New York ISO
Independent System Operator

Consumer Impact Analysis: Methodology for More Granular Operating Reserves

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Background

- **The More Granular Operating Reserves project includes the following components:**
  - Establishing a reserve region in Zone J (completed)
    - Market design approved by stakeholders in March 2019
    - Zone J reserve requirements implemented on June 26, 2019
  - Evaluating load pocket reserves in New York City (NYC)
    - Proposal developed in 2019 and reviewed with stakeholders at the November 6, 2019 BIC meeting
  - Assessing reserve provider performance
- **The focus of this presentation is the consumer impact of the proposal for establishing reserve requirements for certain load pockets in NYC**

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Out-of-Market Costs

- The NYISO has identified that resources within load pockets are often committed out-of-merit for local reliability based on their ability to meet Local Reliability Requirements (LRRs)
- The LRR evaluation can result in committing resources that would not otherwise be committed economically
  - These commitments may result in uplift if the resource does not earn enough revenue to recover its day-ahead bid cost
- Uplift payments may result in market outcomes where the full cost of the resources required to meet system needs are not transparently reflected in energy prices
  - The 2018 SOM report noted that the total value of Day-Ahead Bid Production Cost guarantee (BPCG) payments incurred to satisfy N-1-1 contingency requirements for NYC load pockets was over $26 million in 2018

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NYISO's Proposal

- **The NYISO is proposing to establish three new reserve regions within Zone J and associated 30-minute reserve requirements to be procured in both the Day-Ahead and Real-Time Markets**
  - Load pocket reserve regions would be nested within existing upstream reserve regions (Zone J, SENY, East and NYCA)

Load Pocket	30-Minute Operating Reserve Requirement (MW)
Astoria East/Corona/Jamaica	325
Astoria West/Queensbridge/Vernon	225
Greenwood/Staten Island	250

- **A 30-minute reserve requirement reflects the resource capability necessary to restore transmission flows to applicable limits following a contingency event within 30 minutes, consistent with rules for NYCA reliability**
- **The NYISO is proposing to establish operating reserve demand curves for each load pocket that assign a $25/MWh value to the proposed reserve requirements**

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Benefits of the Proposal

- **More efficient scheduling and procurement of resources**
  - Generators providing local reliability needs would be scheduled economically through a market-based mechanism
  - Help to offset some of the out-of-market commitment costs required to satisfy LRRs
- **Locationally specific market price signals**
  - Aligning reserve regions with load pockets provides a clear signal as to the additional value that may be attributable to resources located in certain areas
- **Incentive for investment in resources that can supply 30-minute reserve products**
  - In the absence of a market mechanism, economic incentives for investment in resources in load pockets capable of providing the required reserves are muted

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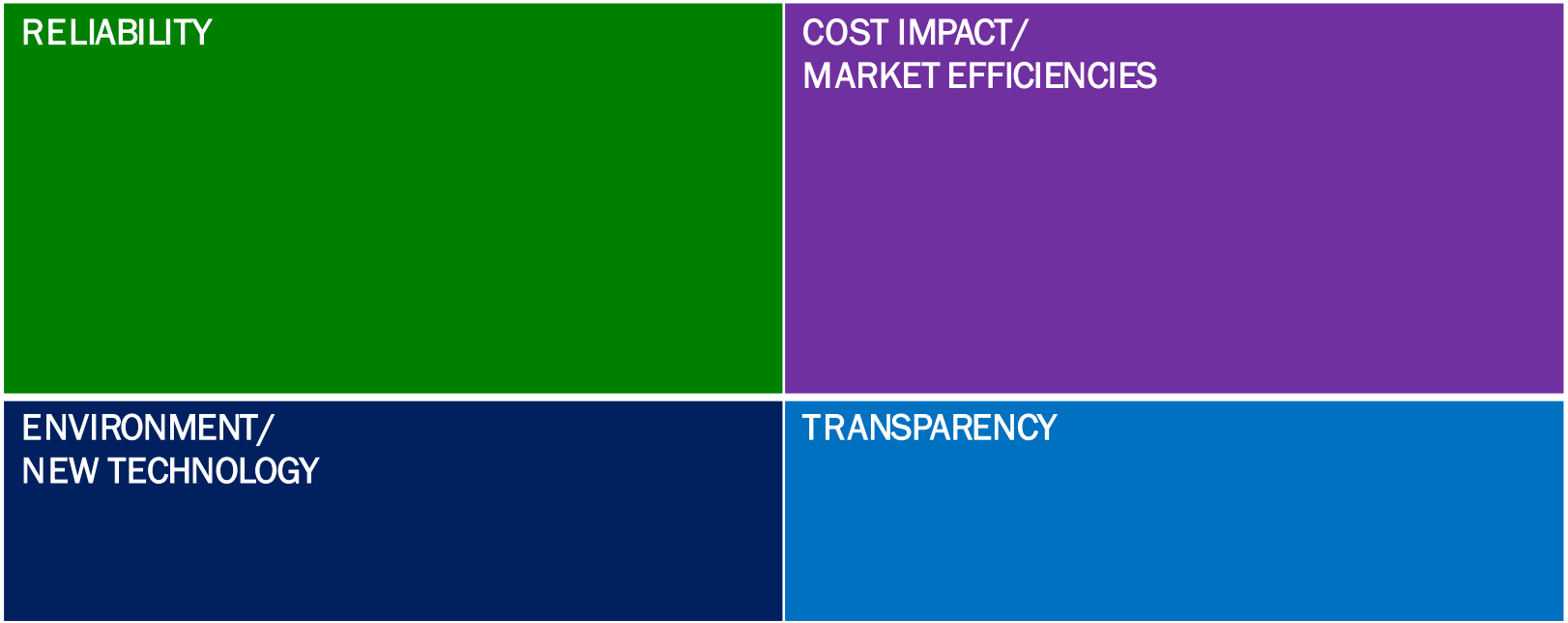
Consumer Impact Analysis (IA) Evaluation Areas

- Present the potential impact on all four evaluation areas



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Cost Impact Methodology

- **Using the NYISO's Day-Ahead (DA) Market software, re-run select market days from 2019 with the addition of the proposed load pocket reserve requirements**
  - Several factors will be considered when selecting the days to analyze, including: amount of DA BPCG, load, seasonality (e.g., summer and winter), LRR commitments
  - All days selected include the deployment of the Zone J reserve region
- **Compare LBMPs from re-run cases to original LBMPs to find an LBMP delta**
  - The LBMP delta will be based on the subset of days analyzed
- **Use the LBMP delta to estimate consumer impact on energy prices**
  - Multiply the LBMP delta by the DA LBMPs to compute an adjusted DA LBMP accounting for the proposed reserve requirements
  - The adjusted DA LBMPs will then be multiplied by the actual real-time integrated hourly load
    - The result of this calculation will be summed to determined an estimated annual LBMP impact
- **Discuss the potential impact on resource commitment in each load pocket**
- **Assess the potential impact on DA BPCG payments incurred to satisfy N-1-1 contingency requirements for NYC load pockets**

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Other Impacts

- **Evaluate other Impacts:**
  - Reliability Impacts
  - Environmental Impacts
  - Impact on Transparency

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Feedback?

- Email additional feedback to: deckels@nyiso.com

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policy makers, stakeholders and investors in the power system

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