

Midwest ISO Generator Interconnection Queue Timelines and Costs

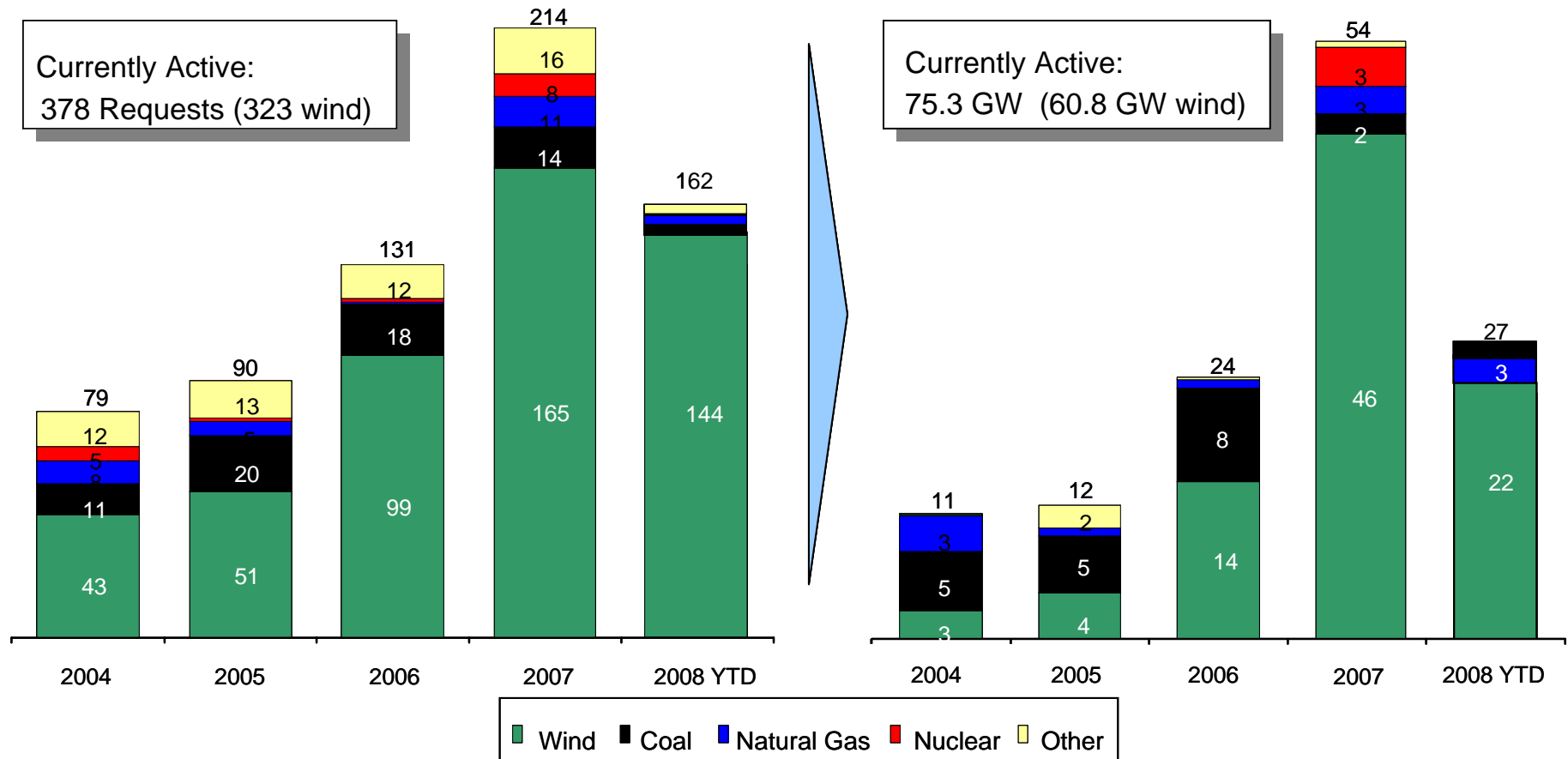
WERZ Board Meeting

January 5, 2009

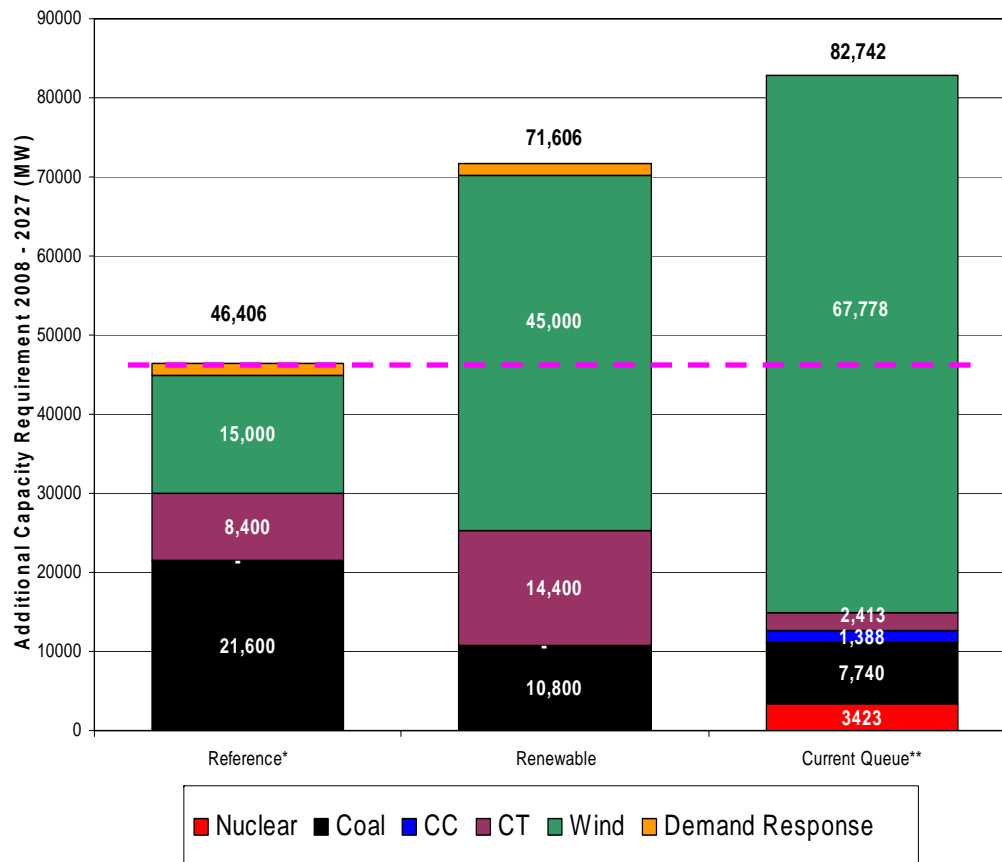
Transmission Queue Reform Magnitude of Issue – UPDATE

Number of Requests

Megawatts of Requests

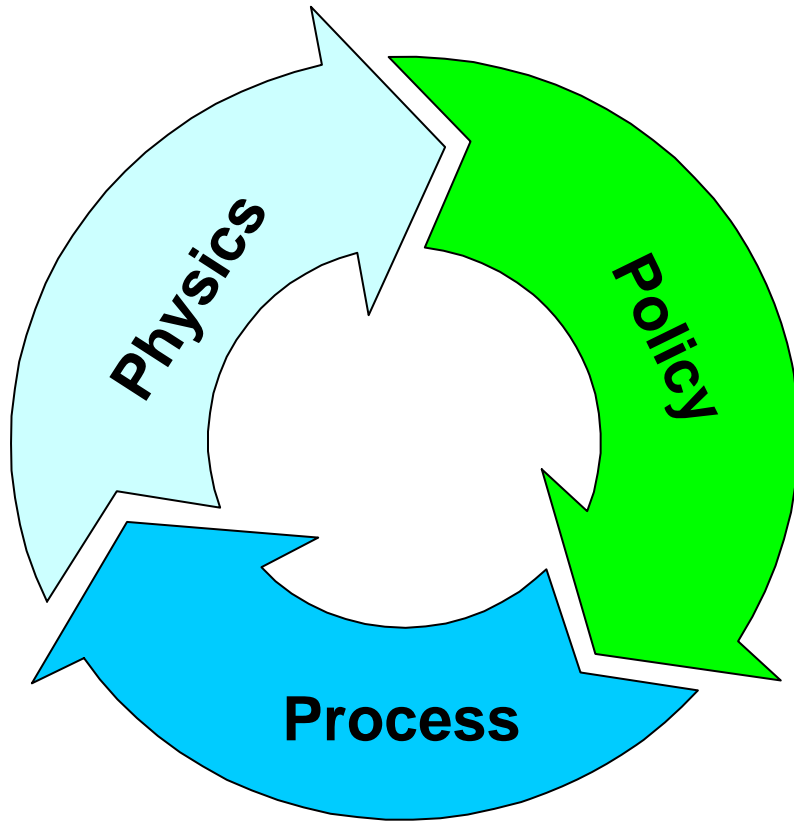


2008-2027 Future Generation Scenarios



- Midwest ISO long-term planning process models alternative scenarios of future generation needs
 - Scenarios support a transmission planning approach which attempts to maximize optionality of the transmission grid, given an uncertain future
 - Reference future models status quo, including renewable portfolio standards (RPS)*
 - Renewable future assumes 20% renewable mandate across Midwest ISO footprint
- Queued wind requests exceed current RPS* by more than 250% and a 20% footprint mandate by more than 55%

