

A photograph of the Mackinac Bridge, a suspension bridge with two large towers, spanning across a body of water. The sky is filled with soft, colorful clouds, suggesting a sunrise or sunset. The bridge's structure is silhouetted against the bright sky.

Mackinac Bridge Authority Straits Tunnel Proposal

Keith Creagh, Director, Michigan Department of Natural Resources

Dr. Michael Mooney, state technical expert

Valerie Brader, attorney for the administration

Enbridge Oil Spill

- Line 6B spill in Marshall, Michigan
- 21,000 barrels of heavy crude oil spill in a tributary of the Kalamazoo River
- Clean up costs more than \$1 billion
- Increased attention on potential ecological and economic damage that could result from Line 5 failure in the Straits of Mackinac



Increased Focus on Pipelines

Michigan Petroleum Pipeline Safety Task Force recommendations:

- Prohibit heavy crude oil from moving through the Straits pipeline
- Independent risk analysis, adequate financial insurance
- Independent alternatives analysis
- Additional information from Enbridge

Increased Focus on Pipelines

Task Force recommendations:

- Mapping of existing pipelines
- Emergency planning and spill response collaboration
- Emergency response training and drills
- Regular consultation with PHMSA
- Legislation on spill response plans, spill reporting, civil fines
- Evaluate hazardous state liquid pipelines safety program
- Legislation or rule making for siting future pipelines
- Create an advisory committee on pipeline safety
- Create a petroleum pipelines information website

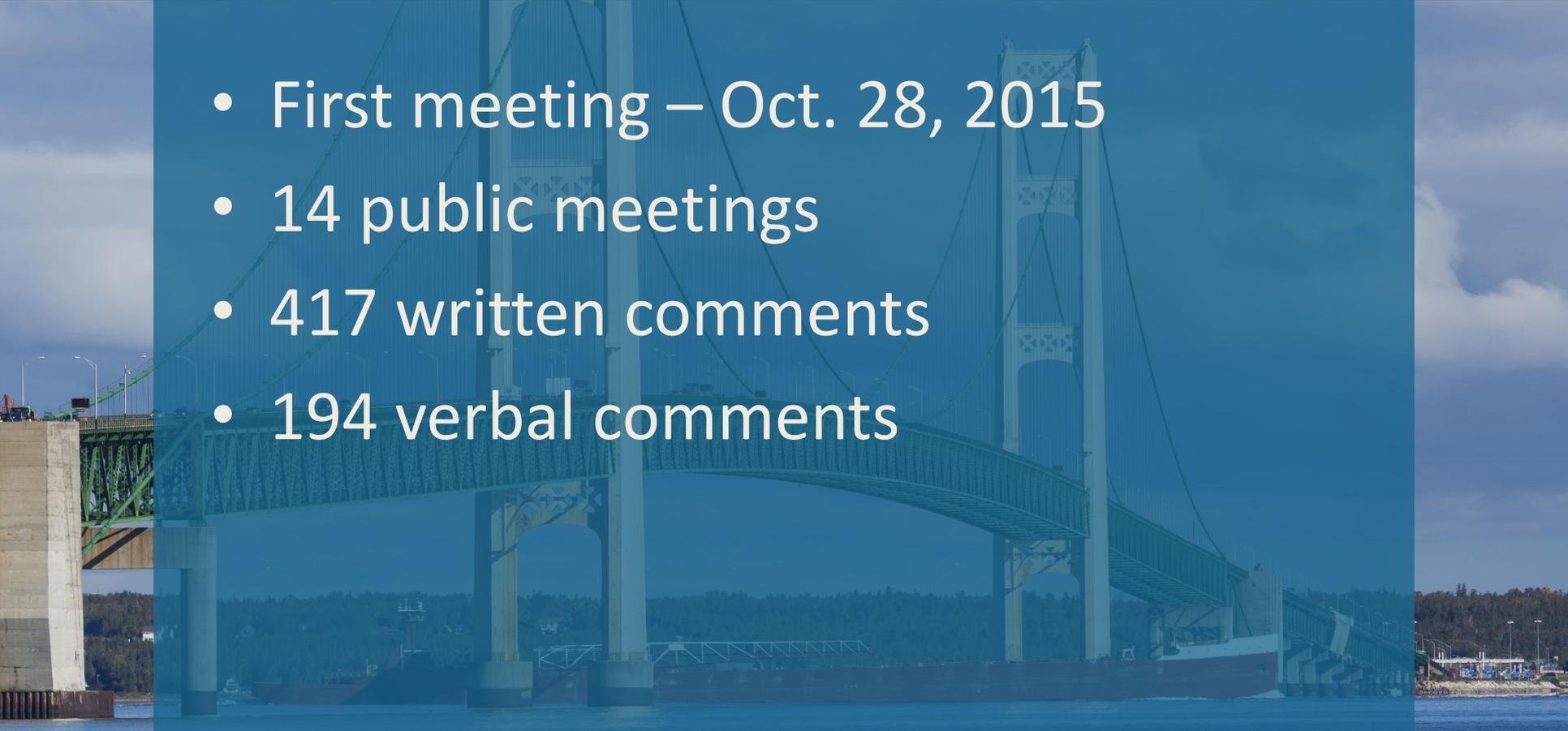
Creation of the Pipeline Safety Advisory Board

