DISASTER

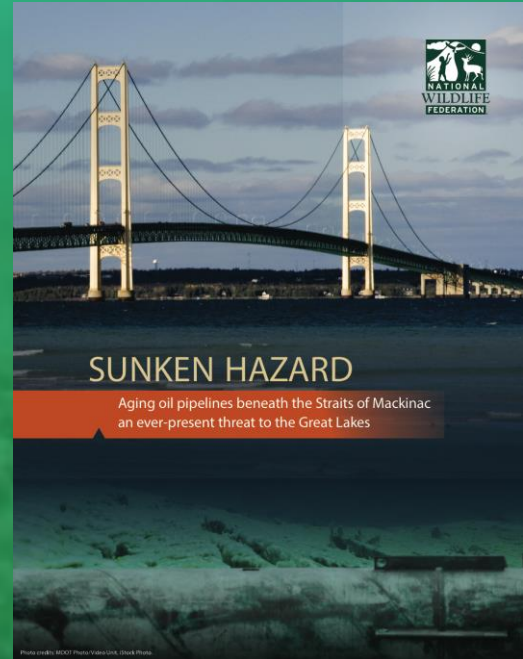


© NPR

INCREASING PUBLIC AWARENESS & CONCERN

“Unless action is taken, an oil spill in the Straits of Mackinac isn’t a question of if—it’s a question of when.”

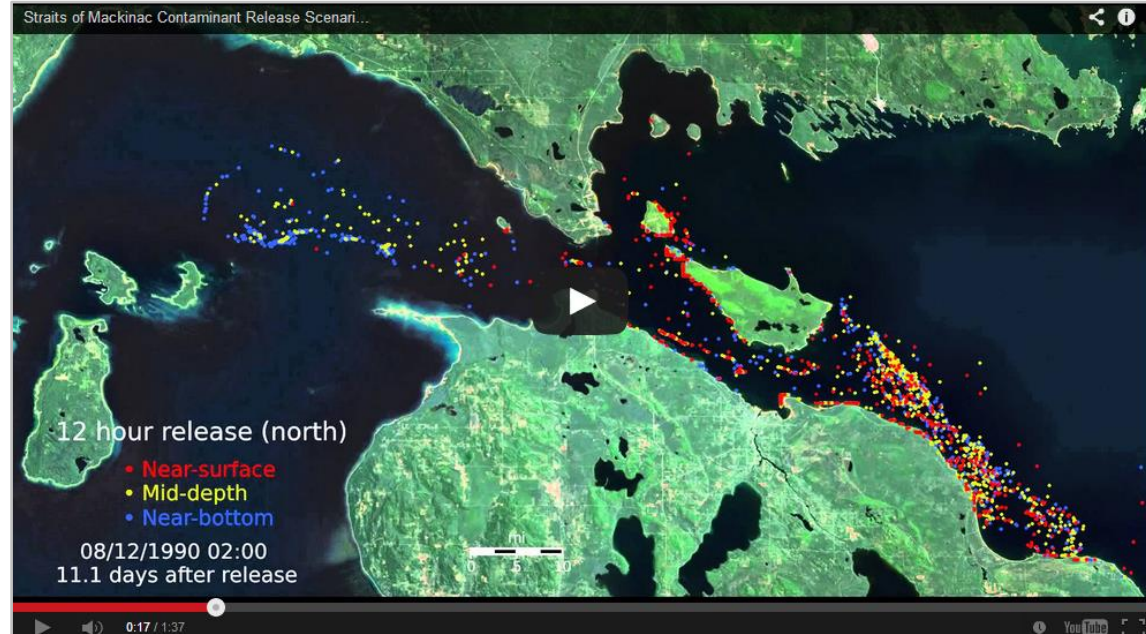
- NWF’s Sunken Hazard, 2012



A SPILL IN THE STRAITS: "WORSE POSSIBLE PLACE"

"If you were to pick the worst possible place for an oil spill in the Great Lakes, this would be it"

- David Schwab, Ph.D.,
research scientist at the
University of Michigan Water
Center



CURRENTS 10X MORE POWERFUL THAN NIAGARA



INADEQUATE EMERGENCY RESPONSE FOR STRAITS PIPELINES

U.S. Coast Guard Commandant testified before Congress the he is “not comfortable” with agency’s preparedness for worst-case spill in the Great Lakes.

