Order 890 Planning Compliance Strawman

Midwest ISO

FERC Technical Conference

Pittsburgh, PA

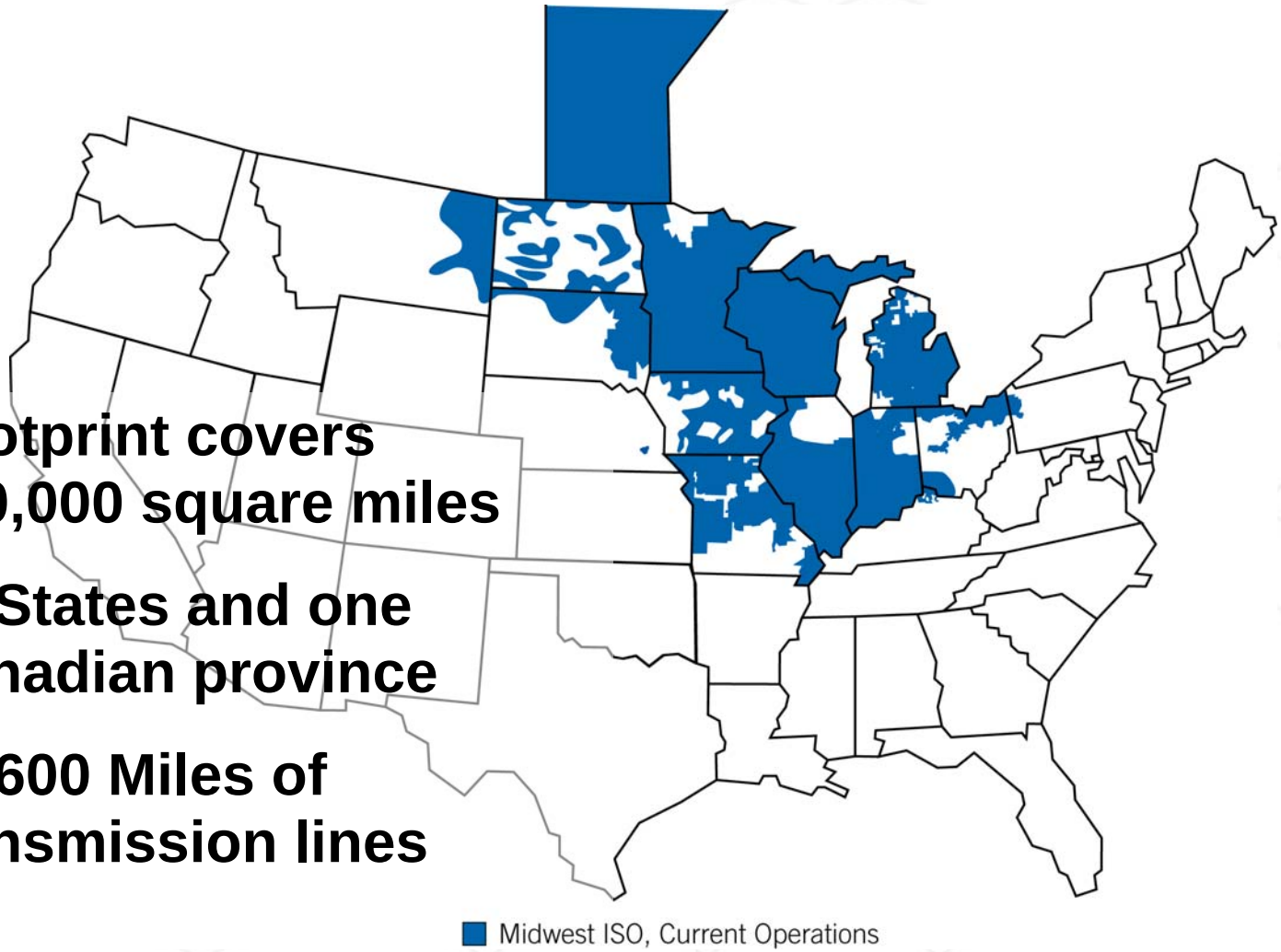
June 29, 2007

Discussion

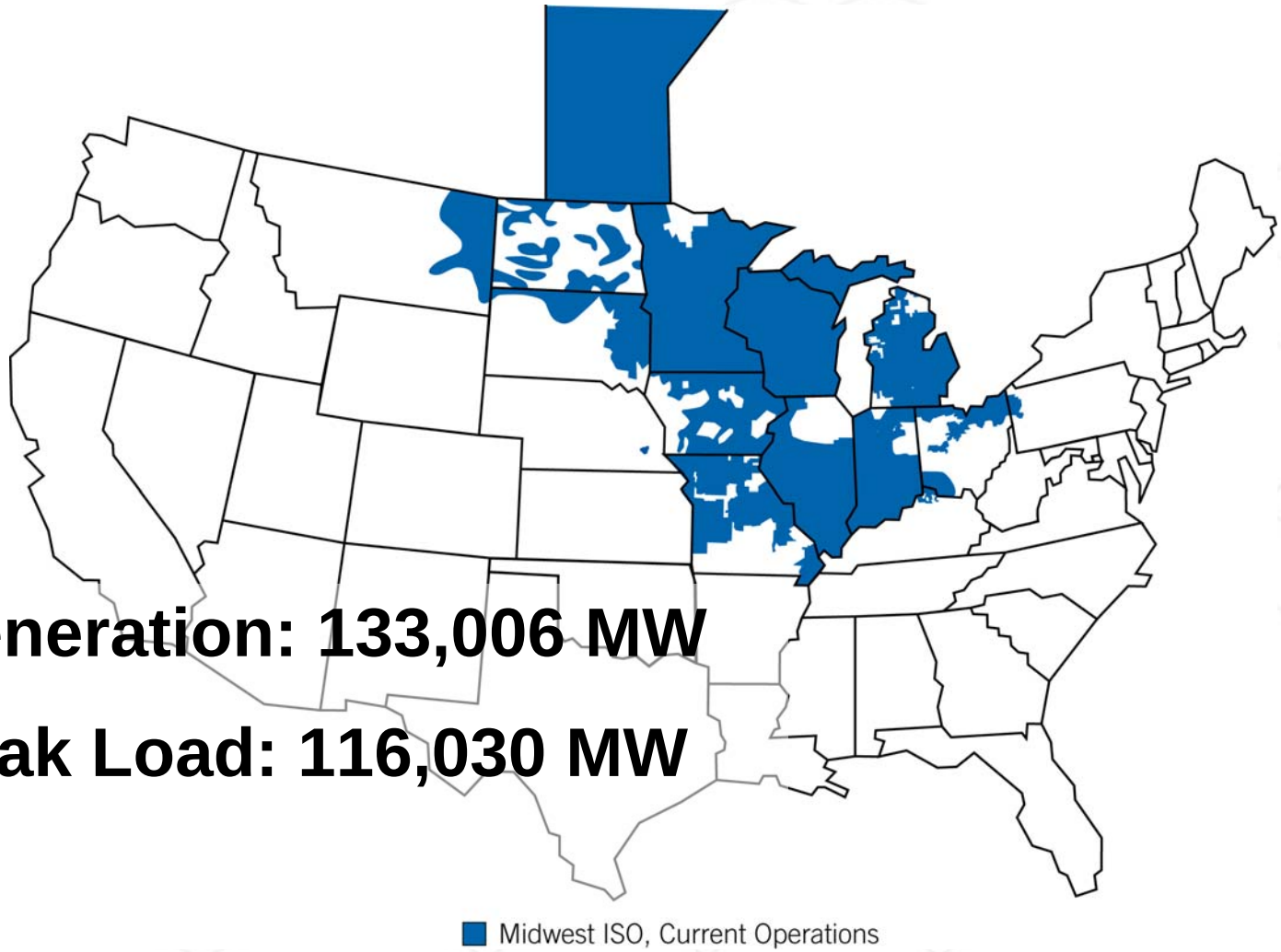
- Midwest ISO
- Planning at Midwest ISO
  - Vision
  - Processes
  - Plans
  - Seams
  - Cost
  - Member roles
- FERC Principles Compliance
- Measures of success

