ORDC Discussion

EPFSTF

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Monitoring Analytics

Energy and Reserve Price Formation Goals

- **Prices should reflect nodal competitive supply and demand conditions**
- **Prices should provide incentives consistent with economic fundamentals**
- **Price formation should be transparent**
- **Price formation should be as simple as possible**
- **Price formation should be feasible to implement**
- **Reserve prices should reflect actual demand for reserves, including demand defined by operator actions**

Energy and Reserve Price Formation Goals

- **Price formation should be designed to produce competitive results and explicitly address market power**
- **Prices should reflect short run marginal costs**
- **Prices should not reflect market power through inclusion of maintenance expenses and associated multipliers**
- **Prices should not reflect market power through inclusion of arbitrary adders to reserve offers**

Comparison of Goals

IMM

- **Reserve prices should reflect actual demand for reserves,**
- **including demand defined by operator actions**

PJM

- **Value reserves beyond MRR based on incremental contribution to near-term reliability**
- **Minimize out of market actions by operators where economically prudent**

IMM ORDC Proposal

- **Concept**
  - **Downward sloping ORDC extension beyond minimum requirement based on the expected cost of an operator commitment to maintain requirement in the future**
- **Time frame**
  - **Current market interval until the next peak period**
  - **ORDC penalty price and MRR plus regulation address the next ten minutes**
- **Determinants**
  - **Any operational or market event that affects reserves**
  - **Forecast errors, operator actions, and market behavior**

