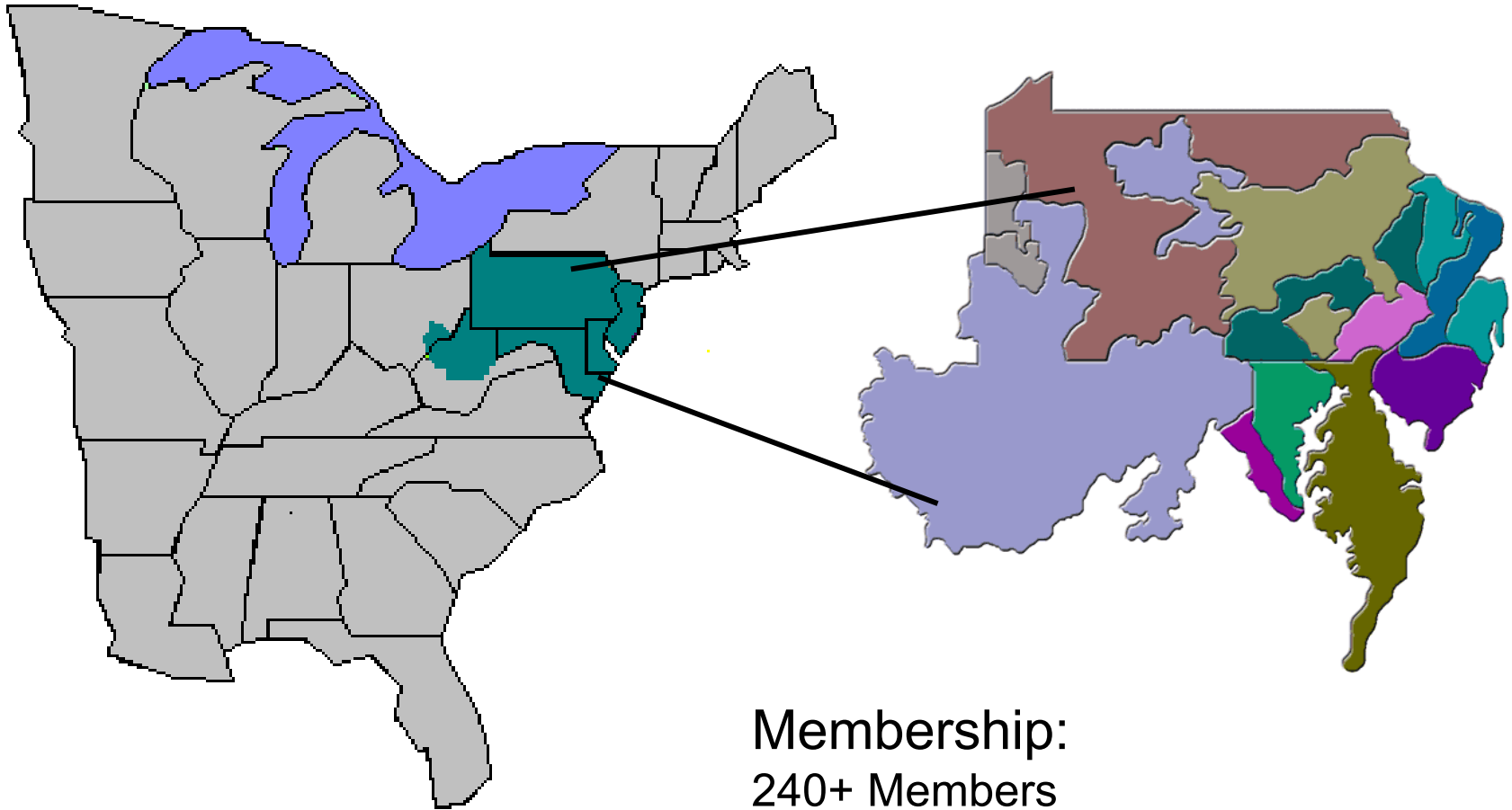


# MARKET MONITORS: AN INSTITUTIONAL INNOVATION IN ELECTRICITY REGULATION