Market Footprint

- **Footprint covers 920,000 square miles**
- **15 States and one Canadian province**
- **93,600 Miles of transmission lines**



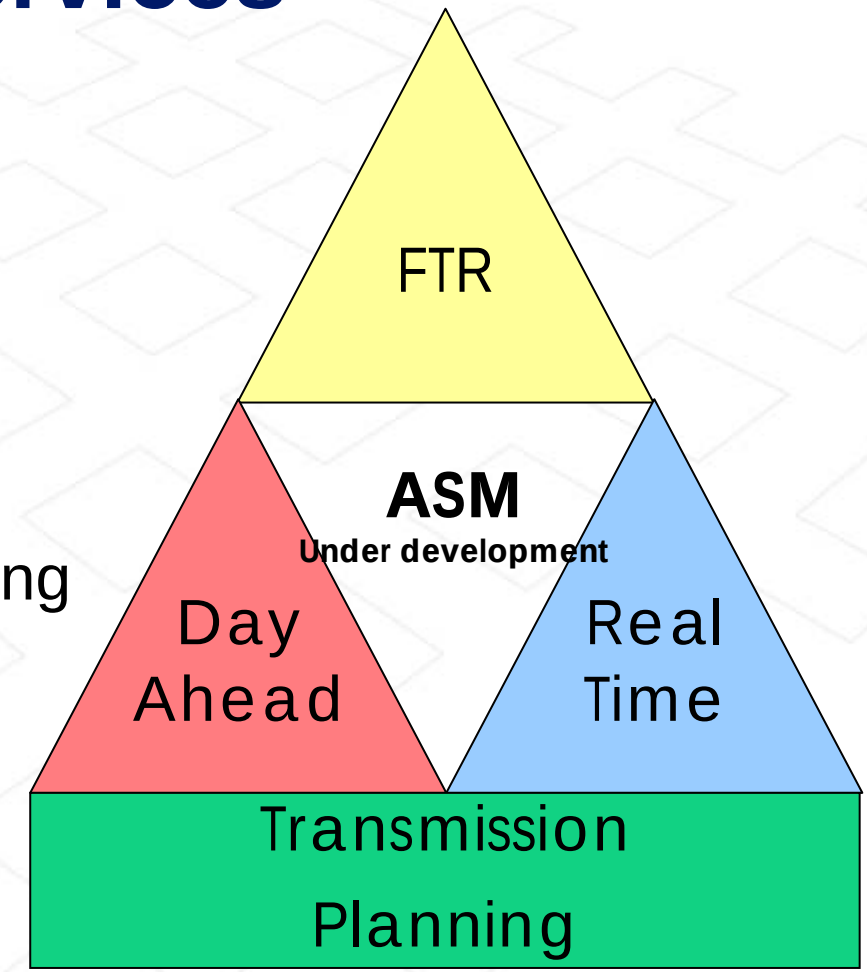
Market Size



- **Generation: 133,006 MW**
- **Peak Load: 116,030 MW**

Midwest ISO Services

- Independent
- Fair Access
- Organized Electric Energy Market
- Transmission Planning



