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ATC Project Update - Michigan

U.P. Energy Summit

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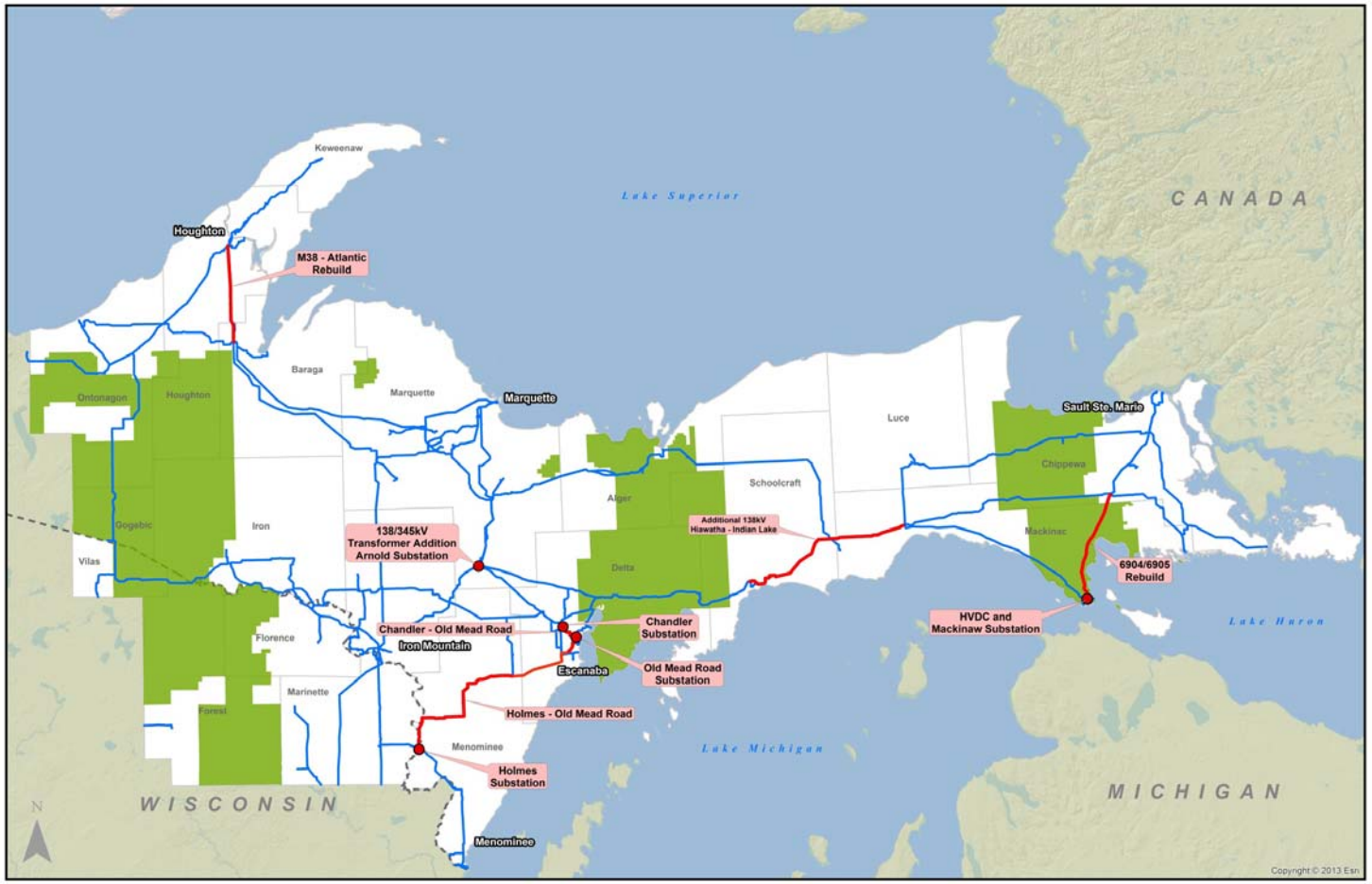
Project Updates

