



ATC Energy Collaborative – Michigan High Retirements #2 Future

Identification of Needs
Stakeholder Report
May 10, 2010



Overview

- Goals and Objectives
- Process & Timeline
- Methodology
- Identification of Needs
- Solution Screening
- Next Steps



Goals and Objectives

- Respond to Feedback From the Initial Collaborative Process in 2008/09
 - System Operations Experience
 - Stakeholder Questions
- Stretch the “Plausible Bounds” we used in the High Retirements
 - Mid to Mid Upper Loads
 - Very Low UP Generation



Process and Timeline

- January – Selected High Retirements as the best existing Future to modify
- February – Outreach to Stakeholders for Feedback in setting new Bounds
- March/April – Run Power-flow cases to find System “Needs”
- **May – Stakeholder Outreach to discuss “System Needs”**
- July – Potential Solutions



Needs Study Details High Retirements #2

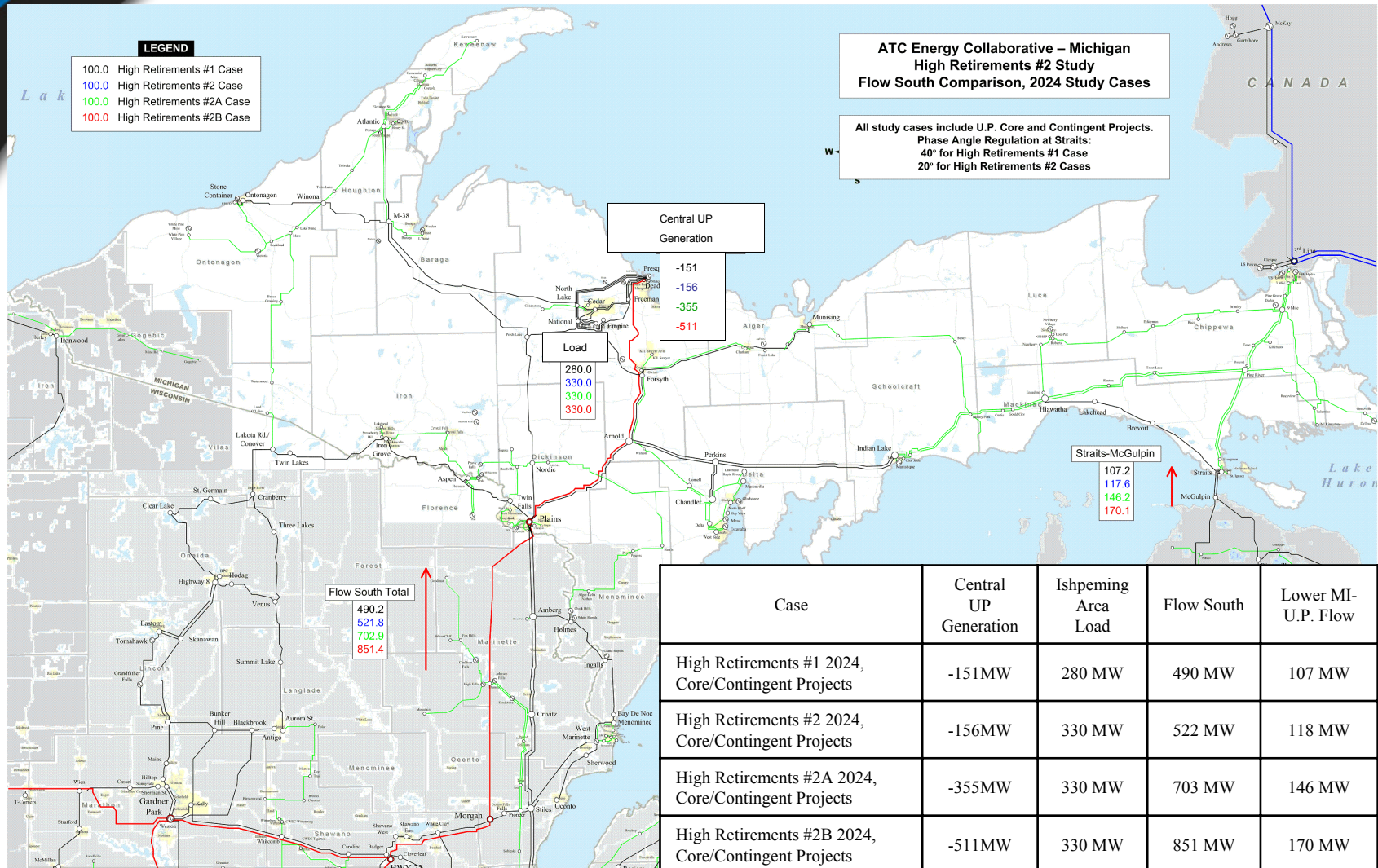
- What System Needs emerge if about 500MW of traditionally available UP Generation is not dispatched?
 - To get to that answer ATC created an Intermediate “Sensitivity” with about 350MW not dispatched.
- Load is assumed to be at levels seen within the last 15 years
 - Equivalent to 1 to 1 ½ % load growth
- 2024 Study Year