Planning Vision

BOD Planning Principles

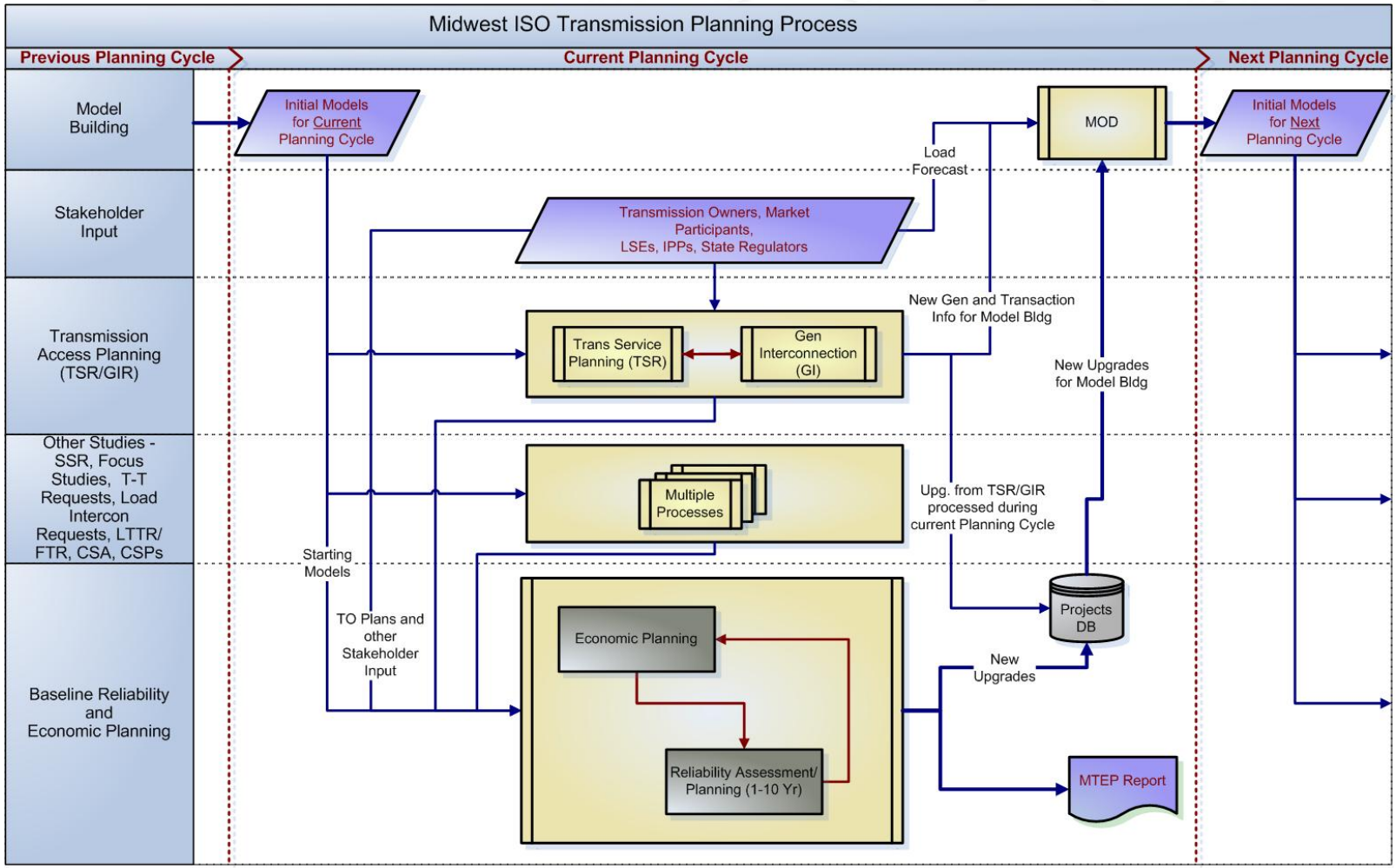
- Guiding Principle 1 – Make the benefits of a competitive energy market available to customers by providing access to the lowest possible electric energy costs
- Guiding Principle 2 – Provide a transmission infrastructure that safeguards local and regional reliability
- Guiding Principle 3 – Support existing state and federal renewable objectives by planning for access to all such resources (e.g. wind, biomass, demand side management)
- Guiding Principle 4 – Create a mechanism to ensure investment implementation occurs in a timely manner
- Guiding Principle 5 – Develop a transmission system scenario model and make it available to state and federal energy policy makers to inform the choices they face

Planning Goals

- Long-Range Planning
- Not Reliability, or Economic, But *Value*
- Process Integration
- Intra and Inter-regional Coordination
- Cost Equity
- Benchmarking planning effectiveness