- Michigan projects:
  - HVDC Flow-Control
  - Straits – Pine River Rebuild
  - Chandler – Old Mead Road
  - Arnold Substation Expansion
  - Atlantic – M38 Rebuild
  - Holmes – Old Mead Road
- Wisconsin projects:
  - North Appleton – Morgan (new 345-kV and 138-kV transmission lines and related transmission line and substation upgrades)
  - Static var compensator

Project Map



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HVDC Flow-Control

- Installation of high-voltage, direct-current (HVDC) flow control device and related substation equipment
- Necessary to manage excessive system flows
- MISO Board approval conferred June 2011
- Construction started Q2 2012
- Targeted in-service date of July 2014
- Estimated at ~$128 million

Straits-Pine River

- 25 mile rebuild of 69-kV double circuit transmission between Straits and Pine River
- Enhances reliability and increases capacity
- Reduces system losses and overall cost of operation
- Increases maintenance opportunities
- Construction started Q3 of 2012
- Targeted in-service date of June 2014
- Estimated at ~$42 million

Chandler-Old Mead Road

- Construction of new 138/69-kV substation near the NewPage Paper Mill - Old Mead Road
- Construction of ~6 miles of new 138/69-kV transmission line between Chandler and Old Mead Road substations
- Route has been selected
- Easements have been obtained
- Construction started Q3 2013
- Targeted in-service date of Q3 2014
- Estimated at ~$24 million

Arnold Substation

- Addition of a new 345/138-kV transformer and related substation upgrades
- Provides additional source to Delta County
- Improves voltage profiles
- Increases operational flexibility
- Increases ability to schedule maintenance
- Requires HVDC to manage increased west - east flows
- Targeted in-service date of Q4 2014/Q2 2015
- Estimated at ~$19 million

Atlantic-M38

- Rebuild 22 miles of existing 69-kV line through Baraga and Houghton counties
- Existing line may experience overloads during maintenance outages or unplanned forced outages
- Engineering completed
- Land rights procured
- Construction started December 2012
- Targeted in-service date December 2013
- Estimated at ~$17 million