Charged with:

- Recommendations for implementation of the Michigan Petroleum Pipeline Task Force Report
- Identifying best practice in pipeline safety and siting across the United States
- Recommendations on pipeline emergency response and planning
- Recommendations on state policies and procedures regarding pipeline siting
- Reviewing information submitted to the state in response to the Michigan Petroleum Pipeline Task Force Report.
- Recommendations to increase transparency and public engagement on pipelines

PSAB Public Engagement

- First meeting – Oct. 28, 2015
- 14 public meetings
- 417 written comments
- 194 verbal comments



Independent Reports

- Independent Alternatives Analysis for the Straits Pipeline
- Independent Risk Analysis for the Straits Pipeline
- Seven public feedback sessions regarding Alternatives and Risk analyses

Key Developments

Enforcement of terms of 1953 easement related to:

- Gaps in protective coating on the pipeline
- Pipeline support anchors

Key Developments

- June 2017 – hydrotest in June 2016, monitored by state experts; positive result
- August 2017 -- gaps discovered in coating of Line 5, at least one dinner-plate sized; cathodic protection still operating.

First Agreement

- November 2017
- Demands specific actions of Enbridge with hard deadlines
- Immediate safety improvements
- Increased transparency, oversight for Line 5
- Contemplates second agreement

Feasibility Analysis

- Could you build a tunnel providing secondary containment?
- Dr. Michael Mooney, head of Colorado School of Mines underground construction department, hired as a part-time state employee
- Result: tunnel a feasible alternative

Anchor Strike

- April 2018
- ATC transmission circuit severed, dielectric fluid spilled
- Damage to abandoned Consumers Energy lines
- Small dents to Line 5
- DNR issues emergency “no anchor” rule

Second Agreement

- Oct. 3, 2018
- Further Protects Line 5 across Michigan through increased stewardship
- Requires accelerated actions at 13 sensitive Line 5 water crossings other than the Straits, with future actions at 68 other crossings

Second Agreement

- Requires \$1.8 billion financial assurance by Enbridge in event of a spill
- Pipeline shutdown at 8' waves for one hour
- Staff available 24 hours a day to be onsite within 15 minutes at 6.5' waves
- New radar system to monitor wave height

Second Agreement

- Improved communication
- Cameras for USCG to monitor ships
- New USCG-established “no anchor zone”

Second Agreement

Multi-use utility tunnel

- Maintains critical connections to provide needed energy
- Nearly eliminates risk of oil leak in the Straits
- Allows multiple utilities to be housed and protected