3 P's of Queue Reform

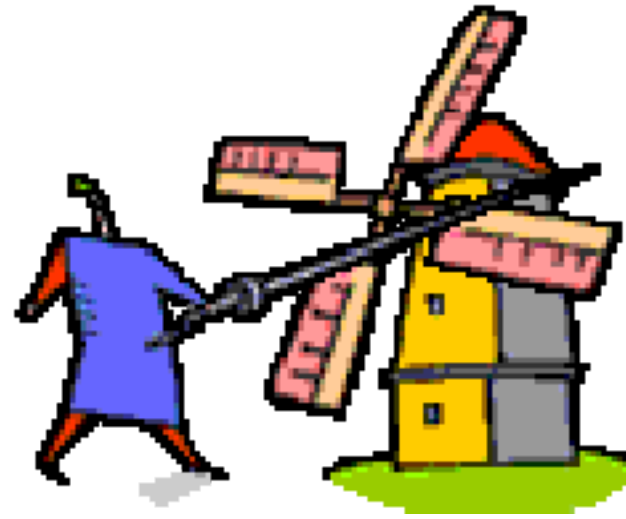


- Success in queue reform rests on addressing each of the 3 P's
 - Process: Filed to FERC proposed changes to generator interconnection process on June 26, 2008
 - Physics: Regional Generation Outlet Study is the first step in using alternative planning methods to identify network upgrades to support interconnection of large quantities of generation in remote areas
 - Policy: Opening dialogue on items such as cost sharing and recovery

Normalizing Expectations



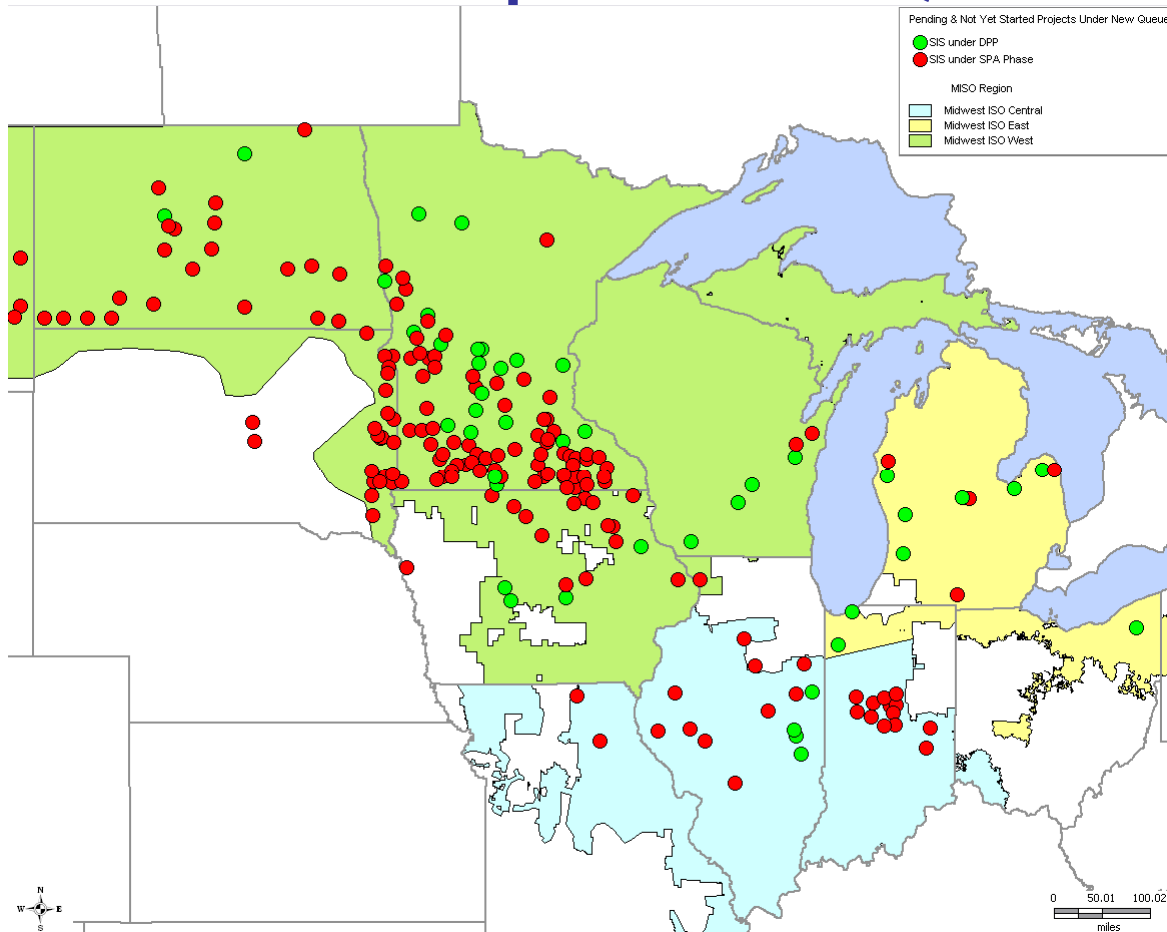
Desired Outcome



Undesired Outcome

Transmission Queue

Impact of Queue



At time of transition, 419 active projects totaling 83,914 MW were in the queue:

- 89 projects (21%) totaling 12,923 MW were eligible to remain under old process since they were at or near study completion
 - 15 of those totaling 1428 MW have subsequently executed an Interconnection agreement
- 100 projects (24%) totaling 10,574 MW were eligible for fast lane
 - 43 of those worth 3,078 MW have met requirements
 - Remainder must true up by mid February
- 228 projects (54%) totaling 60,177 MW are in the slower lane
 - 144 projects worth 35,847 MW have met requirements
 - Remaining projects received deficiency notice
- 2 projects totaling 240 MW withdrew from the queue; one project was slated for the fast lane and the other for the slow lane

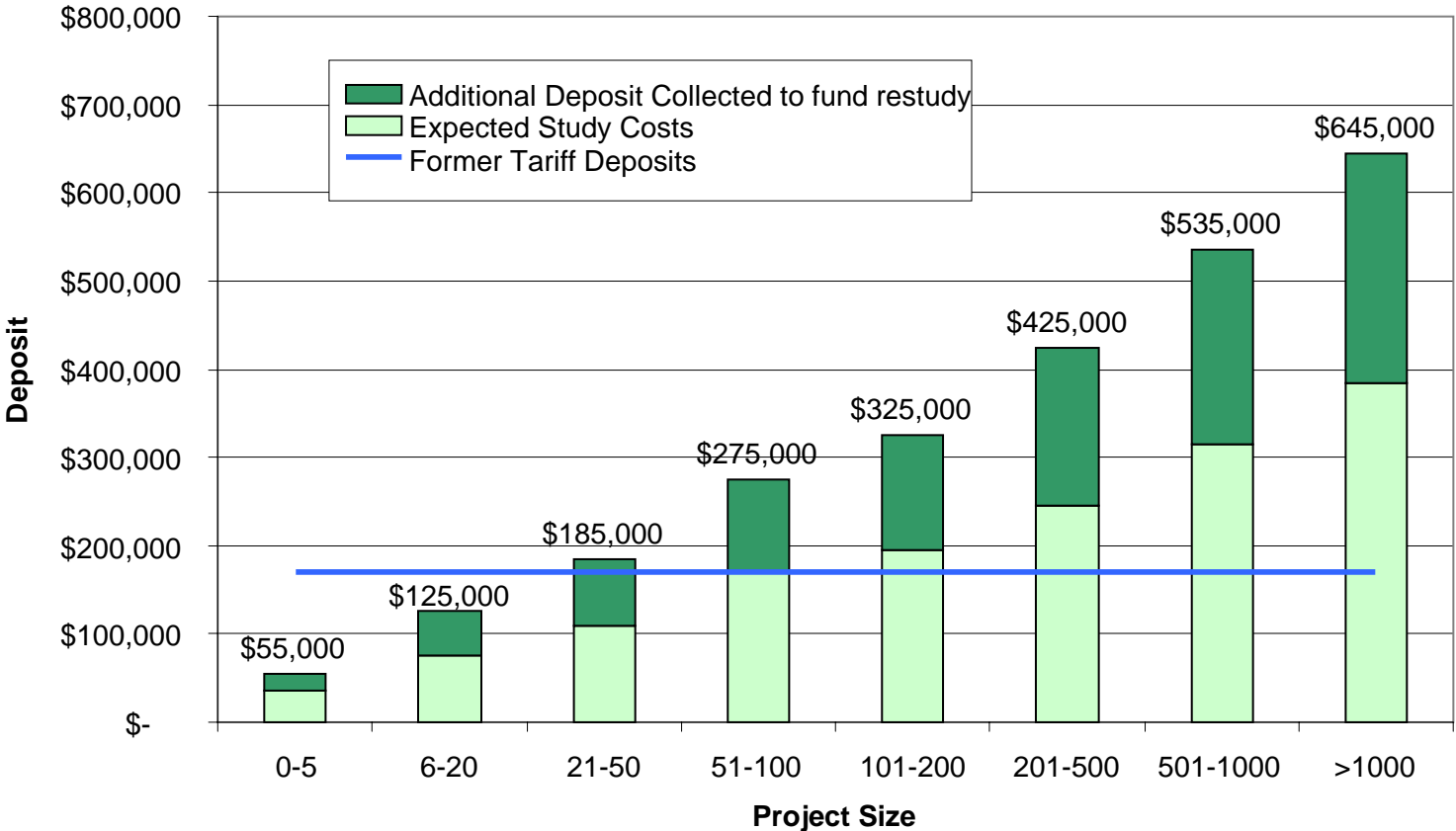
Generator Interconnection Process Schedule Impacts – Overview