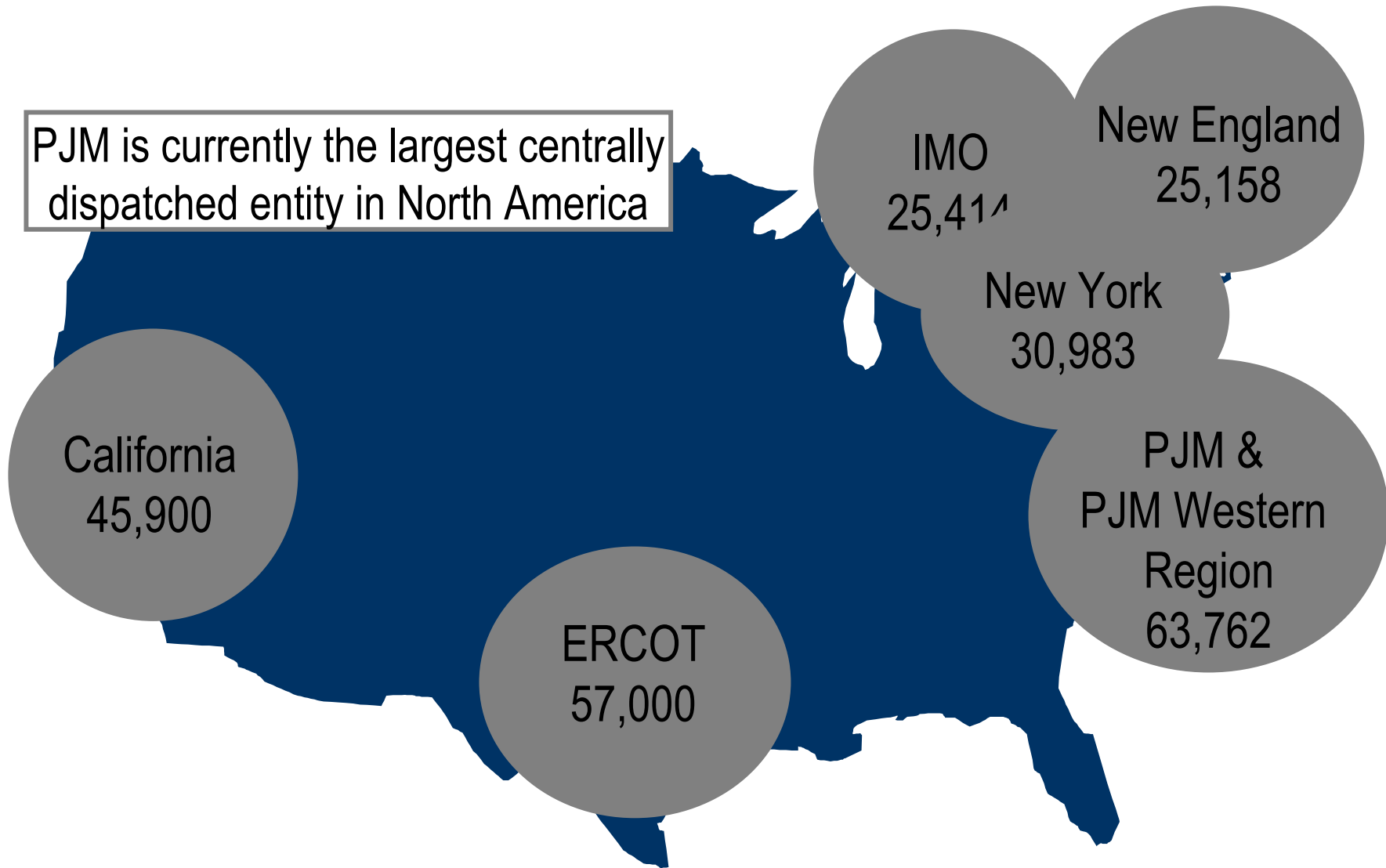
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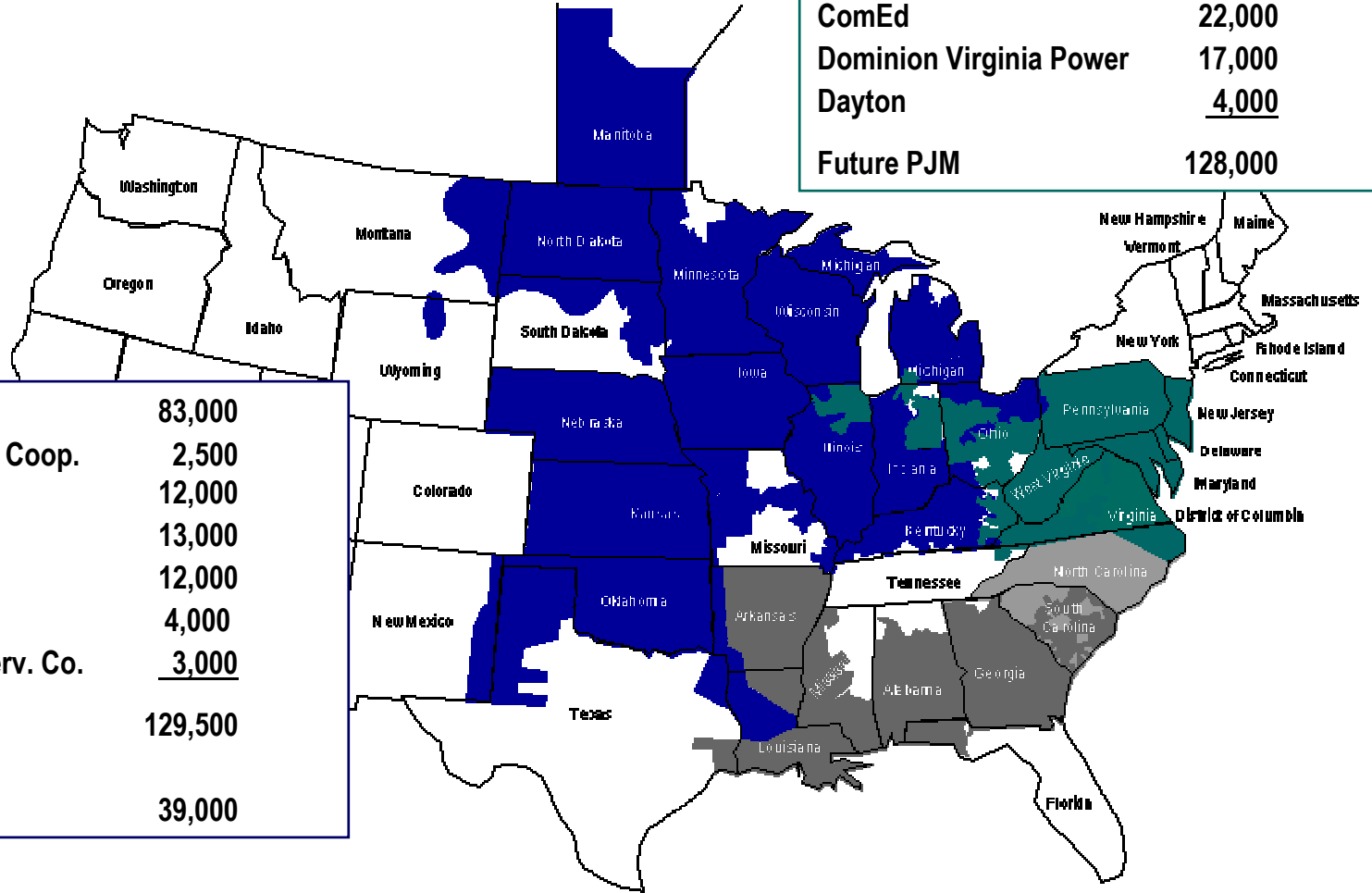