IMM and PJM ORDC Comparison

IMM

- **Concept**

  Historic operator demand for excess reserves depends on daily load pattern

- **Time frame**

  Looking forward over period until next peak

- **Determinants**

  Uncertain events, participant behavior, and operator actions

PJM

- **Concept**

  Excess reserves have value based on forecast error and forced outage probability

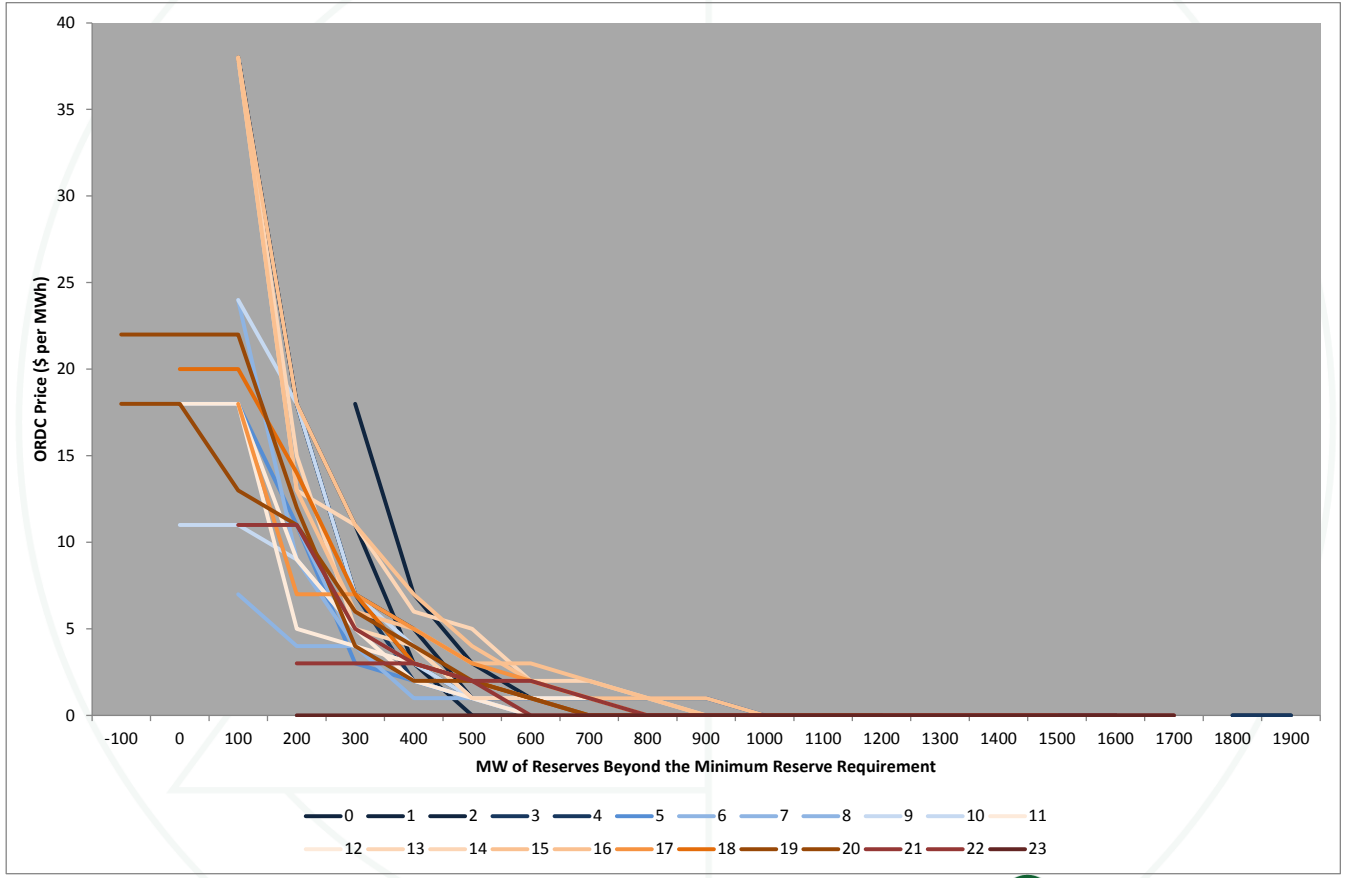
- **Time frame**

  30 min. time frame to capture uncertainty for 10 min. reserves

- **Determinants**

  Forecast error and forced outages

Intertemporal ORDCs Winter 100 GW Load



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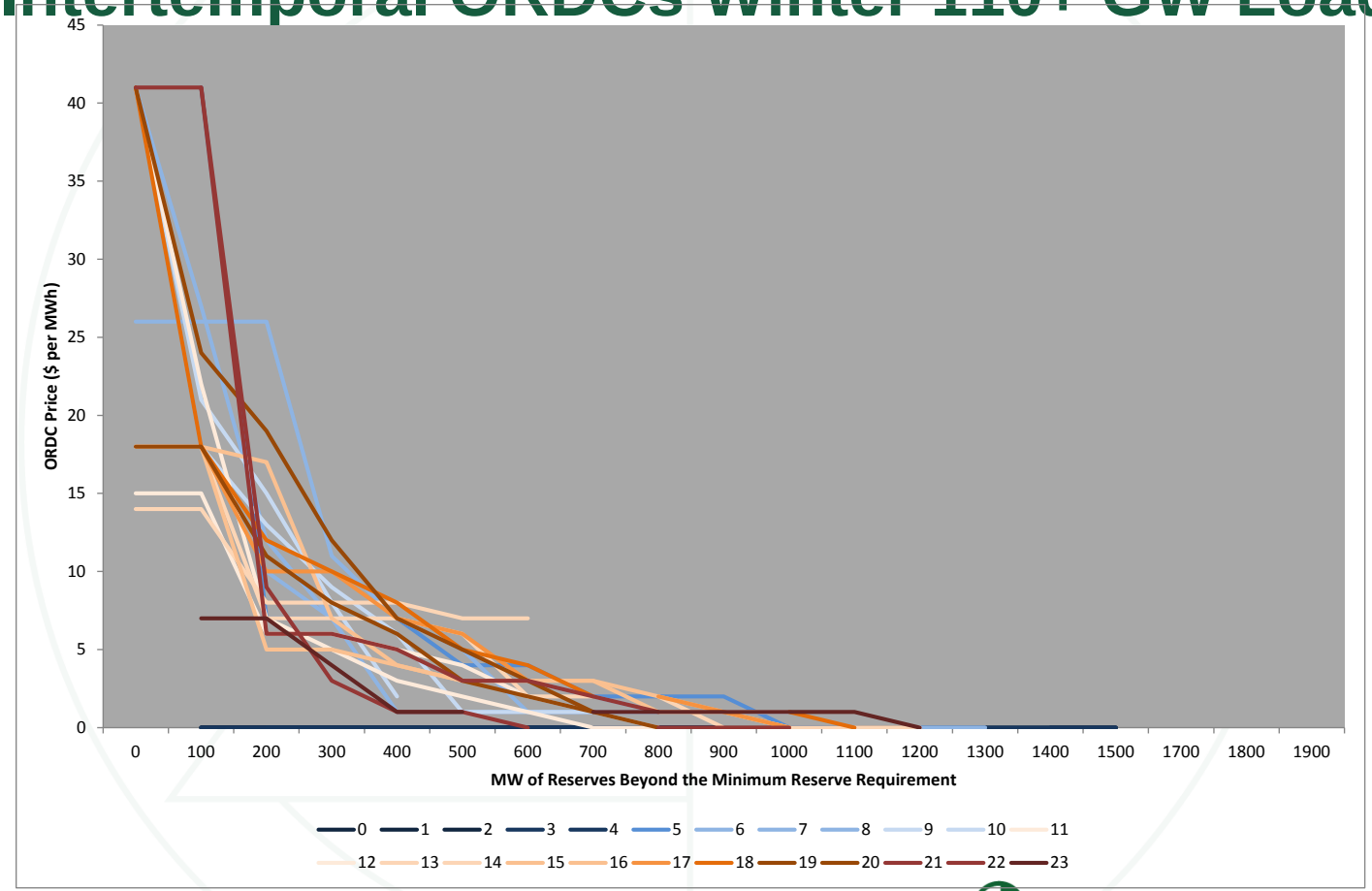
Intertemporal ORDCs Winter 110+ GW Load