Second Agreement

Multi-use utility tunnel

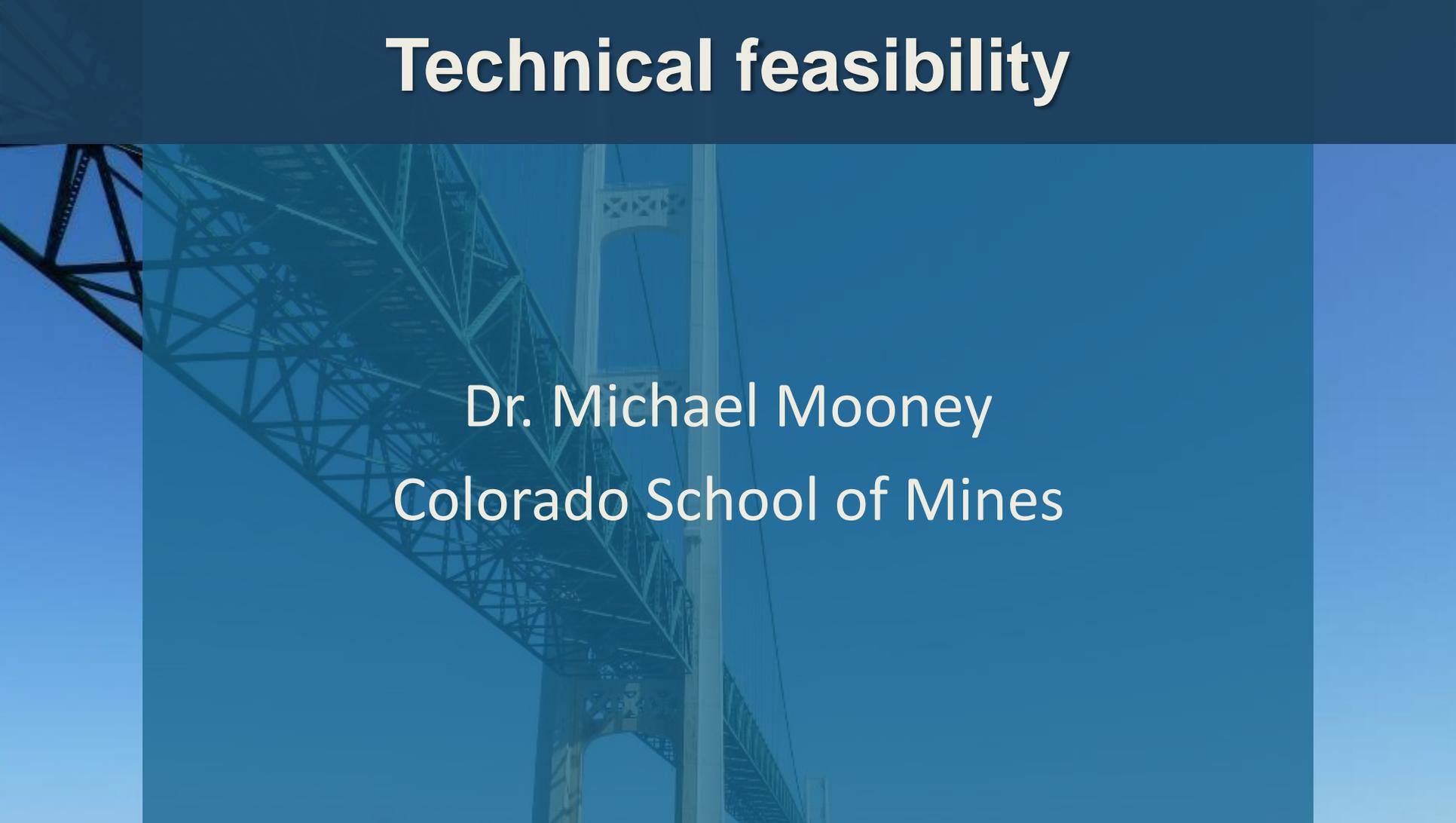
- Supports economic development
- Enbridge will invest an estimated \$350 to \$500 million
- Design, construction, operation and maintenance 100% funded by Enbridge

Second Agreement

Multi-use utility tunnel

- Other infrastructure owners' lease payments will offset operations and maintenance expenses
- Project would take 7-10 years to complete

Technical feasibility



Dr. Michael Mooney
Colorado School of Mines

1953 Easement

- Granted by Department of Conservation to Lakeland Pipe Line Company and its successors
- No termination date
- Deactivation



Role of the MBA

- Construction of tunnel decided in October 2018 agreement
- MBA asked to oversee the tunnel on behalf of the people of the state

Why the MBA?

- Decades of experience and expertise managing the Mackinac Bridge
- Solid record of success and bipartisan action
- Would own and oversee tunnel operation; Enbridge would lease space

Potential MBA, Enbridge Agreement

- Seeking MBA feedback on possible terms to further shape the agreement based on comments
- Draft outline of terms sent to members reflects current thinking on structure, etc., for discussion

Potential MBA, Enbridge Agreement

Principles reflected in draft:

- Bridge revenues protected
- Enbridge would pay for construction, operation and maintenance with clear milestones, visibility for MBA
- Enbridge would own tunnel from construction to completion and indemnify MBA
- MBA not required to accept tunnel if tunnel fails to meet agreed-upon technical specs

Potential MBA, Enbridge Agreement

- Upon completion and acceptance, MBA would give Enbridge a 99-year lease to operate a pipeline in the tunnel
- Enbridge lease paid for by performing operation and maintenance
- Third parties can lease space; their lease revenues offset operation and maintenance
- MBA would help secure permits, provide use of state lands, joint defense

Potential MBA, Enbridge Agreement

- Enbridge would be responsible for decommissioning
- MBA would have no liability or responsibility for pipeline operation
- Third parties would be responsible for operation of their own infrastructure

Potential MBA, Enbridge Agreement

- Indemnity would survive termination for impossibility, etc.
- If Enbridge causes termination, the company reimburses MBA for any staff time, etc.
- If MBA causes termination, Enbridge keeps the tunnel and right to construct, operate

Anticipated Third Agreement with State

- End date on use of dual pipelines in Straits: Dec. 31, 2028
 - Date can be extended based on permitting, litigation delays for tunnel construction
- Clear plans to remedy current known conditions (coatings)
- Increased inspection regime, visibility

A wide-angle photograph of a suspension bridge, likely the Bix Creek Creek Bridge, spanning a body of water. The bridge features two tall, brown, lattice-structured towers. The sky is filled with soft, colorful clouds in shades of blue, orange, and pink, suggesting a sunset or sunrise. A semi-transparent blue horizontal band is overlaid across the middle of the image, containing the text "Thank you. Questions?" in a white, sans-serif font. The water in the foreground is dark blue with some whitecaps.

Thank you. Questions?