Recent developments at RTOs/ISOs and implications for coal, demand response, energy efficiency and renewable energy

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PJM

• PJM Interconnection is a regional transmission organization (RTO) and independent system operator (ISO) for all or parts of 13 states and the District of Columbia

• PJM operates a competitive wholesale electricity market and manages the electric grid to ensure reliability for more than 61 million people

• PJM claims that it is “a neutral, independent party” and that “[a]n independent Board oversees PJM’s activities”
PJM is responsible for

- Grid planning/reliability
- Resource adequacy
- Day to day operation of the grid
- Important markets
- The largest RTO/ISO in the world in terms of peak load served
FERC Order 1000

• Issued on July 21, 2011
• Requires significant changes to transmission planning processes
  —more transparency
  —consideration of non-transmission alternatives
  —consideration of public policies
PJM Backbone Transmission
PJM Transmission and Tie Lines
PJM Markets

• PJM runs “capacity” and “energy” markets for its 13+ state territory and 61 million people.

• PJM’s capacity market procures enough generation (three years ahead) to meet demand, plus a cushion called the installed reserve margin.

• PJM’s energy market operates in real time, and pays generation that produces electricity during the day and night.
PJM Market Rules

• PJM capacity and energy market rules are very important – the markets need to incent the building of new generation and ensure that enough generation is available when needed

• Changes to PJM’s market rules can cause existing generation to become uneconomic and retire, or make it economic for them to stick around

• Important for renewable generation, energy efficiency, distributed generation, coal plant retirements, and demand response
PJM Markets

• PJM has been a leader among RTOs and ISOs in establishing markets for energy efficiency and demand response, along with renewables

• PJM’s capacity market will pay demand response and energy efficiency providers, and renewable generation, to be available when needed

• PJM has more demand response participation than all other RTOs/ISOs, but has recently started to cut back on the amounts of demand response and energy efficiency that can participate in its capacity market
FERC

• Needs to approve most significant changes to PJM’s market rules

• Gives PJM a tremendous amount of deference, especially when PJM claims that something is needed for “reliability” reasons

• PJM has filed many different proposed market rule changes at FERC over the last 2-3 years which will significantly change the economics for renewables, demand response, coal plants, and energy efficiency
Recent PJM FERC Filings
Recent PJM FERC Filings

• Two years ago FERC approved PJM’s request to cap certain types of demand response in PJM’s capacity market.
  – Demand response (“DR”) that is not available all year round is now capped, so some available demand response cannot receive capacity market payments
  – Very little demand response participates in PJM’s energy market as such participation requires daily actions and monitoring, so excluding demand response from participation in the capacity market can be very damaging to DR
Recent PJM FERC Filings

• PJM made a number of FERC filings last year and early this year, many of which PJM claim are needed to address last winter’s severe weather events and unusually high amounts of forced outages

• PJM asked FERC to approve its request to allow PJM to enter into “reliability must run” contracts with generators for not just reliability reasons but also for resource adequacy reasons – FERC denied this request
Recent PJM FERC Filings

• PJM asked FERC to approve changes to the procurement curve it uses to determine how much generation will be obtained – FERC approved this request so PJM will be procuring more generation each year

• PJM asked FERC to approve its retention of 2000 MWs of generation that it was planning on “releasing” – FERC approved

• FERC is currently evaluating PJM’s proposed “Capacity Performance” changes – which, if approved, will completely change the capacity market
PJMs Capacity Performance Filing

• PJM proposes to change its current capacity market rules to eliminate the different types of capacity products – limited DR, extended summer DR and annual products – and create one new product dubbed “Capacity Performance”

• Capacity Performance products would need to be available 24/7/365, and would face very large new penalties (up to 1.5x the “cost of new entry”) for non-performance during high demand periods
PJM’s Capacity Performance Filing

• PJM proposes to require 100% of all capacity to bid into the market as “Capacity Performance” by 2020

• Demand response and energy efficiency that is not available all year round, and renewables and storage, cannot meet the definition of Capacity Performance

• If approved, PJM’s Capacity Performance changes will likely eliminate capacity payments for many clean resources, and instead will be paying older dirtier generation to stick around
PJM’s “Stop Gap” DR Filing

• PJM proposes to change the rules pertaining to DR capacity auction participation if the Supreme Court does not accept cert. in the EPSA case

• If approved, and if the US Supreme Court denies cert. in EPSA, the rules pertaining to DR participation will greatly change

• The biggest change would be that aggregators of DR – curtailment service providers – would not be able to participate (potentially eliminating up to 70% of DR)
Energy Efficiency, Renewables and Demand Response

- EE and DR and renewables need markets to thrive
- PJM does not consider DR, EE or renewable generation in its planning studies unless these products “clear” in PJM’s capacity auction
- If PJM is successful in pushing DR, EE and Renewables from its markets, or severely limiting their participation, PJM will also not consider them in its planning, or as available to help meet demand and the installed reserve margin
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