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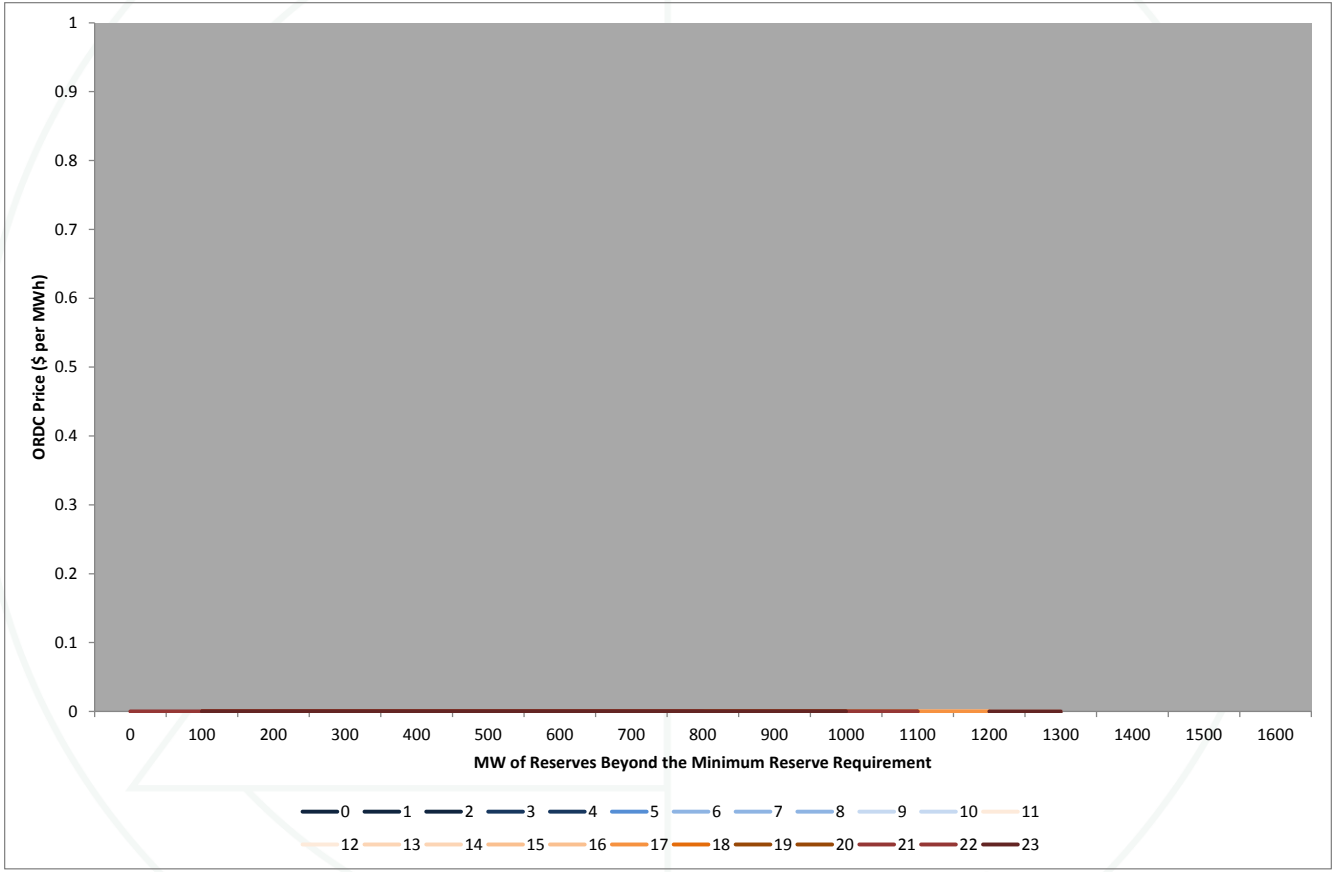
Intertemporal ORDCs Spring 85 GW Load