Current (Calendar Days)		
Former Tariff	<i>Does not include restudy</i>	554
Fomer Tariff Average*	<i>Includes interim wait time, restudy</i>	884

- Alternative to current average would be tariff timeline, with multi-year wait for most projects before starting any study work (clear queue in 2263)
- Current average reflects primarily pre-2007 data; timelines are increasing as studies become more complex due to transmission constraints

Estimated Future** (Calendar Days)		
Faster Lane Theoretical Best Case	<i>No restudy; Unconstrained area Best-case scenario</i>	354
Faster Lane Reference Case	<i>No restudy; Unconstrained area</i>	435
Faster Lane Reference Case	<i>Includes restudy; Unconstrained area</i>	583
Slower Lane Reference Case	<i>Includes restudy; Constrained area</i>	888

Impacts on Budget—Study Costs

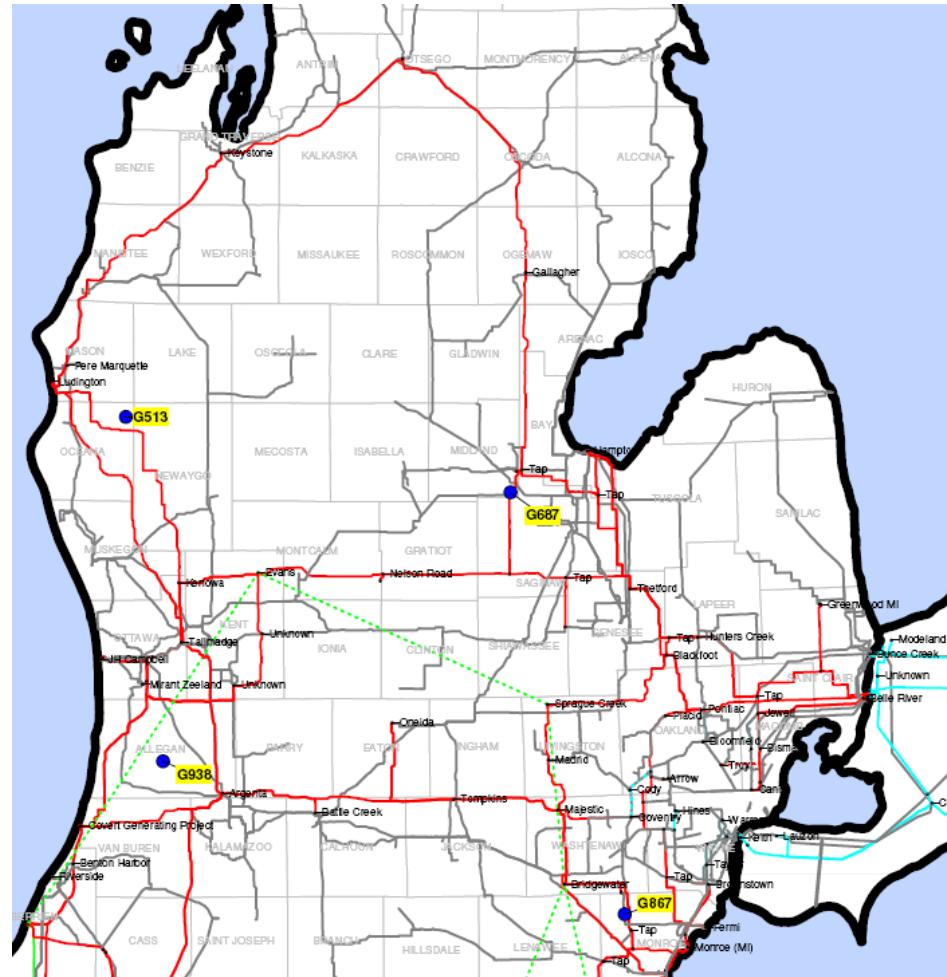


- These are the costs to get to the Interconnection Agreement
- Dark Green amounts refunded on COD