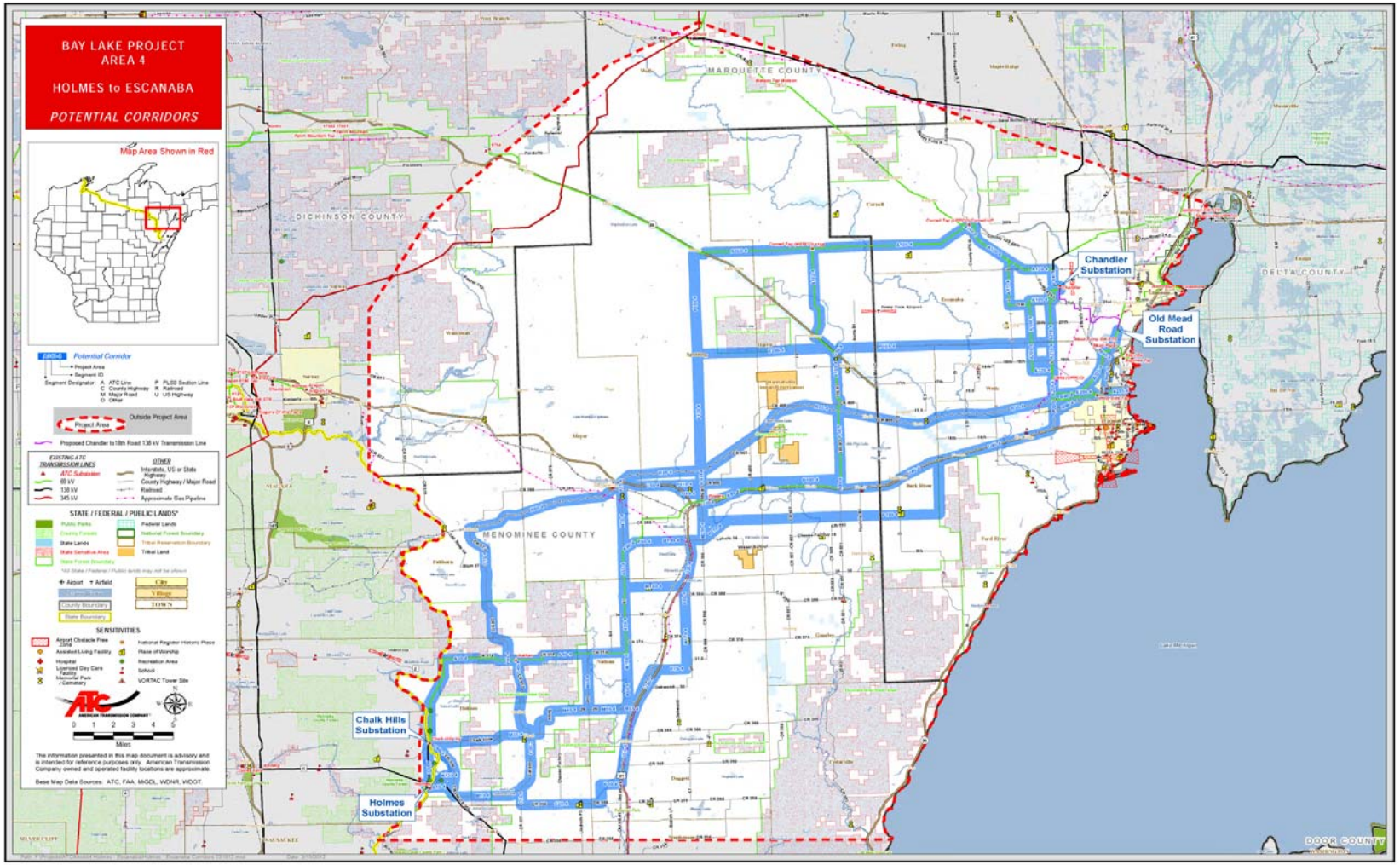
Holmes-Old Mead Road

- The need for HOMR is driven by multiple factors
  - Generation changes (unit retirements, unit conversions, reduced plant output, market dispatch of generators)
  - Addition of new loads and load growth
  - Maintenance outages are difficult to schedule without placing portions of the bulk energy system at risk
  - Existing generation may be affected by changing EPA rules with very short compliance deadlines
- Despite improvements that have been made, additional transmission capacity has been “used up” as soon as new assets are placed into service