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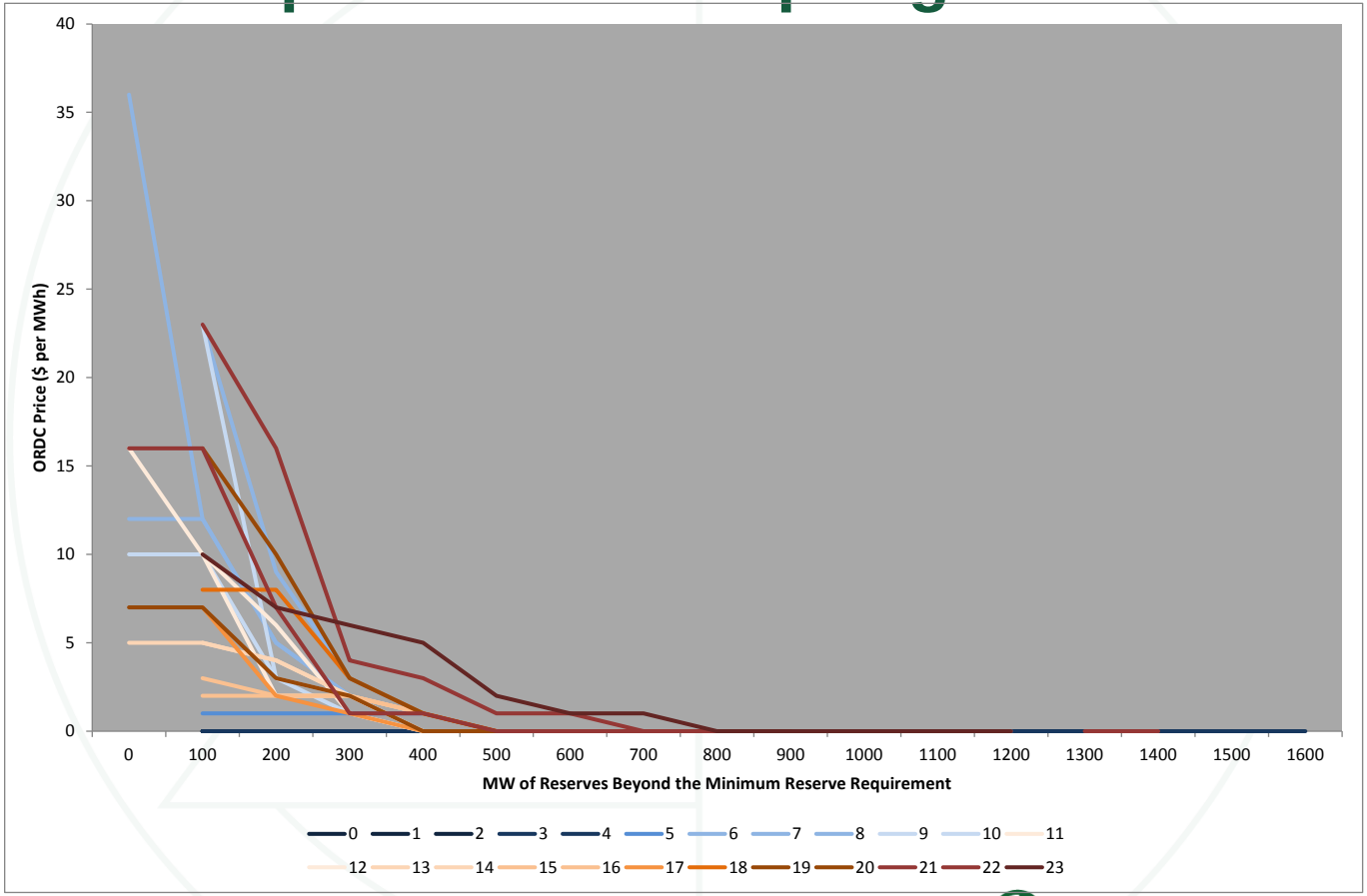
Intertemporal ORDCs Spring 100 GW Load