**Membership:**  
240+ Members  
100+ Transmission Service Customers

PJM is currently the largest centrally dispatched entity in North America



<b>Current PJM</b>	<b>64,000</b>
<b>Amer. Elec. Power</b>	<b>21,000</b>
<b>ComEd</b>	<b>22,000</b>
<b>Dominion Virginia Power</b>	<b>17,000</b>
<b>Dayton</b>	<b><u>4,000</u></b>
<b>Future PJM</b>	<b>128,000</b>



<b>Current MISO</b>	<b>83,000</b>
<b>East Kentucky Coop.</b>	<b>2,500</b>
<b>Ameren</b>	<b>12,000</b>
<b>First Energy</b>	<b>13,000</b>
<b>Consumers</b>	<b>12,000</b>
<b>Illinois Power</b>	<b>4,000</b>
<b>N. Ind. Pub. Serv. Co.</b>	<b><u>3,000</u></b>
<b>Future MISO</b>	<b>129,500</b>
<b>Current SPP</b>	<b>39,000</b>

- Stable electric utility industry
- Change
  - Nuclear power
  - PURPA
  - IRP
  - Industrial customers

- **Competition**
  - Market discipline on generation costs
  - Customer choices
  - Must be better than regulation

- Institutional context significant
- Power pools (PJM; NY; NE)
  - Least cost, security constrained, central dispatch
- Aggregation of utility control areas
  - Bilateral model
- Network complexities

- Real markets: State PUCs and FERC
- No plan on basic structural issues
- Bifurcated regulatory control over generation
- Retail vs wholesale perspective
- Concentration of ownership issue
  - State PUCs: mandated divestiture in some cases
  - State PUCs: contract requirements in some cases
- State retail rate caps/restructuring settlements
  - POLR obligations

- Reasonably competitive structure
- Market monitoring
- Result is presumed to be “Just and reasonable rates”
- California

- Why ISO-based market monitors?
- No developed FERC plan for validating outcome of competition
- Market monitoring to address issues on an ad hoc basis
- FERC not staffed for market monitoring
- FERC required feedback on outcomes of competition
- California
- Creation of FERC OMOI

- Need for market monitoring
  - Transition from regulated monopoly to self-regulating competition
  - Multiple, complex markets
  - Relationship between reliability and markets
  - Wholesale/retail market interactions
- Market design
  - Market design critical for effective monitoring
  - Market structure also relevant
  - Good market design does not obviate need for monitoring