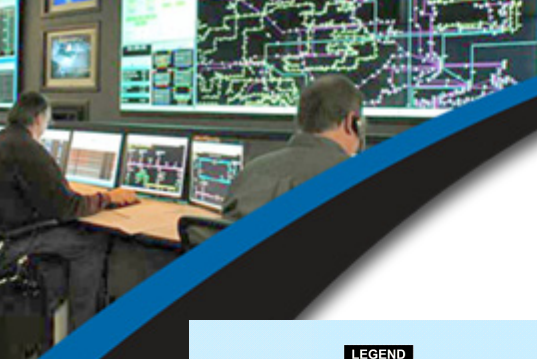


Needs Study Details

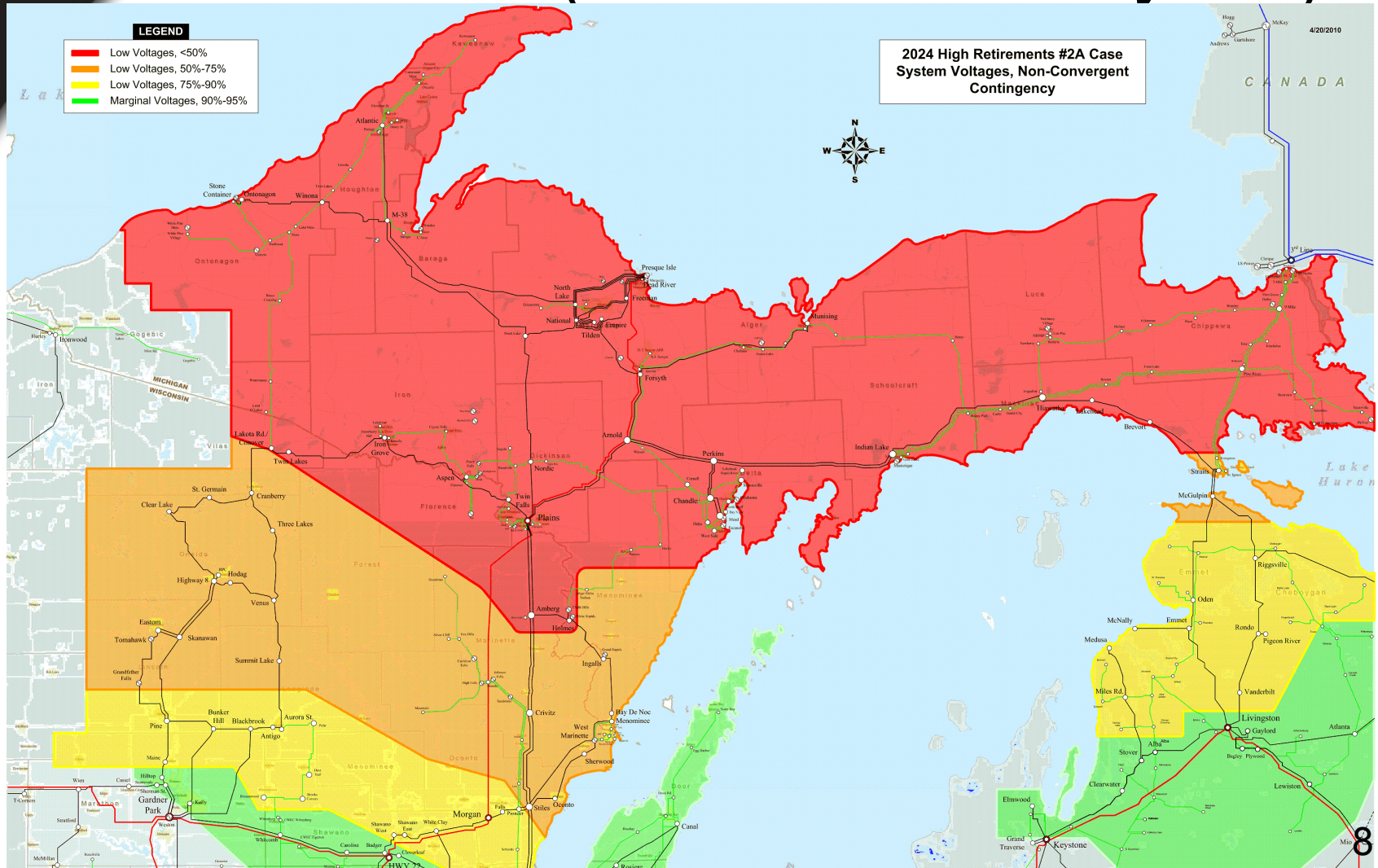
- Assumed “Core” Transmission Upgrades from the Collaborative are in service
 - Key assumption is “Flow Control” in the East UP
- Inserted 150 MVar of Synchronous Condensers when 500MW of UP Generation is not Dispatched
 - Needed to get the Power-Flow case to solve
- System Needs
 - MWs of System Line Flows
 - MVars Needed to Support System voltages

System Flows for High Retirements #2





System Voltages for High Retirements #2 (Intermediate Sensitivity Case)





Next Steps

- Review “Needs” with Stakeholders
- Solution Screening
 - Preliminary development within ATC
 - Transmission MW and MVar capabilities
 - Stakeholder involvement
 - Generation Solutions?
 - Synchronous Condenser Conversions?
 - Other Stakeholder Solution Ideas
- Determine if Solution Set Projects are Core or Contingent



Stakeholder Participation

- Please Contact
 - Brett French at bfrench@atcllc.com
 - Or (906) 779 7902
 - OR
 - Ken Copp at kcopp@atcllc.com
 - Or (262) 506 6890



Questions??

- Questions Today??