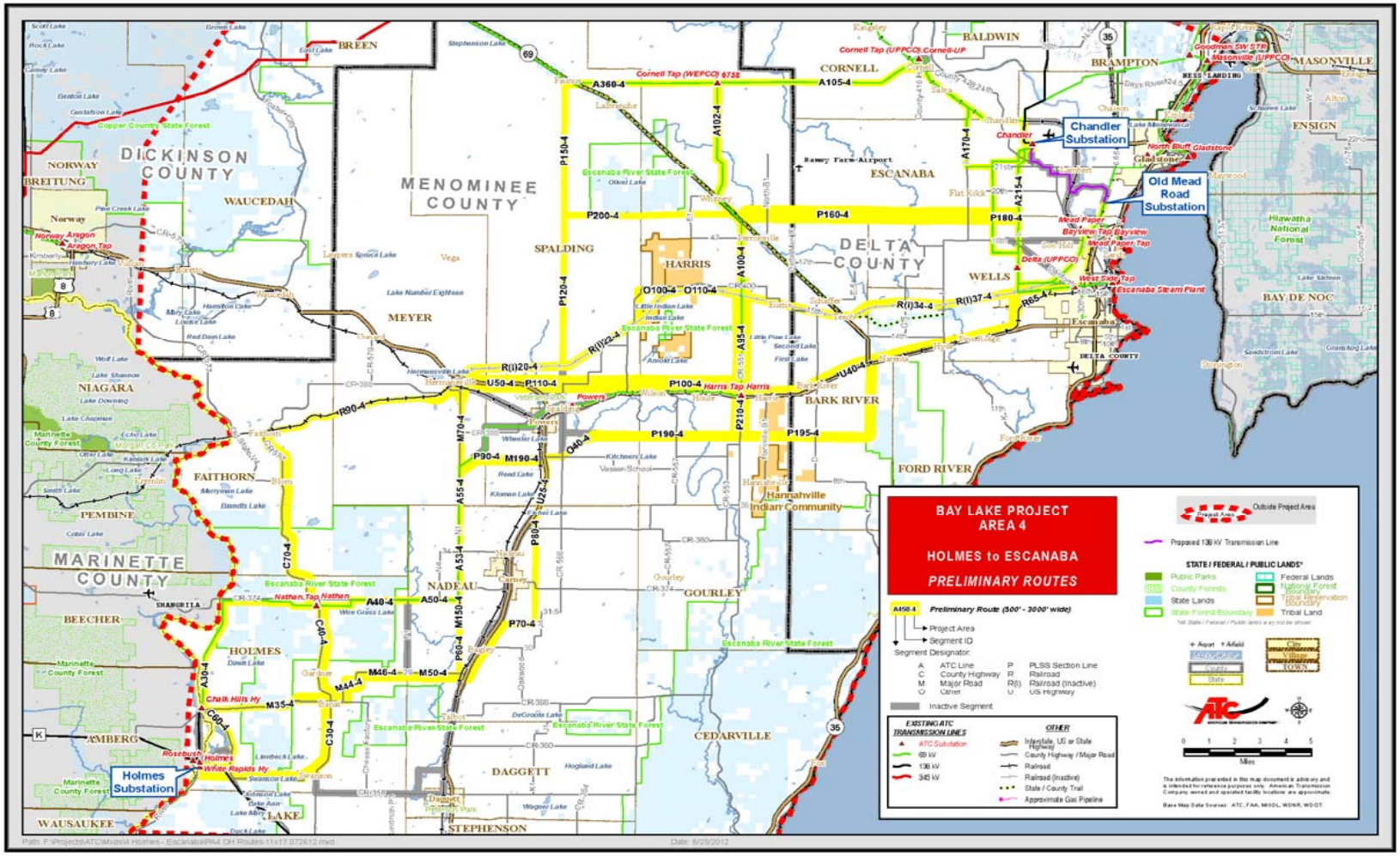
HOMR Update

- Approved by MISO under MTEP 2012
- Routing & siting completed
  - Proposed and alternate routes selected
- CPCN application finalized
  - Submission to MPSC planned for October 14
- MPSC has up to one year to act on application
- Construction to commence Q1 2015
- Targeted in-service date Q3 2016
- Estimated at ~$105-$132 million

