



# Independent Market Monitoring

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## The Role of Market Monitoring

- Electricity market restructuring is motivated by the anticipated benefits of replacing regulation with competition.
  - ✓ Guide generation and transmission usage and investment.
  - ✓ Ensure that prices are efficient and fair.
- However, market power can exist in certain locations or under specific transitory conditions.
- Regulators in the U.S. have relied on market monitoring and mitigation measures to ensure market outcomes remain competitive when these conditions occur.



# The Focus of Market Monitoring

- The Market Monitor identifies:
  - ✓ Flaws in market rules that create inefficient incentives or gaming opportunities;
  - ✓ Improvements in the operation of the market;
  - ✓ Market power abuses;
- Market efficiency and market power generally receive equal monitoring attention – contrary to the common perception that market power is the primary focus.
- Monitoring requires an interdisciplinary team of experts and the development of extensive market monitoring software.



## Independent Market Monitoring

- Early markets in the U.S. relied on RTO employees to perform some or all of the market monitoring:
  - ✓ The PJM market monitoring unit is internal to PJM.
  - ✓ New York, New England and California have an internal MMU to do day-to-day monitoring and an external monitor doing periodic reports.
- Independence of the Market Monitor from the RTO has been realized due to its role in monitoring the RTO's operations.
  - ✓ The Midwest ISO maintains this independence by retaining an Independent Market Monitor ("IMM") to perform the monitoring.
  - ✓ The IMM performs all market monitoring functions.
  - ✓ All developing markets in the U.S. have moved to the IMM model.
- Potomac Economics is the Midwest ISO's IMM and is the external component of the monitoring function for the New York and New England ISOs.



# Market Monitoring Functions

- The monitoring function includes:
  - ✓ Real-time screening and analysis to identify circumstances that require further investigation – we receive data continuously from the MISO;
  - ✓ Investigations of market operations or conduct identified through the daily screening or complaint processes; and
  - ✓ Periodic analysis and reporting.
- The IMM is also primarily responsible developing the systems to impose the market power mitigation measures.



# Real-Time Market Monitoring

- Effective real-time market monitoring requires that data be received and analyzed continuously.
- The key to differentiating between market power and scarcity is to determine whether resources are being withheld from the market.
- The real-time monitoring also seeks to identify market design flaws that can create inefficient or perverse incentives.
  - ✓ Design flaws are generally detected by screening the market for gaming, withholding, or other types of conduct.
  - ✓ Differentiating between design flaws and market power is critical.



# Analysis of Market Performance

- This periodic analysis includes an annual report on the market that would contain:
  - ✓ An assessment of the overall performance of the RTO markets;
  - ✓ Recommendations for changes in the market rules or other provisions to improve the efficiency of the market; and
  - ✓ An evaluation of the conduct of market participants and recommendations regarding modifications to the mitigation measures.
- The monitoring process would also include the receipt of complaints from market participants, government agencies, and the RTO.





# Market Monitoring Resources

- To be effective, market monitoring must be performed by a multidisciplinary team.
  - ✓ At Potomac Economics, this team includes economists, engineers, database programmers, statistics and modeling experts, and research analysts.
- Our experience monitoring electricity markets has also led to the development of extensive software that including:
  - ✓ Automated data interfaces to continuously receive encrypted data and manage it on a secure system with terabytes of capacity;
  - ✓ Statistical software to screen market and operations data for market power abuses or inefficiencies.





# Who Should Perform the Market Monitoring

- Because the market monitor must monitor the market operator, independence of the monitor from the market operator is critical.
- Ideally, the market monitor should be a third party that works in partnership with the regulatory agency.
- In most cases, a regulatory agency should not be the market monitor because:
  - ✓ The expertise and software needed to effectively monitor the market would be extremely difficult to develop within a regulatory agency.
  - ✓ Regulatory agencies may be limited in ability to interact with market participants, which is an important function of the monitor.
    - The market monitor should recommend improvements in the market design and work with participants to develop the rules to be approved by the regulatory agencies.
  - ✓ The monitor is a source of independent, expert advice to the regulator.



## Background on Potomac Economics

- Potomac Economics is the leading provider of market monitoring data and analysis services.
  - ✓ Dr. Patton is President and has served as the Independent Market Advisor for the New York ISO since 1999 and for ISO New England since 2001.
  - ✓ Potomac Economics has been the Independent Market Monitor for the Midwest ISO since 2002.
- Potomac Economics was formed to focus nearly exclusively on market monitoring, which allows us to:
  - ✓ Eliminate potential conflicts of interest associated with other consulting work; and
  - ✓ Develop the specialized processes and resources necessary to ensure that monitoring is effectively performed in real time.