POTENTIAL EASEMENT VIOLATIONS AND ENGINEERING CONCERNS

- 1. Insurance Requirement (Section J):** “all damage or losses caused to property (including property belonging to or held in trust by the State of Michigan)...”
 - “To date, Enbridge has not documented that it is in compliance with this requirement” (Task Force Report p. 46)
- 2. Anchoring Requirement: (Section A (10)):** “The maximum span or length of pipe unsupported shall not exceed seventy-five (75) feet.”
 - Enbridge admitted to violation; 122 anchors (?); need 300 total?
- 3. Curvature Requirement: (Section A (4)):** The minimum curvature of any section of pipe shall be no less than two thousand and fifty (2,050) feet radius.”
 - Stress, corrosive environment, marine life place pipeline at risk.
- 4. Pressure Requirement: (Section F):** “The maximum operating pressure of either of said pipe lines shall not exceed six hundred (600) pounds per square inch gauge.”
 - Telescoped pipeline overpressure risk with addition of 12 pump stations.

POTENTIAL EASEMENT VIOLATIONS AND ENGINEERING CONCERNS

5. **Pipeline Coating Requirement (Section A (9)):** “All pipe shall be protected by asphalt primer coat, by inner wrap and outer wrap composed of glass fiber fabric material, and one inch by four inch (1” x 4”) slats, prior to installation.”
 - Coating integrity critical to pipeline longevity
6. **Internal and External Corrosion:**
 - Limitations of inline inspection tools (e.g., Santa Barbara Spill example – “extremely unlikely” & state-of-the-art monitoring/leak detection)
 - Conflicting Evidence: “No observed corrosion growth” Cf. “Shallow corrosion features were found at ILI tool called area.”
 - Invasive Species cause external corrosion & additional weight never contemplated
 - **PHMSA 2015 Data: 70% of pipeline failures nationwide are caused by corrosion, material and/or weld failure or incorrect operation.**

FLOW EXPERT REPORT & RECOMMENDATIONS

Failed Coal Tar Coating

- influenced Task Force Report, revealing questions on risk, worst-case scenarios, alternatives analysis, and corrosion issues related to welding, coating, and invasive mussels.