- Existing aggregate, supply-side market structure conditions not adequate to ensure competition
  - Transmission constraints limit competition in unpredictable ways
- Full demand side participation a prerequisite
- Market monitoring needed for foreseeable future
- Is electricity different?
  - Role in economy
  - Economic/financial features (fixed costs)
  - Reliability
  - Ongoing government role – statutory

- Market Monitoring Unit implemented with competitive energy markets in PJM.
  - Effective April 1, 1999.
- Members opposed to creation of MMU
- MMU goals:
  - Develop/modify market rules to **facilitate competition**
  - **Limit returns to market power**
  - Provide **incentives to competitive behavior**
  - Make **exercise of market power more difficult**

- Independent Internal Market Monitoring
  - Independent System Operator
  - ISO/RTO has no financial stake in market outcomes
  - ISO/RTO has independent Board
  - ISO and MMU are independent from all market participants
    - Market Monitoring Plan is not subject to modification by PJM members.
    - Amendment to PJM's Open Access Transmission Tariff subject to FERC approval
  - MMU is independent from ISO

- **MMU Accountability:**
  - To FERC (per FERC MMU Orders and MM Plan).
  - To PJM Board.

- Monitor **compliance with rules**, standards, procedures and practices of PJM.
- Monitor **actual or potential design flaws** in rules, standards, procedures and practices of PJM.
- Monitor **structural problems** in the PJM market that may inhibit a robust and competitive market.
- Monitor the potential of Market Participants to **exercise undue market power**.

- **Discussion of issues** with relevant Market Participants; informal resolution of issues.
- **Issue demand letters** requesting a change in behavior by relevant Market Participants.
  - Provide demand letters to relevant Authorized Government Agencies.
- **Recommend modifications to rules**, standards, procedures and practices of PJM.
  - **Make recommendations** to PJM Committees or to PJM Board.
  - **Make regulatory filings** to address market issues and seek remedial measures.
- **Refer issues to FERC**
- **Evaluate additional enforcement mechanisms.**

- Extremely limited direct authority
- Limited penalty imposition
- Calls are effective – issues generally resolved informally
- Member awareness of active, ongoing, detailed monitoring
- Fear of public notification – financial markets
  - Demand letter
  - FERC notification
  - Demand letters can lead to SEC filings

- Early FERC reliance on market monitors
- OMOI created (response to California)
  - Monitor the monitors?
  - Directly monitor the markets?
- Behavior rule order (11/17/03)
  - Defined role for market monitors
  - Enforcement of clearly defined rules
  - Penalties only for bright line violations
  - All discretion reserved to FERC
    - Broad rules enforcement

- Ongoing issue of relative authorities
- FERC authority
- Level of MMU discretion at issue
  - Investigations
  - Calls

- Market monitor role supplanted part of state role
- States initially uncertain about approach
- States early focus on retail competition
- States limited authority over wholesale markets
- August Regional Meeting with FERC/States
- States demand for access to data
- FERC agreement
- States monitoring role – reassertion of wholesale market role

- Capacity market issue identified by PJM MMU
- MMU took issue to stakeholders, including state PUCs
- MMU notified FERC
- MMU proposed rule changes
- FERC accepted
- Time lag
- State request for report
- Confidential data issue

- Electric markets (structure, behavior and performance) are complex
- Monitoring is data intensive
- Timing issues: process needs to be more efficient
  - Real time monitoring
  - Consult with participants
  - Lag prior to action
  - Lag prior to FERC action
- Interaction with participants is critical to understanding real markets
- Interaction with RTO staff is critical to understanding real markets
- Coordination with FERC is essential to efficient monitoring and mitigation

- Include diverse staff expertise
  - Economics/Engineering
  - Generation
  - Transmission
  - Power markets
  - Database/IT
- Build understanding of detailed market structure
- Build understanding of physical infrastructure
- Build understanding of operations
- Build in MMU data access/storage to RTO data designs
- Confidentiality protocols
- Complaint protocols

- Reregulation risk
  - Counter cyclical regulatory response
  - Response to low revenues
  - Capacity markets
  - Capacity market demand curves
  - Mitigation and “Scarcity pricing”

- Market structure – HHIs and Cournot
- Market rules/design
- Aggregate market power
- Constraints on aggregate market power
  - Vertical integration: Generation, Transmission and Load
  - POLR: Generation and Transmission
  - Transmission investment
  - Contracts
- Local market power

- Assume competition
- All behaviors are therefore competitive

- Subtle and complex ways to exercise market power
- Generally not aggregate market issue
- Operating reserves
- Bid parameters
- Retirements/mothballing
- Ramp violations
- Loop flows
- FTR/Inc/Dec
- Creation of congestion