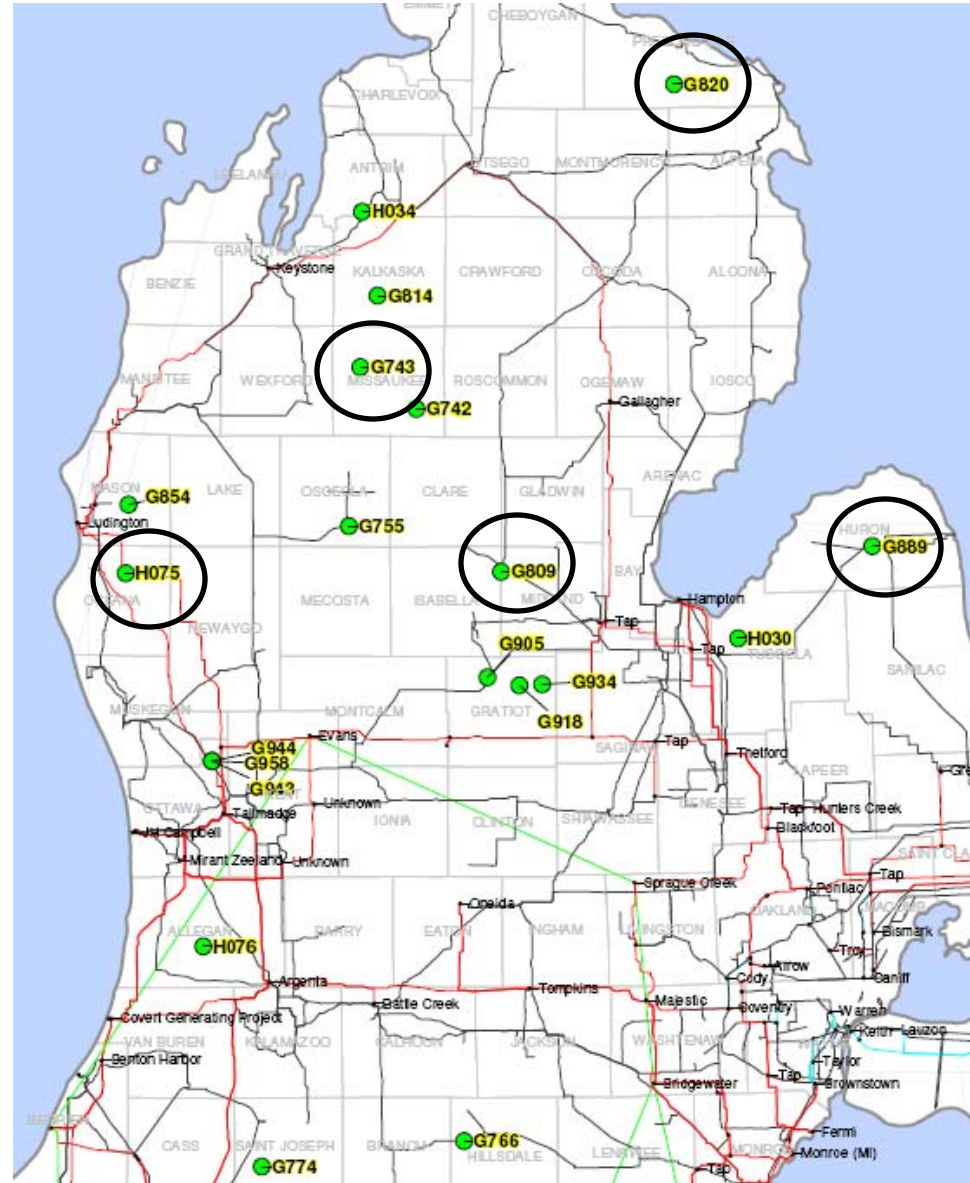
ITC Area Projects

- 4 projects are at a point where they didn't need to transition to the new process, rather finish from where they were



ITC Area Projects

- 20 projects are eligible for the DPP (or, “faster lane”)
- 5 projects sent in the milestones to proceed
- Remainder are parked, and have until about 2/15/09 to “true up” or get re-tested



ITC Area Projects

- 2 projects are eligible for the SPA
- Both projects are moving forward



Next Steps

- Create Tariff Language and Business Practices to incorporate regional upgrades into multiple interconnection agreements
 - Completely separate the queue process's reliance on incremental, minimal cost upgrades
 - Move to more cost efficient upgrades to enable more generation to come online at a lower overall cost
- Proceed through various planning studies to determine those regional upgrades
 - RGOS
 - Targeted planning studies
- More broad-based, regional plans will move more projects to the faster lane, and make connections easier