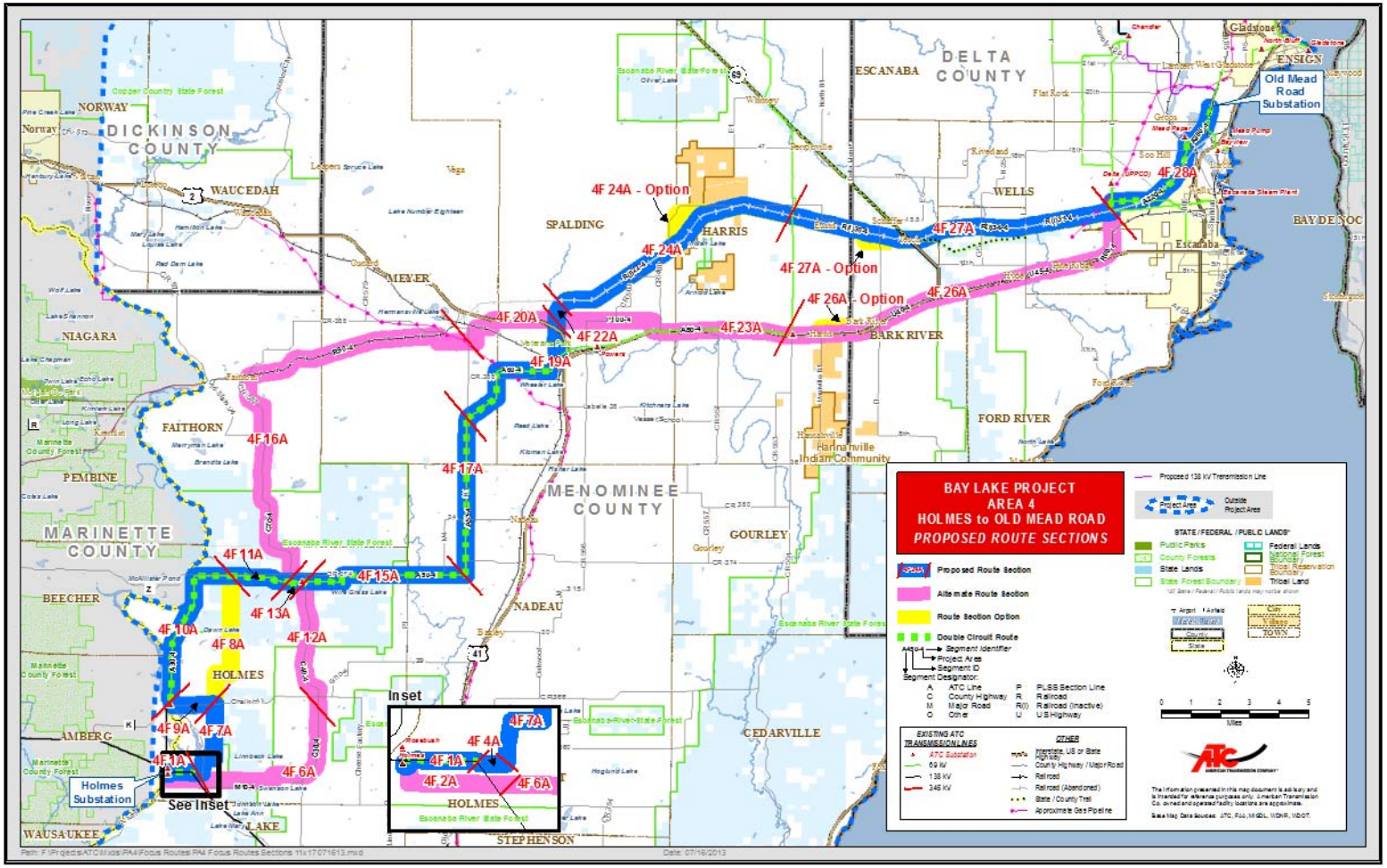
Potential Corridors (May 2012)



Preliminary Routes (October 2012)



Proposed and Alternative Routes



North Appleton-Morgan & Benson Lake SVC

- Approved by MISO under MTEP 2012
- New 345-kV and 138-kV transmission lines and related transmission line and substation upgrades
- Static var compensation at Benson Lake Substation
- Routing & siting completed August 2013
- CPCN application under development
  - Submission to PSCW planned for Q1 2014
- Construction to commence Q3 2015
- Targeted in-service date Q2 2017
- Estimated at ~$273-$409 million

Summary

- Additional transmission infrastructure is needed throughout the region to address:
  - Changes to generation and load
  - Risk of additional transmission outages
  - Reliability concerns
  - New EPA rules and regulations
  - Market changes/optimization
- ATC is committed to siting, designing, permitting and constructing transmission infrastructure to meet the current and future needs of the region

Contact information

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