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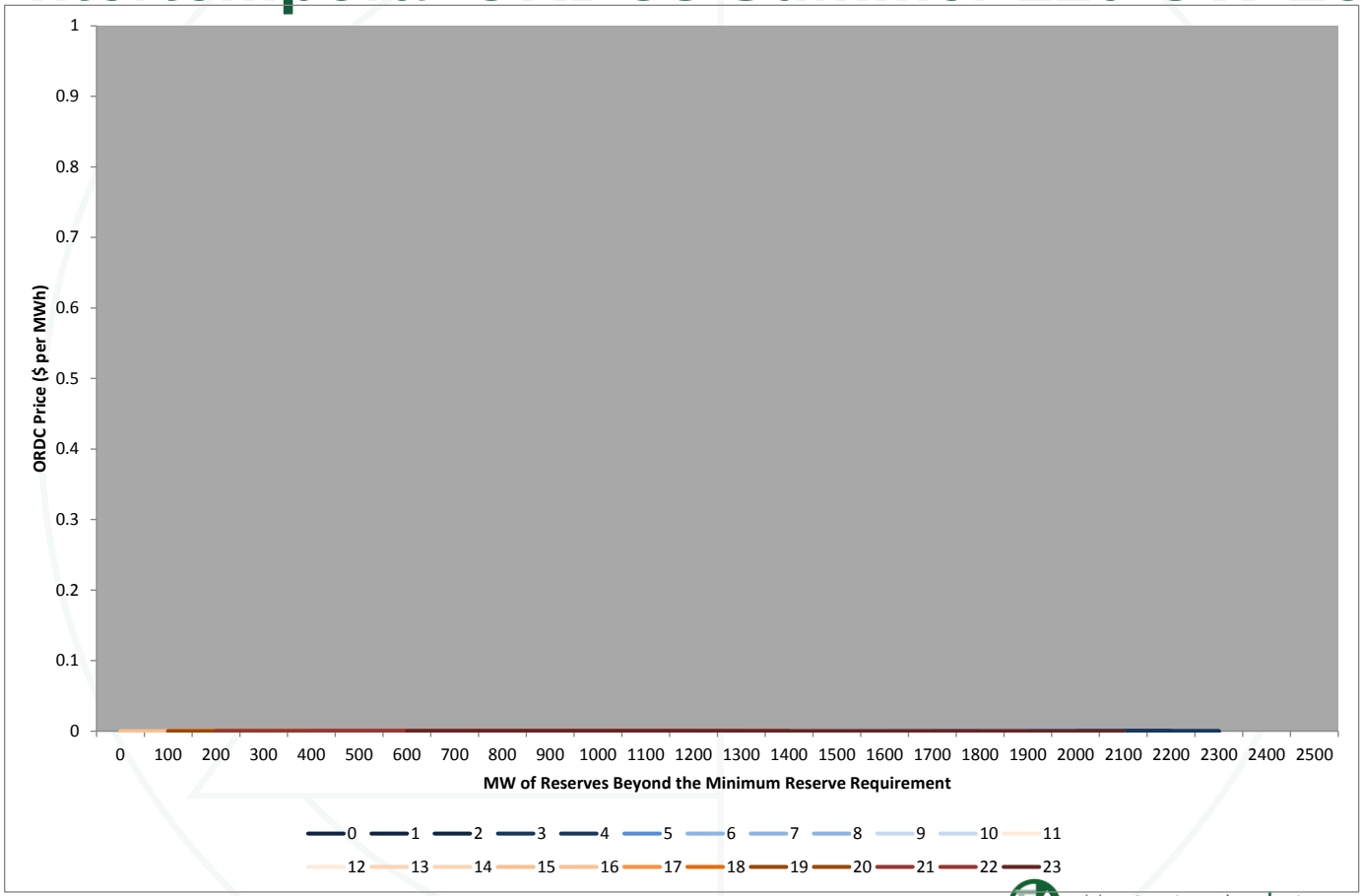
Intertemporal ORDCs Summer 110 GW Load