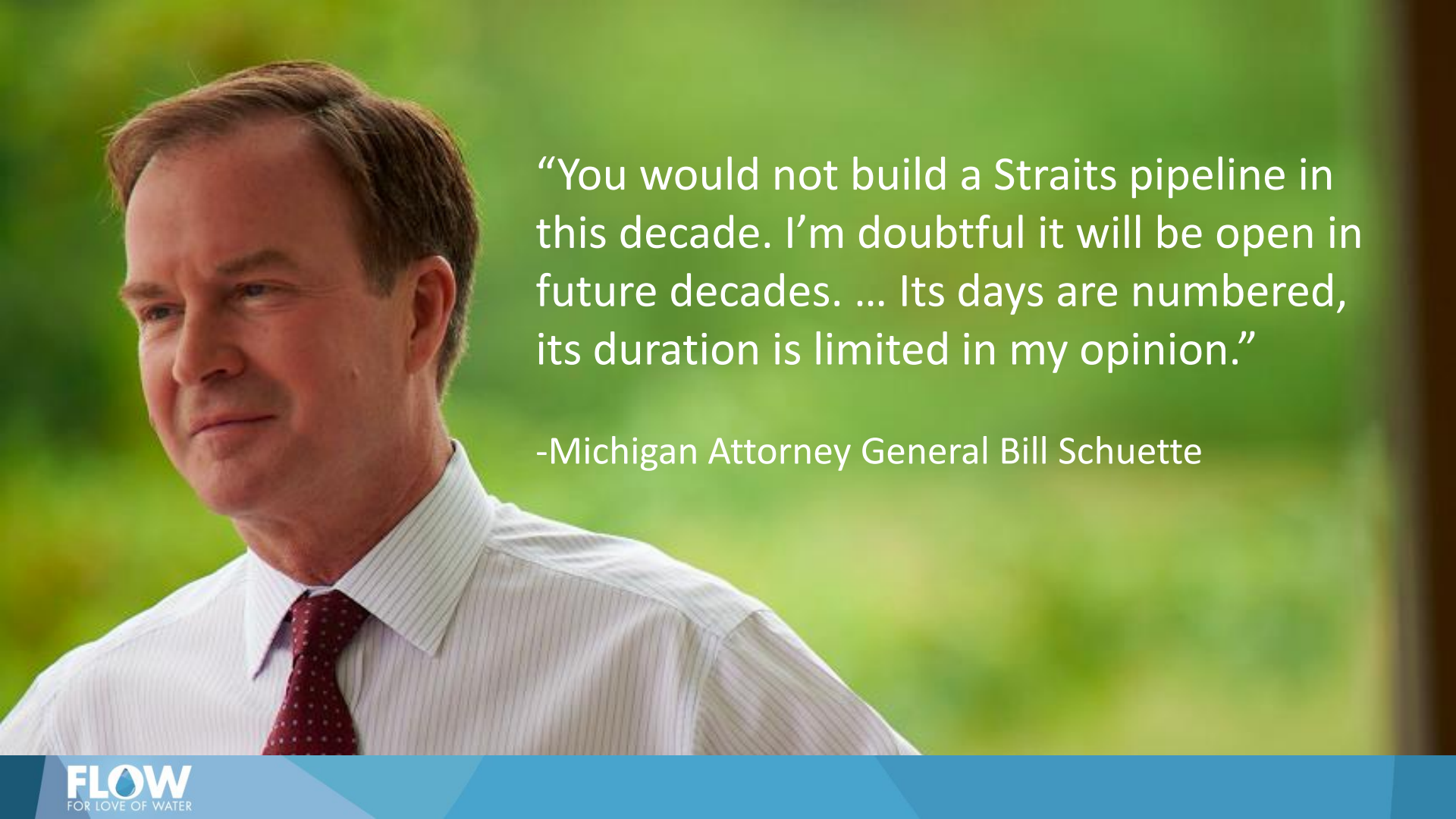


TASK FORCE'S SPECIFIC RECOMMENDATIONS REGARDING THE STRAITS PIPELINES

Michigan Petroleum Pipeline Task Force Report



1. Prevent the transportation of heavy crude oil through the Straits Pipelines.
2. Require an independent risk analysis and adequate financial assurance for the Straits Pipelines.
3. Require an independent analysis of alternatives to the existing Straits Pipelines.
4. Obtain additional information from Enbridge relating to the Straits Pipelines.