Present Planning Processes

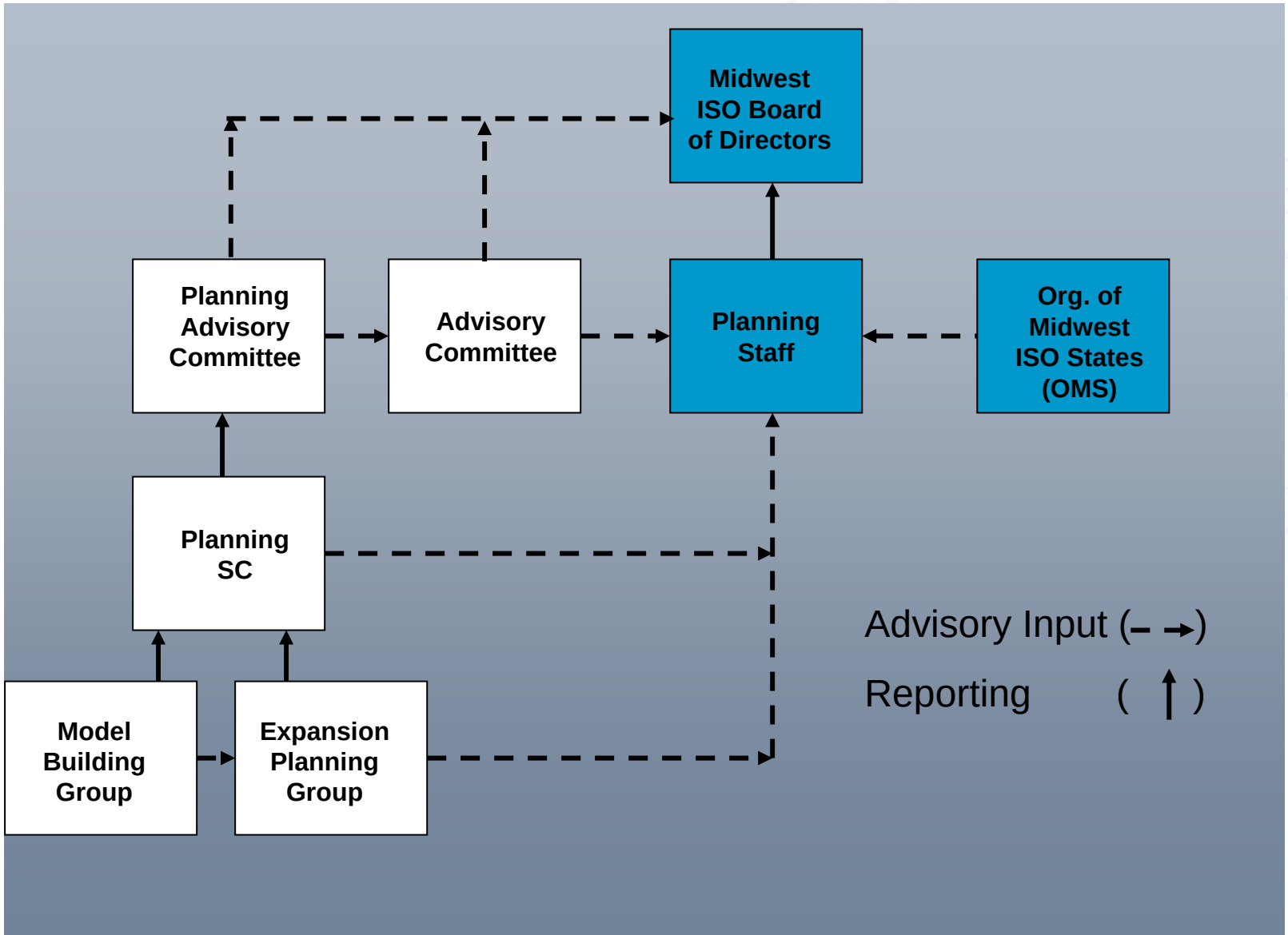
- Comprehensive



Cyclic / Repeatable / Evolving

- Coordinated Models
- Inputs
  - Stakeholder Issues
  - Local TO Plans
  - Request Processing
  - Focus Studies (Retirements, Seams, Large Loads, Etc.)
  - Long-range Reliability and Economic Expansion
- Expansion Plan Reports
- Expansion Database Adjustments
- New Models

Process Inputs
Stakeholder Input - Early and Often



Process Inputs
Bottom-up Plans From TOs

- Procedures for reporting all transmission facilities for evaluation within regional planning analyses
- Document and validate the need and sufficiency of transmission projects identified by the member Transmission Owners
- Ensures plans:
  - Are sufficient to address reliability standards
  - Form an efficient set of expansions to meet identified needs, and;
  - For cost shared projects, meet need criteria.
- Regional cost sharing makes validation of bottom-up developed plans increasingly important – RECB I

Process Inputs
Request Queue Results

- Outputs feed the expansion plan process
- Base expansion plan includes generation and upgrades identified in the interconnection and TSR processes
- Present queue processed per pro-forma procedures
  - Non-discriminatory, comparable, fair
  - Not well suited, however, to present state of generation development
- A process in need of an overhaul to better integrate with planning vision of long-term value planning (more later)

Long-Range Planning Basic Top Down View

- Test effectiveness of input plans
- Develop solutions for outstanding needs
- Seek to combine input local plans into more efficient regional plans

Plans Produced to Date

- MTEP 03
  - $1.8 billion in rolled-up plans through 2007
  - Initial value proposition for large scale plans
- MTEP 05, 06
  - Reliability focused
  - 5-year plans (2009 and 2011 planning horizons)
  - $2.9 and $3.6 billion in reliability plans
- MTEP 07
  - Expands to 10 year - update to MTEP 06
  - Introduces scenario-based future generation for out year
- MTEP 08
  - 20 year, futures generation scenario driven, value based metrics, regional overlay plans, reliability confirmation

Long Range Planning Needs a New Approach

- Load growth related expansion plans have tended to focus on short-run (5 year) least investment needs
- Bottom Line:
  - Utilities have done a great job of wringing the value out of their service territories,

  Now:
  - The next value frontier is regional collaboration and investment in transmission to enable emerging regional electricity markets to minimize energy price over time

Value-Based Planning
Establishing Value

- Develop a better understanding of transmission investment's value proposition
- Extending planning horizons to reflect project timescales
  - Futures scenario modeling
- Reflect all identifiable value drivers
  - Recognizing the benefits and risks of delivery infrastructure
  - Recognize the public good attributes
- Try to balance a cost allocation accordingly
  - Articulate the value, adjust the sharing to correspond
- Develop political consensus
  - Engage State regulators and interested observers
  - Engage in the political process

New Value Metrics in Development

Straw Measures for Discussion

Economic

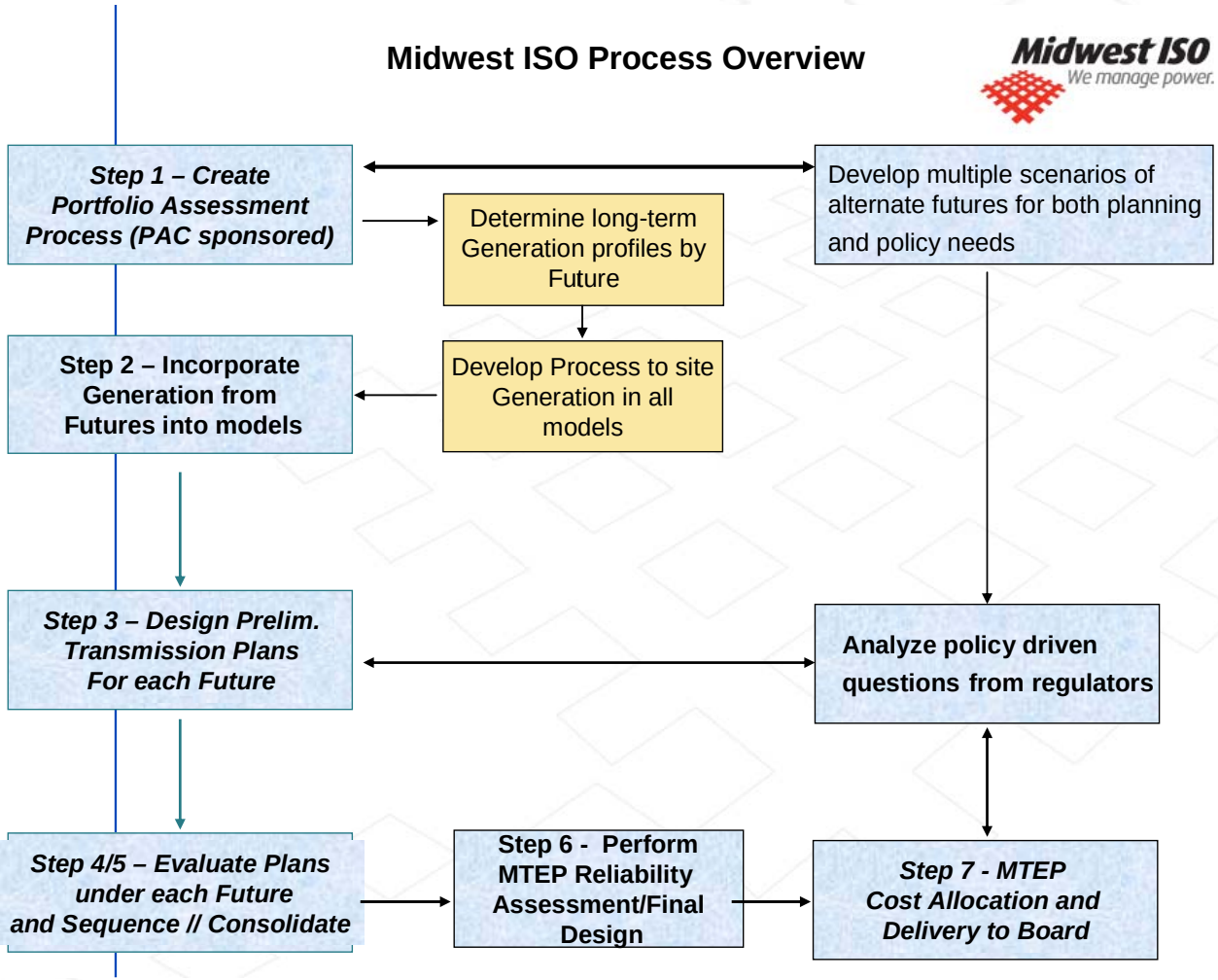
- Production cost*
- Marginal energy cost*
- Reserve Margin
- Exports
- Environmental