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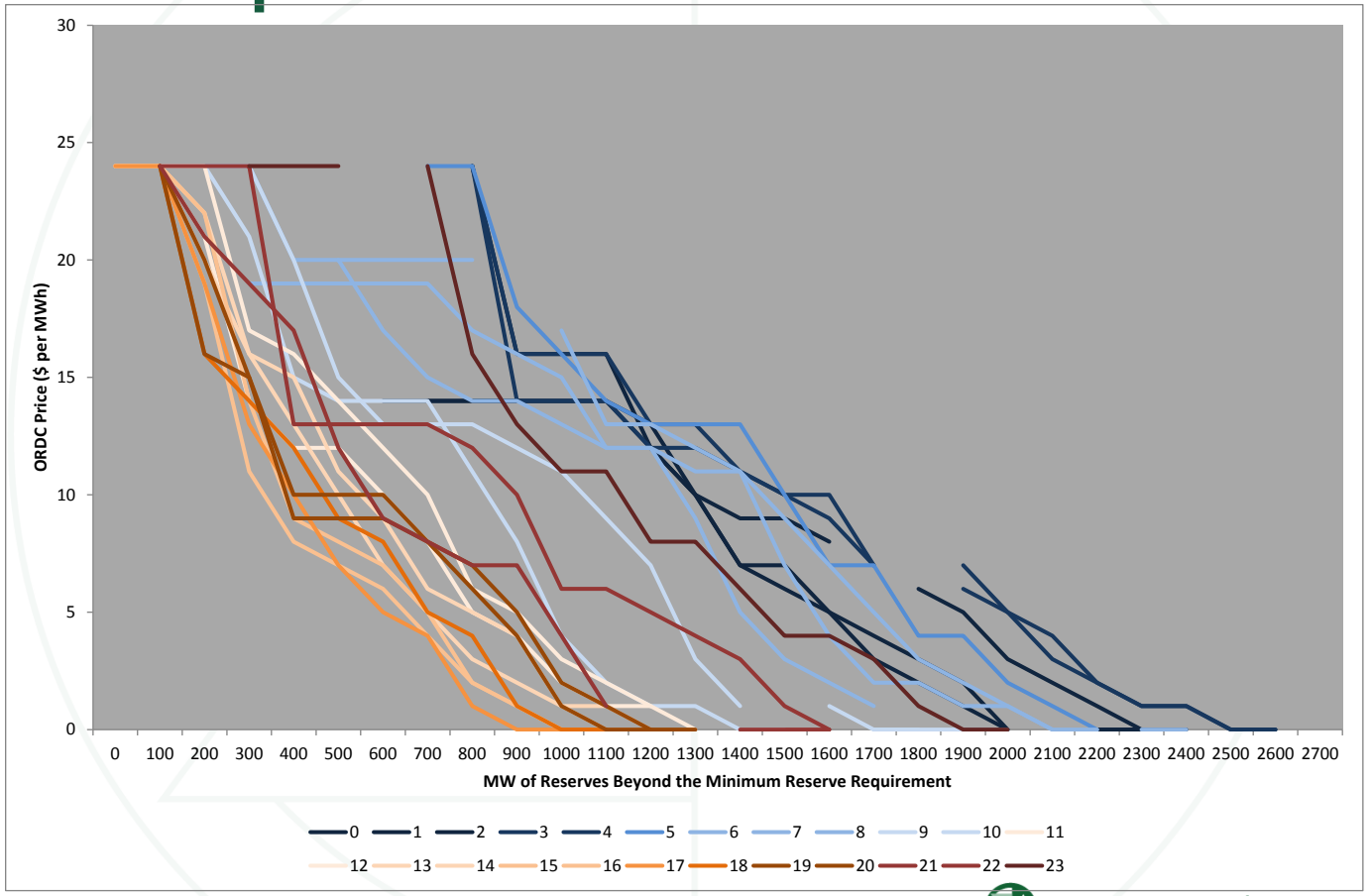
Intertemporal ORDCs Summer 120 GW Load