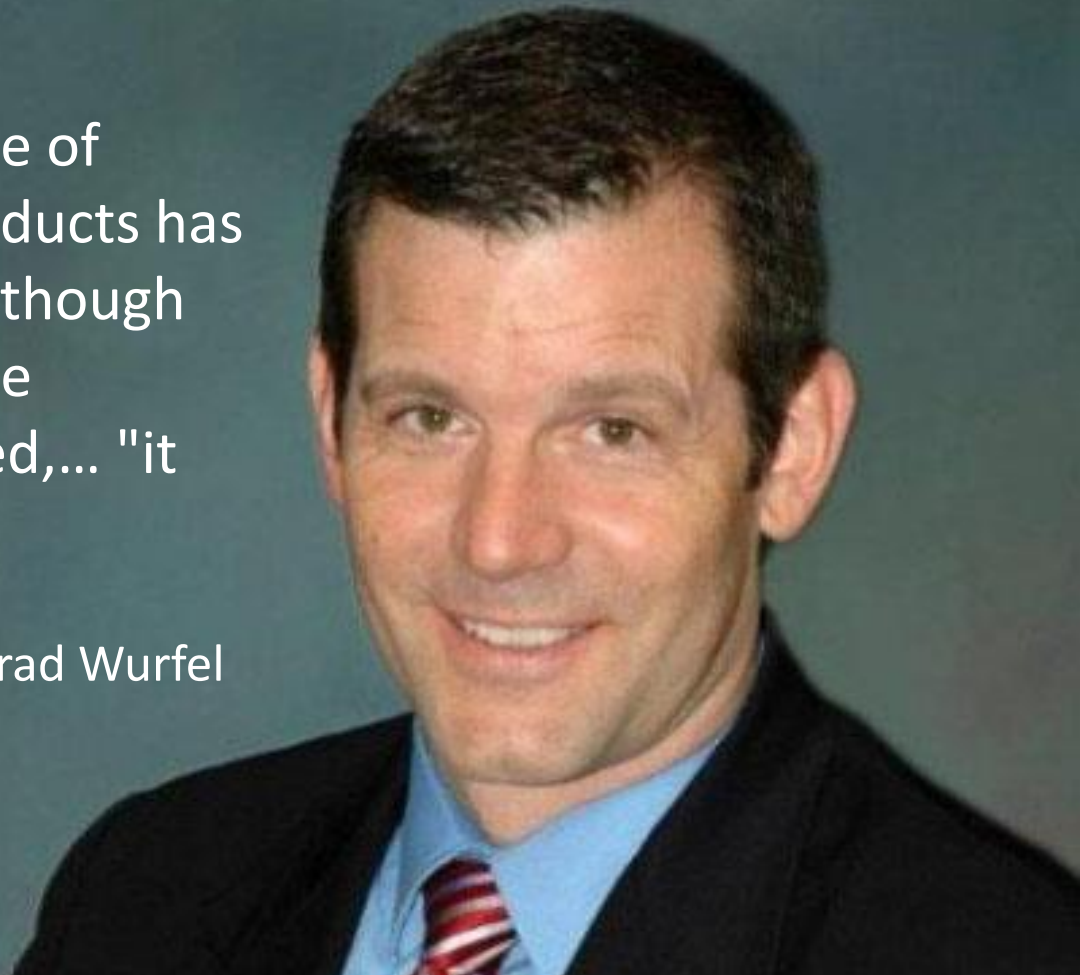


“You would not build a Straits pipeline in this decade. I’m doubtful it will be open in future decades. ... Its days are numbered, its duration is limited in my opinion.”

-Michigan Attorney General Bill Schuette

"At end of the day, any mode of transport for petroleum products has some measure of risk," ... Although the attorney general says the pipeline's days are numbered,... "it could be a huge number."

-DEQ Communications Director Brad Wurfel



LEGAL FRAMEWORK FOR ACTION

1. **Public Trust Common Law:** affirmative duty of trustee to protect public trust waters and resources.
2. **Act 10 & 1953 Easement:** authorized utility easements subject to PT
3. **Great Lakes Submerged Lands Act (GLSLA) (1955):** process to use PT waters
4. **Michigan Environmental Protection Act (MEPA) (1970):** duty to prevent or minimize environmental degradation and to consider likely effects and alternatives on units of government, no likely pollution or impairment.
5. **Act 16 (1929), MCL 484.3:** Intrastate portion of oil pipelines, approval based on “necessity,” “public convenience,” MEPA triggered

IMMINENT HARM, IMMEDIATE ACTION

“...the existence of a condition relating of hazardous material that presents a substantial likelihood that death, serious illness, severe personal injury, or a substantial endangerment to health, property, or the environment may occur before the reasonably foreseeable completion date of a formal proceeding begun to risk of that death, illness, injury, or endangerment.” 49 USC Sec. 5102 (Title 49, Transportation, Subtitle III, Chpt. 51).

FLOW REPORT SPECIFIC ACTIONS

Engaging the Public and the State to Protect the Public Trust

1. Immediate elimination of oil transport under Straits segment pending completion of alternative assessment, worst-case assessment, to reduce or lower from “Tier 1” high level of risk of high magnitude of harm.
2. Immediate convening and completion of independent alternatives assessment by experts – National Academy of Science, state?
3. State enforcement of easement provisions, MEPA, and Public Trust.
4. Full review of MPSC’s lack of documented review of effects and alternative of incremental expansion of Line 5 and 6B.

CREATION OF PIPELINE SAFETY ADVISORY BOARD VIA EXECUTIVE ORDER

- 15-person Advisory Board
- Charge to implement the Task Force Report Recommendations, including state policies and procedures on pipeline safety, siting, emergency response, increased transparency
- First meeting held October 28, 2015
- NOTE: State of Michigan has independent legal authority and duty to enforce 1953 Easement to protect Great Lakes.