Appendix

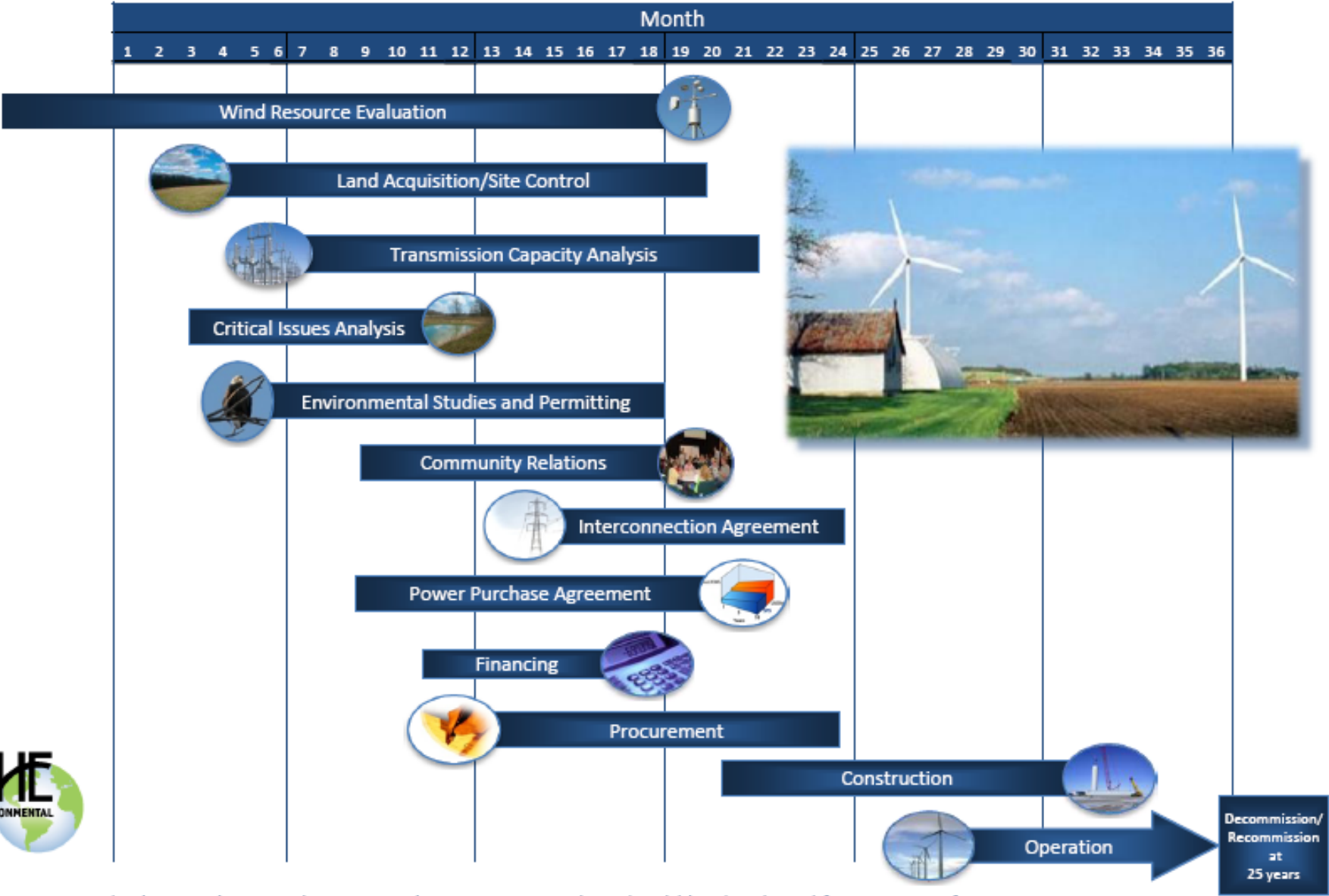
Generator Interconnection Queue Reforms (Process)

- Make Results of Feasibility Study Binding/Create Fast Lane
 - Change the current Feasibility Study process to a screen, which determines if a project can proceed to fast lane
 - Fast lane projects will proceed with reduced wait time to start study process with a shortened timeline
- Modify Study Deposit Levels and Timing
 - Increase study deposits to match expected study costs at various project sizes
 - Collect all study deposits up-front
 - Make study deposits partially non-refundable to fund potential restudies caused when a project withdraws from the queue

Generator Interconnection Queue Reforms (Process) cont.

- Introduce New or More Rigorous Milestones
 - Increase requirements for technical information during study process
 - Introduce non-technical milestones at start and midpoint of Definitive Planning Phase
 - Financial – such as security for estimated Network Upgrades
 - Non-financial – such as attaining necessary air, land, or water permits
- Reduce Flexibility Associated with Suspension
 - Only allow suspension for Force Majeure conditions
 - Move first Generator Interconnection Agreement milestone out six months
 - Require payment of Network Upgrade cost or \$5 million, whichever is greater, upon suspension

Example* Wind Project Development Timeline



* This timeline is only an example. An exact timeline should be developed for your specific project.