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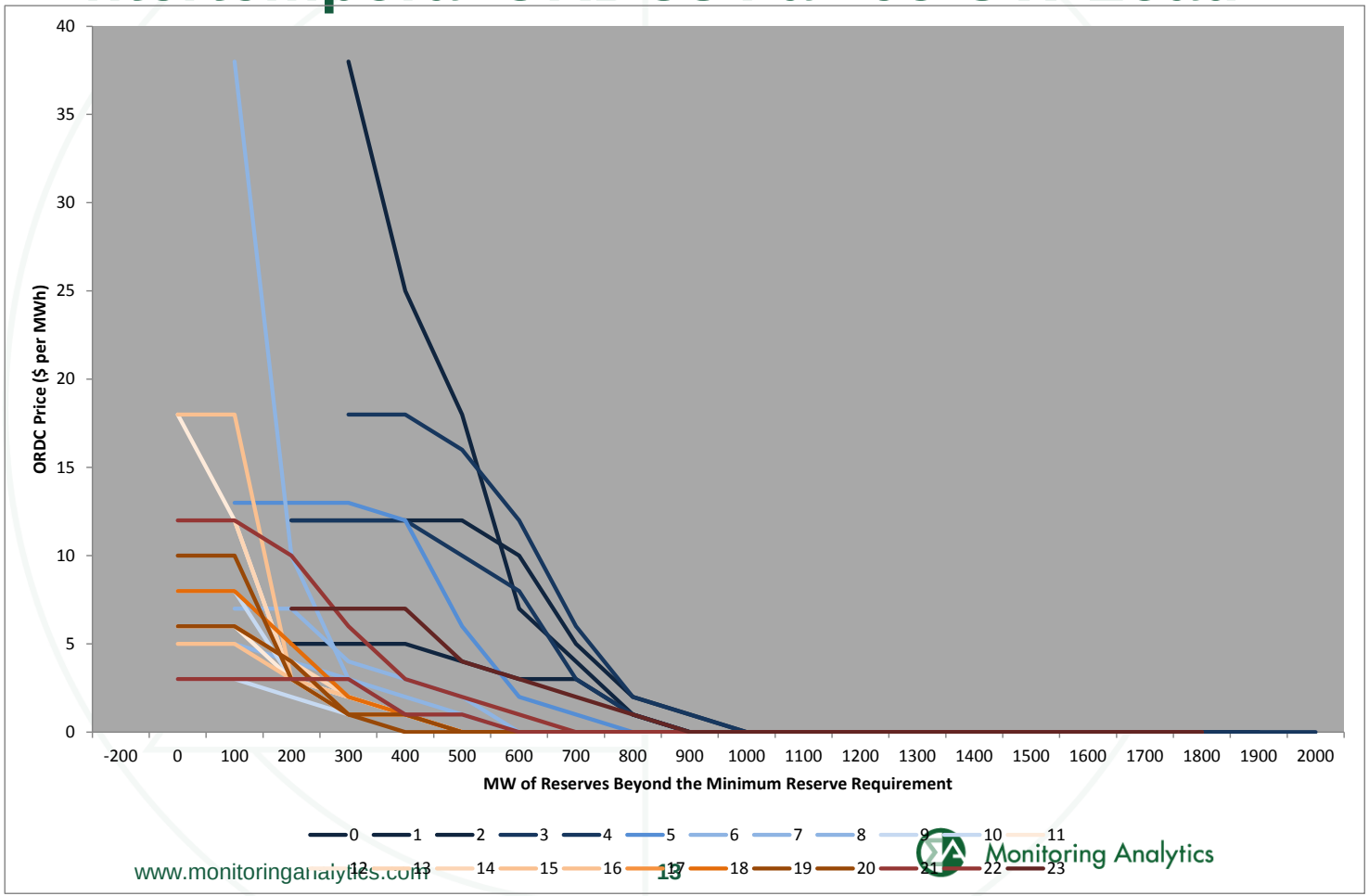
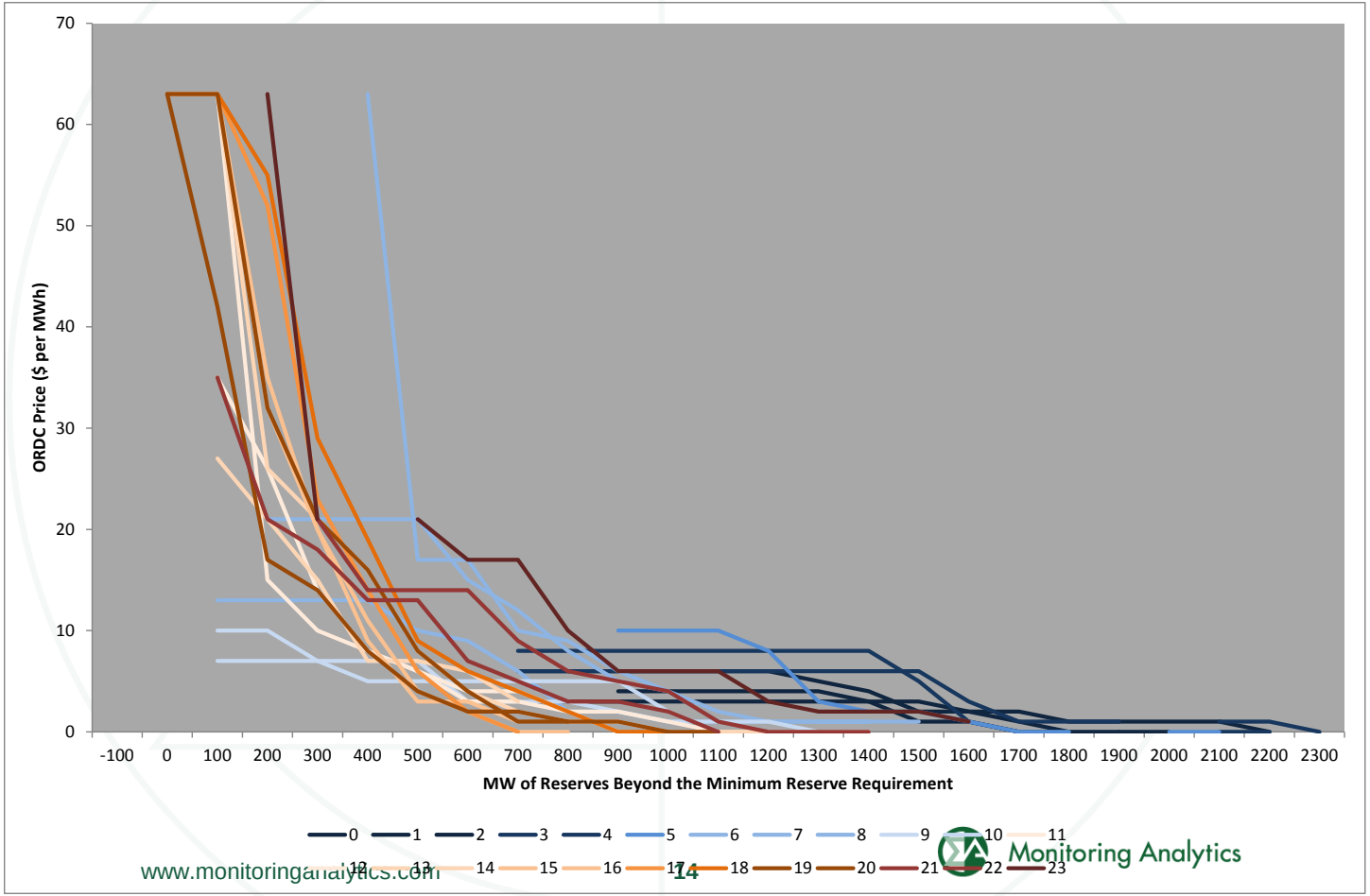
Intertemporal ORDCs Fall 95 GW Load



Intertemporal ORDCs Fall 105+ GW Load



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