Qualitative

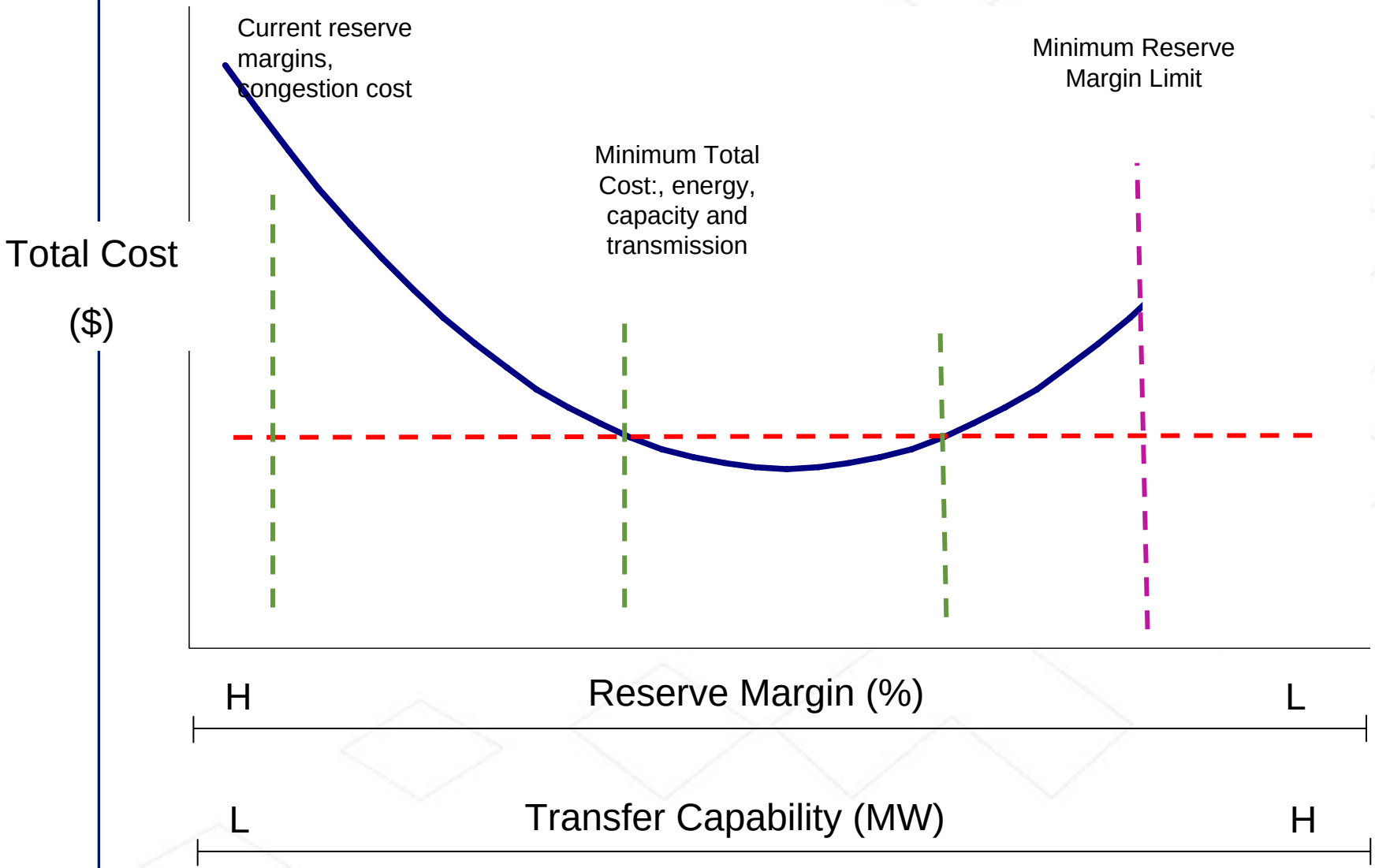
- Reliability
- Right of Way
- Flexibility
- Fuel Diversity

*RECB II Measures

Top-Down Process
Not Reliability, then Economic, but Long-term Value that is Reliable