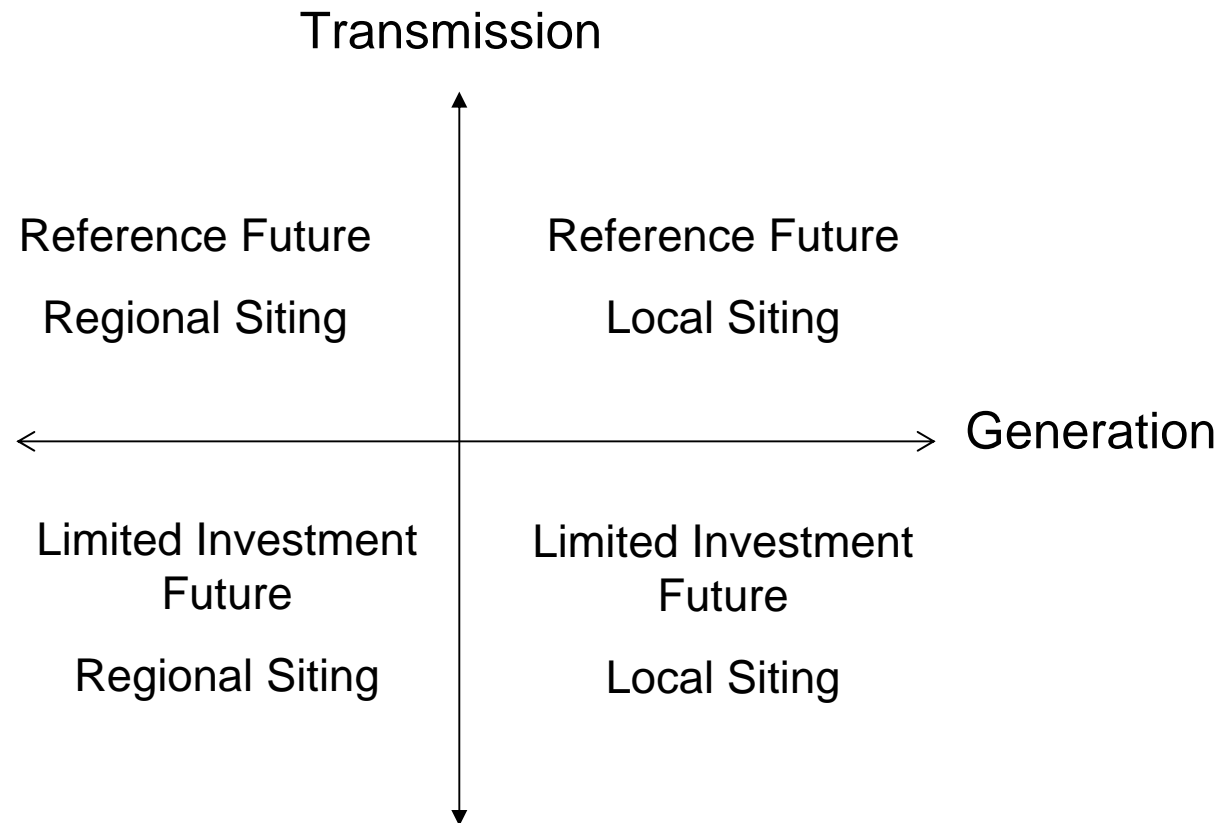
Regionally Planned Generator Interconnection Projects

- Goal is to increase integration with long-term planning process to allow more efficient generator interconnection
 - Determine the demand for the energy
 - Identify transmission upgrades to meet the demands
 - Allow projects in the queue to have access to the capacity
- Regional Generation Outlet Study to evaluate the transmission requirements
 - Determine distribution of wind sites across footprint to maximize ease of wind integration (Renewable Energy Zones)
 - Assess year-by-year aggregate wind mandates for all states in Midwest ISO, and associated renewable capacity requirements
 - Develop five year road map, informed by the queue and consistent with mandates, of transmission projects to interconnect wind generation
- Interconnection Process Task Force to evaluate necessary tariff changes to integrate with current queue process (e.g. identification and subscription methodology)

The Optimization Problem

- General Problem Statement for Transmission Studies
 - Minimize transmission and generation capital costs and minimize system energy costs while maintaining system reliability
- Problem solution subject to sometimes competing constraints:
 - Minimize investment risk (shorter payback horizon)
 - Maximize carbon reduction (replace coal production)
 - Maximize local economic development (install wind directly within RPS State)
 - Maximize economic value (lowest cost to customer)

Regional Generation Outlet Study Alternatives under Evaluation



Conditions Precedent to Increased Transmission Build

- A robust business case for the plan
 - Need to demonstrate that the hypothesized benefits exist, including evaluation of alternatives
 - Regulators are the judge of the business case
- Increased consensus around regional energy policy
 - Does not exist today around wind, for example, across the Midwest ISO footprint
- A regional tariff that matches who benefits with who pays over time
 - For example, beneficiaries of wind may be due to public policy, rather than load flow or economic benefit analyses which are the current basis for cost allocation
- Cost recovery mechanisms that reduce financial risk
 - Investors in these projects need to be assured of cost recovery