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**Multi-Day Energy Security (MDES) Product**

**October 18-19, 2023**

# Multi-Day Energy Security (MDES) Design Principles

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- Address the net load forecast error across multiple weekend days, including holidays
  - “Net load” incorporates both load forecast error and intermittent generation forecast error
- Create incentives for generators to procure incremental energy available to system operators
  - Timing is key to allow for timely procurement and nomination if necessary in the operating plan
- Minimize costs to load and mitigate systemic risks to generators
  - Acknowledges the realities of gas system operating and market constraints
  - Aligns needs of Electric market reliability with gas system realities
- Non-discriminatory – open to all resources capable of providing service
  - Provides additional secondary benefits through early price discovery, allowing system operators to develop alternative operating plan of relevant period

# MDES Design Review

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- MDES Suppliers receive a fixed payment in exchange for arranging for incremental energy for each day of a pre-determined (weekend) period and offering the energy at or above a pre-determined price.
- PJM determines the:
  - conditions when MDES auctions would be held based on number of days in the weekend and forecasted reserve margin throughout the weekend;
  - Daily quantity, denominated in MWh, to procure and informed by *net* load forecast error; and
  - strike price, set in \$/MWh, equal to the highest forecasted LMP over the period.
- Suppliers submit \$/MWh price pair offers by 9:00am, PJM clears MDES independently of the DAM, and announces MDES awards by 10:30am.
- MDES auction clears on a vertical demand curve with a cost cap informed by the substitutability of alternative resource types – e.g., slow starting resources, etc.
- MDES suppliers awarded an energy reserve obligation must submit evidence of fuel procurement by 3pm Friday and are assessed an administrative penalty if they don't.