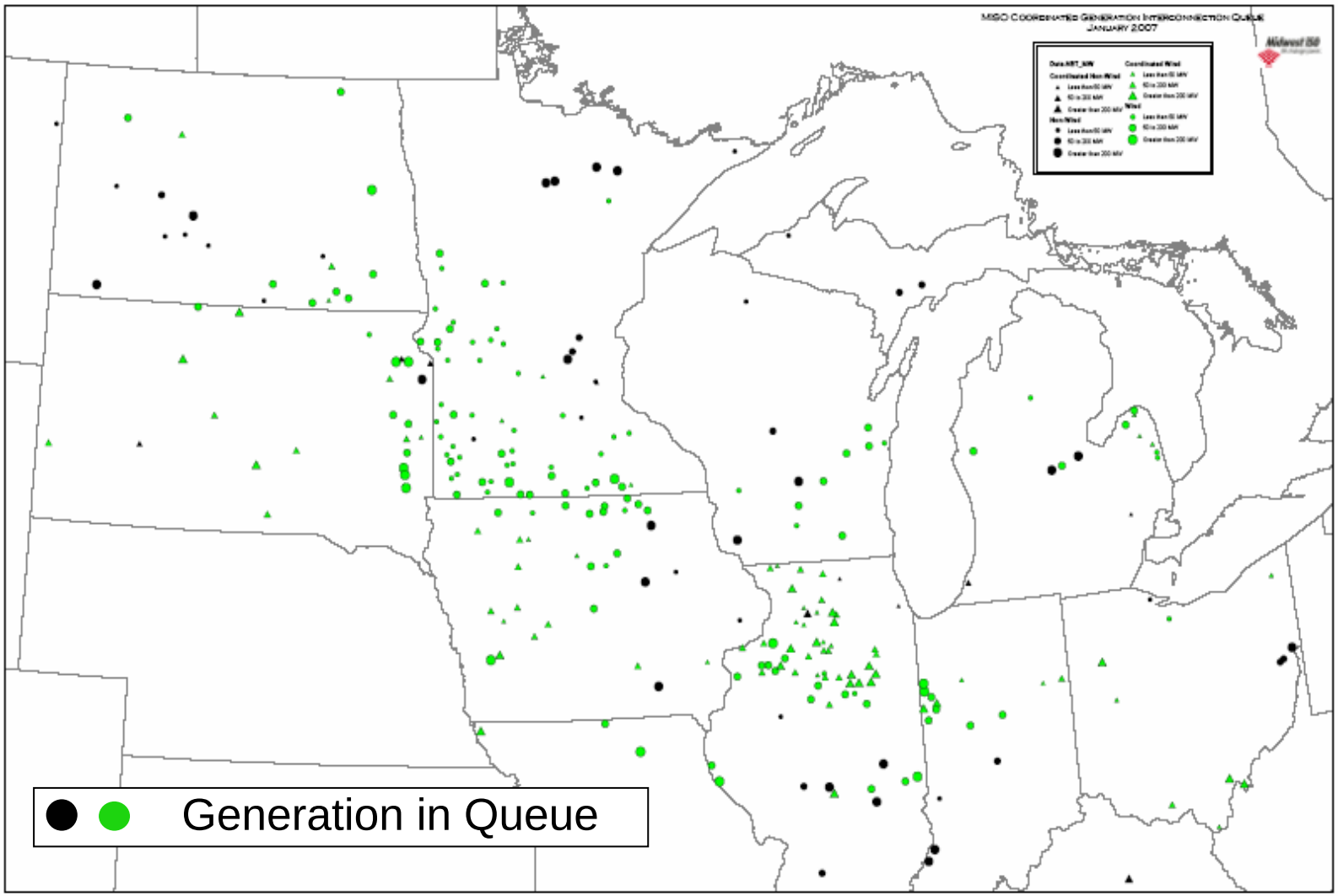
Looking for the Sweet Spot! Capacity/Energy/Transmission Total $



