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DMM Comments and Recommendations on Convergence Bidding Design Options

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Introduction

- **Benchmarking**

  Comparison of market design rules, mitigation measures, and monitoring tools used by PJM, NYISO, and ISO-NE.

- **Market Power Mitigation and Monitoring Issues**

  Based on the different spatial granularity options considered, needed mitigation measures and monitoring tools

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Benchmarking

- **Market Design Issues**
  - Spatial Granularity
- **Mitigation Measures**
  - CRR settlement rule
- **Monitoring Tools**
  - Ability to run the DA market without virtual trades
- **Summary Matrix**

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Benchmarking — Market Design Issues

- Spatial Granularity
- Flagging of Convergence Bids
- Limits of Convergence Bid Volumes/Segments
- Treatment of Uninstructed Deviation and Forced Outages

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Benchmarking — Mitigation Measures

- **CRR Settlement Rule**
- **Ability to limit or suspend trading**

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Benchmarking — Monitoring Tools

- **Ability to Track Convergence Bidding Profits and Losses**
- **Ability to Simulate Impact of Convergence Bids on Market Prices**
- **Ability to Assess Impact of Market Behavior on a Participant's Total Portfolio**

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Benchmarking — Summary Matrix

	NYISO	PJM	ISO-NE
Spatial Granularity	Zonal (15 zones)	Nodal	Nodal
Flagging of Convergence Bids	Yes	Yes	No
Congestion Revenue Rights	Monitor using Re-Runs of the DA Market	Automated Settlement Rule	Settlement Rule (May not be Automated)
Bid Segments	VB in Whole MWh Only	(unable to determine)	None
Collateral & Charges	Collateral $200/MWh	(unable to determine)	Small Charge per Convergence Bid
Ability to Limit or Suspend VB	Yes – Unused “Circuit Breaker” Provision	No	Yes – Limit or Suspend < 6 months
Ability to Re-Run DA Market	SCUC and PROBE	SCUC and PROBE	Estimates Effects of Convergence Bidding on an Annual Basis

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Market Power Mitigation and Monitoring Issues

- Spatial Granularity
- Load Distribution Factors
- Mitigation Measures
- Monitoring Tools

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Spatial Granularity

- **Three Major Spatial Granularity Options**
  - Convergence supply and demand bids at the LAPs
  - Convergence supply and demand bids at all PNodes
  - Convergence demand bids at LAPs, convergence supply bids at generation PNodes

- **DMM Recommends Convergence Supply and Demand Bids at the LAPs**

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Rationale for DMM Recommendation on Spatial Granularity

- Deterrence of under-scheduling of load/supply
- Mitigating Supplier Market Power
- Eliminating Implicit Virtual Bids (overscheduled load)
- Increase Market Liquidity
- Hedging Mechanism for Generation Owners
- Gaming of Congestion Revenue Rights
- Monitoring and Mitigating of Generation Outages, Deviations, and Other Factors Effecting Real Time LMPs
- Avoidance of issues with Seller's Choice contracts

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Mitigation Measures

- Congestion Revenue Rights
- Position Limits
- Limitation or Suspension of Convergence Bidding
- Local Market Power Mitigation and Price Caps
- Flagging of Convergence Bids
- Bid Price-Quantity Pairs

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Monitoring Tools

- **Ability to Re-Run the DA Market**
  - Routine, daily counterfactual re-run of the DA Market excluding convergence bids
    - Convergence (or divergence) of DA and RT prices
    - Large or persistent losses
    - Impacts of each participant's convergence bidding on prices, congestion, and their net profits

- **Ability to Re-Run Settlement Outcomes If Significant Differences in Charges Exist Between Convergence and Physical Bids**

Conclusion

- **Convergence bidding is an important market design element that can improve market efficiency.**
- **Convergence bidding at a nodal level creates the potential for market manipulation – design needs careful consideration and strong monitoring and mitigation tools.**
- **Better to start with simple design – LAP Convergence Bidding**
  - Captures most of the benefits of convergence bidding
  - Minimizes potential for nodal price manipulation
  - Provides opportunity got further study of the need and proper design of more granular convergence bidding