PROPOSED 2015 PIPELINE IMPROVEMENT AND PREVENTING SPILLS ACT

1. Creates a ban on shipping crude oil on Great Lakes by vessel
2. Mandates a risk analysis water crossing study for Great Lakes pipelines
3. Great Lakes listed as High Consequence Areas (HCA)
4. Pipeline Information & Spill Response





THANK YOU

For more information, please contact:

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FLOW

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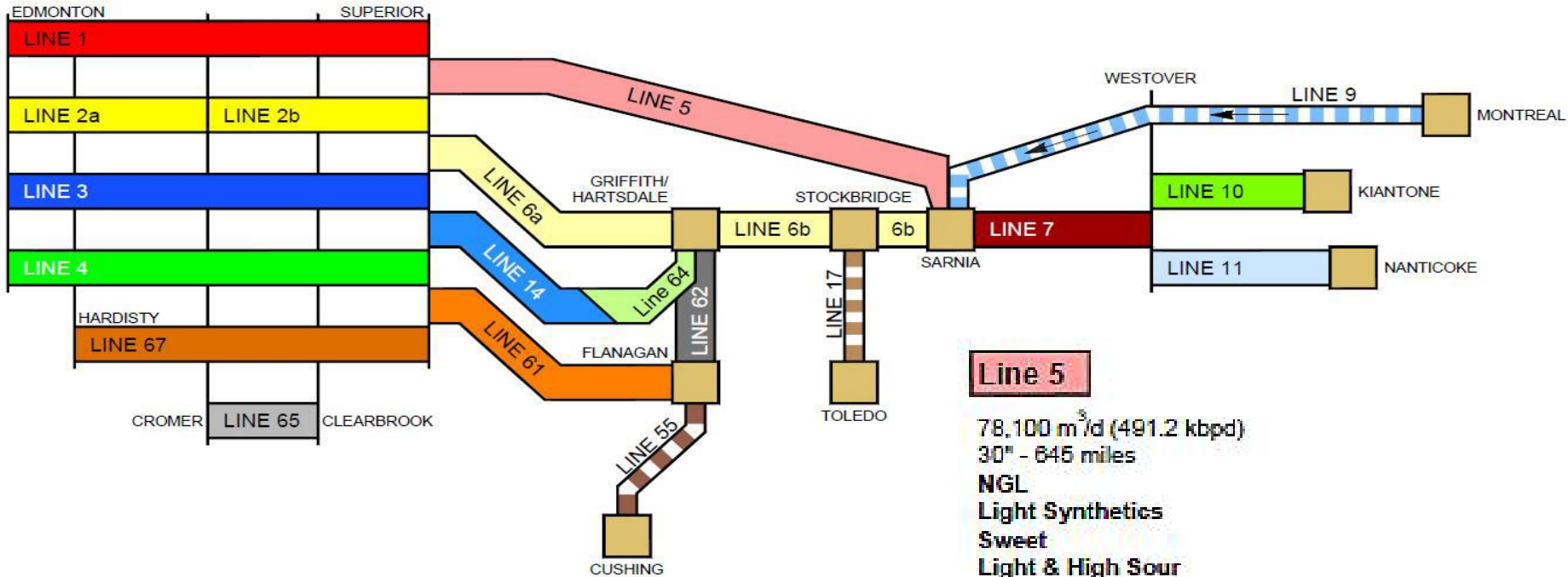
231.944.1568

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WHAT DOES LINE 5 TRANSPORT?

Pipeline System Configuration

Quarter 1, 2013



MI PETROLEUM PIPELINE TASK FORCE

- July 2014: AG Schuette and DEQ Director Wyant convened interagency Task Force
- Included: AG, DEQ, DNR, Public Service Commission, State Police, Department of Transportation with support from Work Groups comprised of agency staff.
- Go: gather and review information about major petroleum transportation pipelines in Michigan and recommend actions to be taken by the State to protect public health and the environment from risks presented.
- Particular focus on the Straits Pipeline, but also considered statewide pipeline issues.
- Gathered input from a variety of sources and stakeholders.