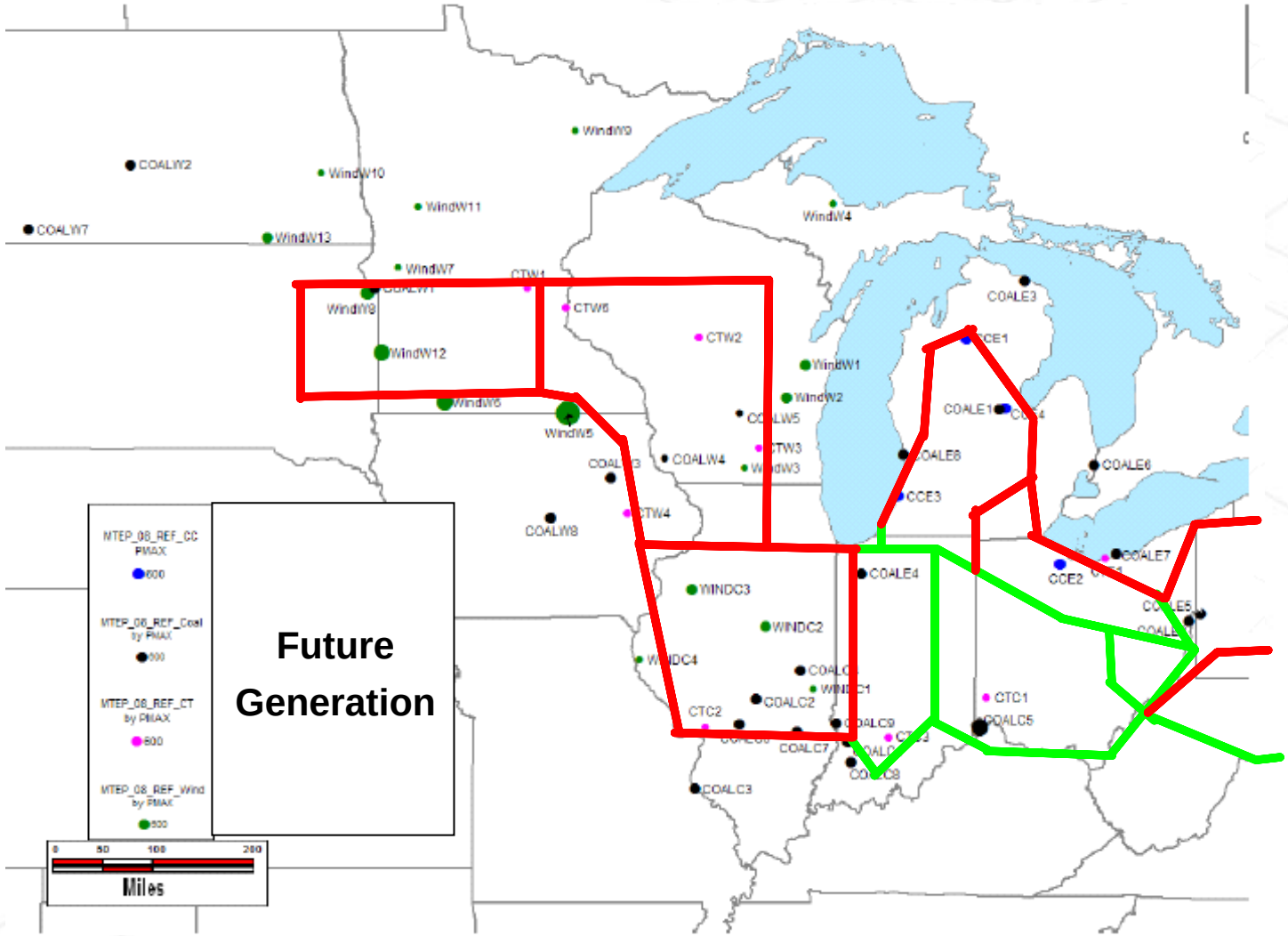
Working the Planning Vision

- Need to integrate Interconnect Queue processes with long-range planning objectives
  - Long-range transmission plans must anticipate future generation needs / types / locations
  - Interconnection of generation today should build to the best future transmission plan, else we undermining the future plan with short-term inefficiencies

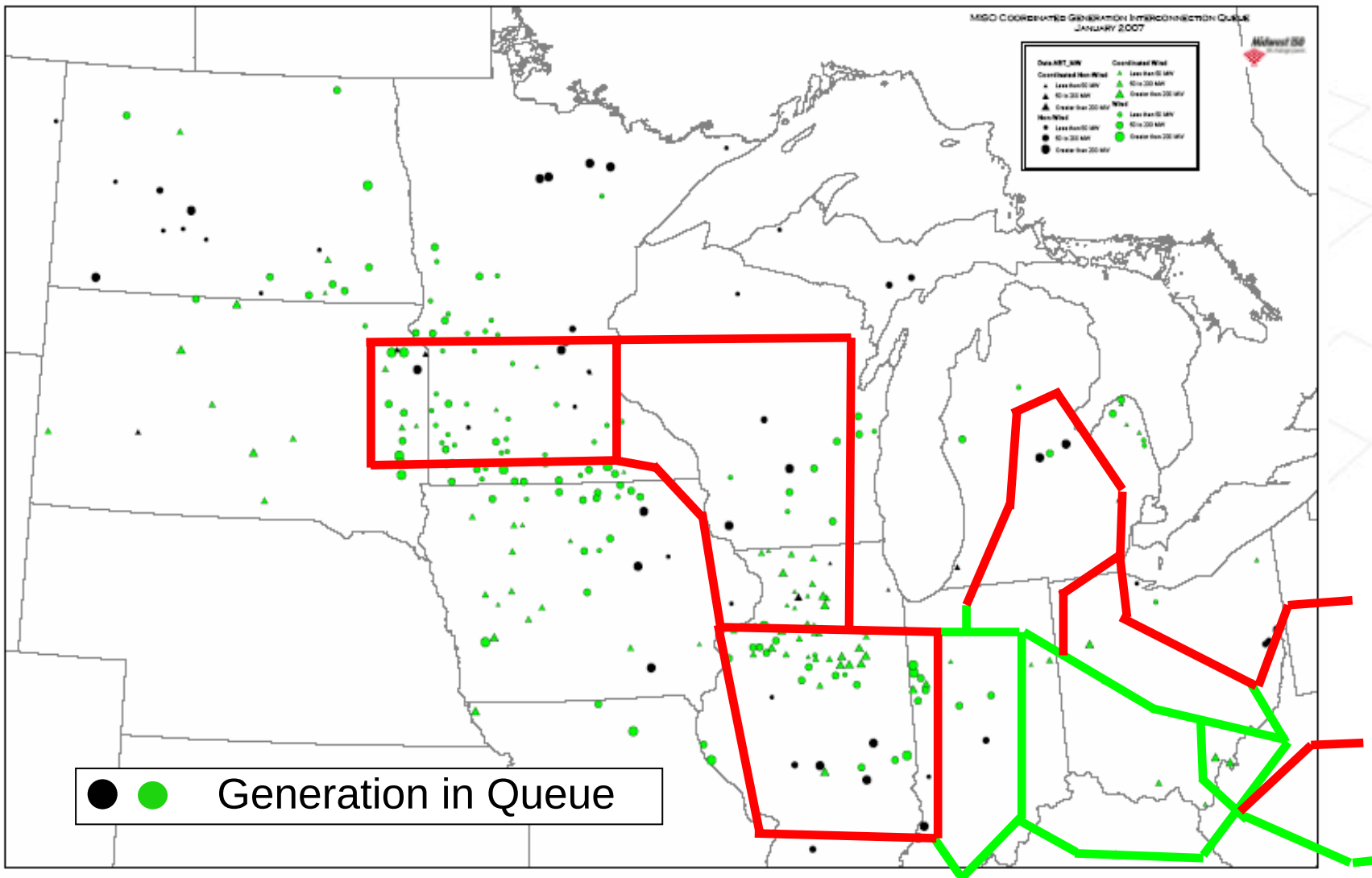
Today's Queue…..



…Informs the Future Plan



…Future Plan Would Enable Interconnects



Improvements Needed in Interconnection Process

- Present tariff guided processes for generator interconnects at odds with efficient planning
  - Sequential priority processing produces nickel-dime upgrades
  - Grouping studies still only accounts for short-run needs – those in the queue at the present
  - RFPs produce many duplicates, drop-outs, churn, re-study
  - Majority of new resources can come on line much faster than necessary transmission can be built

Revamping the Processes at Midwest ISO

- Long-range Value-Based Planning
- Regionally Planned Generation Interconnection Projects
- Better integrate these two processes

Integration Strategy

- Value Based Transmission Planning
  - Move objective away from minimum investment peak capacity planning to delivered wholesale energy cost
- Regionally Planned Interconnections
  - Move objective away from expansions to address current request(s) to expansions to address aggregate regional needs consistent with Value-Based plans

Regionally Planned Interconnections

- Queue Characteristics Have Changed Since Process Design
  - Numerous, relatively large, proposed generation projects located a great distance (200-600 miles) from load centers
  - Projects located in remote areas require significant transmission upgrades (i.e. expensive to implement)
  - Many proposed projects driven by Renewable Portfolio Standards, but do not have certainty around end-user payment (e.g. no PPAs) to support large transmission investment
  - Net effect is requestors withdraw (and may re-enter) queue, leading to further delays for projects further down in the queue

Proposal

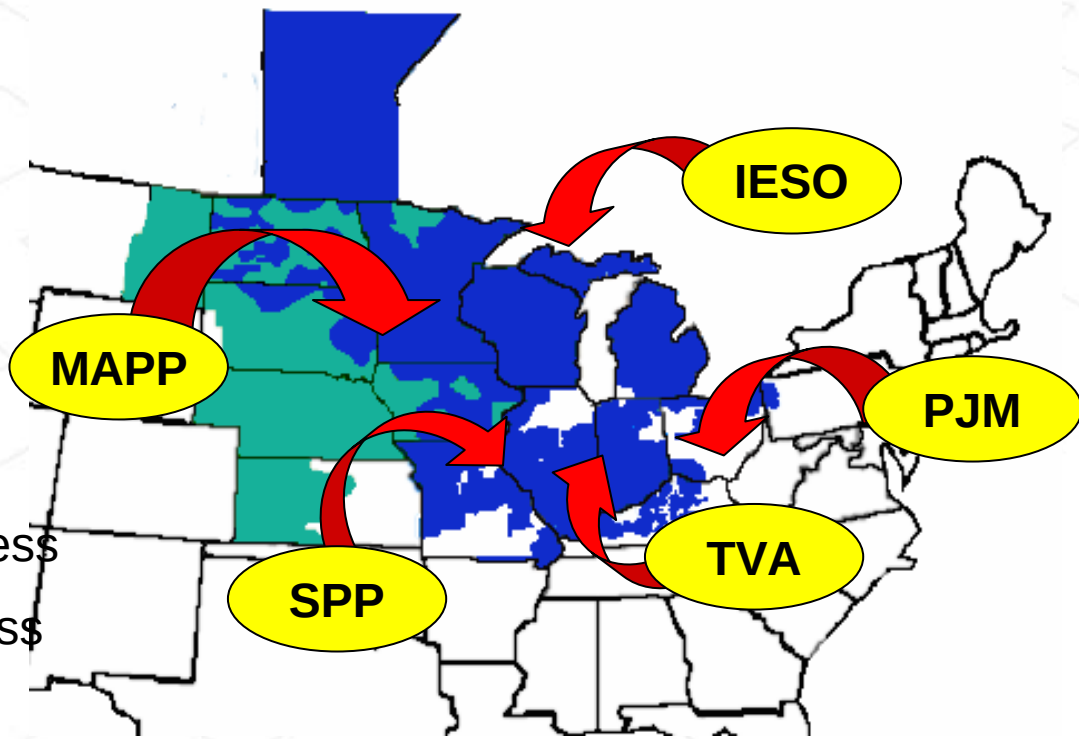
- Utilize the developing Midwest ISO Long-range Value-Based MTEP planning process to develop “right-sized” regional upgrade capacity
- Designed to aggregate needs of multiple individual interconnect projects; resulting project capacity is greater than any single generator interconnect would require
- Project initial funding by interested Sponsor(s)
  - LSE with longer-term objectives, such as RPS
  - Transmission investors
- Revenue requirements transferred to hookups as they come
- Spread the project cost applicable to generation developers to all generators who will use the upgrades rather than just the first

Steps Underway

- Stakeholder process in progress
  - White paper
  - Preliminary discussions with OMS WG, PAC
- Conclusions / details / refinements by late August
- Develop Tariff changes to incorporate the concepts as a supplement to the current queue process
- File tariff changes along with the FERC 890 Compliance Filing in October 2007

Coordinating at Seams

- Coordination Agreements
  - PJM
  - SPP
  - MAPP
  - PJM-TVA
  - IESO
- Coordinated Plans
  - PJM – 2nd in progress
  - SPP – 1st in progress
  - MAPP - Integrated
  - IRC – Consolidated



Equitable Cost Allocation

- Must be developed by consensus
- Must be particularly sensitive to desires of States
- Must balance analysis of benefits with ability to administer

Cost Allocation at Midwest ISO

- Currently in two flavors (Reliability / Economic)
- RECB I, II
  - Commission approval for stakeholder developed cost allocation policies for all new Baseline Reliability, and Regionally Beneficial (economic) Projects.
- Cost allocation policies (Attachment FF) apply to all new network upgrades regardless of whether they are regional and multi-state in nature, or local, and regardless of driver (certain upgrade attributes apply)
- Cross-border in Progress
  - Filed proposed cost allocation policies for cross-border reliability projects, after working together with PJM, to address projects in one RTO that may also benefit the other RTO (Cross border)
  - Resolution, and Economic projects pending

Member Roles

- Some Midwest ISO Transmission Owners have developed and use an open local planning process for their facilities.
- Those processes will be described in the planning strawman proposals submitted by those Transmission Owners.
- Other Transmission Owners submit transmission plans for all local facilities in the Midwest ISO's open planning process (including those not turned over)

Incorporating Transmission Owner Planning

- Midwest ISO reviews impacts of all TO transmission plans through modeling and planning analyses processes
- Lower Voltage plans submitted to Midwest ISO will be included in the regional plan stakeholder processes and reporting along with other facilities formally turned over to Midwest ISO control
- Accordingly, the Midwest ISO believes that its member Transmission Owners can be fully compliant with the Commission's nine Planning Principles through participation in Midwest ISO planning processes

Principles and Compliance

- Coordination
- Openness
- Transparency
- Information Exchange
- Comparability
- Dispute Resolution
- Regional Participation
- Economic Planning Studies, and
- Cost Allocation

Principles Met

- Through
  - Tariff
  - Agreements
  - Processes
  - Practices
- Not perfect, not stagnant
- Pushing the envelop results in disagreement

Focus Areas for Advancement

- Complete the Value-based Planning Process Development
- Better Integrate Discrete Planning Processes
  - Baseline Reliability
  - Economic
  - Generator Interconnection
  - Cross-border Coordination
- Align Cost Allocations Consistent with Integration
  - Articulate measures of value and methods to identify
  - Integrate / modify allocation policies as integrate expansion processes

Benchmarks
How Will We Know its Working?

- Energy cost trends
- Ability to meet energy policy objectives – State / Federal
- Queue congestion
- Overall Transmission Customer satisfaction with openness, transparency, equity, services

Questions and Comments?