PJM MIC Discussion of FERC Order on Capacity

January 2020
LS Power Overview

- LS Power has invested over $40B+ to finance and support energy infrastructure investments in the United States.
- LS Power actively invests in competitive power markets and:
  - Manages over 15,000 MWs of generation capacity and over 4,000 MWs of demand response and energy efficiency for a total of over 19,000 MWs throughout the US.
  - Makes fuel neutral investments, including solar, wind, battery energy storage, natural gas, hydro, pumped storage, demand response and energy efficiency.
  - Recently agreed to acquire EVgo, an electric vehicle fast charging business.
  - Investing over $2B+ in high voltage transmission projects.
LS Power Overview

Power generation and transmission company formed in 1990

- **40,000+ MW**
  - Power generation development, construction or operations experience

- **$40+ billion**
  - Capital raised to finance and support investments in energy

- **$1+ billion**
  - High voltage transmission placed into operations since 2013

- **$1+ billion**
  - High voltage transmission in permitting or construction

**CAISO, ERCOT, MISO, NYISO, PJM**

Transmission competitively awarded to LS Power
Project Portfolio

Extensive development and operating experience across multiple regions, markets and technologies
LS Power Transmission

**One Nevada Transmission**
- Partnership with NV Energy
- 231 miles 500 kV transmission
- 8 miles 345 kV transmission
- EHV substation
- $500+ million construction cost
- First connection between northern and southern Nevada

**Cross Texas Transmission**
- Selected by PUCT
- 298 miles 345 kV transmission
- 4 EHV substations
- $500 million rate base
- Public Utility in Texas

**LS Power Grid New York**
- Selected by NYISO
- 100 miles 345 kV transmission
- 2 EHV substations
- $750 million estimated cost
- Partnership with NYPA

**Silver Run Electric**
- Selected by PJM
- 3 mile 230 kV Delaware River crossing, EHV substation
- $146 million construction cost cap

**DesertLink**
- Selected by CAISO
- 60 miles 500 kV transmission
- $145.5 million construction cost cap

**Republic Transmission**
- Selected by MISO
- 31 miles 345 kV transmission
- $58 million cost cap
- Public Utility in Indiana
LS Power Footprint in PJM

- With over 11,000 MWs of capacity in PJM, LS Power is the second largest privately held generation company in the market
  - Our PJM generation assets include clean supply resources: hydro pumped storage, solar, and natural gas fired peaking and combined cycle facilities
  - Our affiliate, CPower, is the largest supplier of demand response and energy efficiency in PJM
  - LS Power is developing transmission assets in PJM
- LS Power is technology neutral and will invest where price signals are efficient and transparent to provide an opportunity (but not a guarantee) of a return on its investment
  - With two-thirds of LS Power’s generation portfolio in PJM, PJM has provided investment opportunities over its history that have provided significant consumer benefits
Support for Grid Reliability

- The FERC order is a pragmatic approach to striking the appropriate balance between grid reliability and states’ desires to support certain resources

- The order does not prevent states from determining their resources but merely preserves the long-term market price signals necessary for grid reliability as clean energy resources are integrated into the marketplace
  - The order is not expected to deter renewable energy projects as those projects do not rely on the capacity market to support investment
  - In fact, wind and solar resources comprise only 1.2% of PJM’s capacity requirement

- Non-exempt subsidized units may continue to participate in the auction on a competitive basis by rejecting the state subsidy or petitioning PJM for the unit specific exemption
Solar Economic Example

As an example of how the order is unlikely to impact our renewable investment decisions, below is the calculus that would go into a solar investment in NJ

- **SREC**: assuming $200/SREC (MWh) and a 17% capacity factor, a 10MW project generates $10MW * $200/SREC * 8760 * 0.17 = $3mm

- **Energy**: assuming $35/MWh and a 17% capacity factor, a 10MW project generates $10MW * $35/MWh * 8760hrs * 0.17 = $0.5mm

- **Capacity**: assuming $150/MW-Day and a 45% Solar UCAP, a 10MW project generates $10MW * $150/MW-Day * 365 Days * 0.45 = $0.25mm

Consequently, as a % of total annual revenue:

- SREC = 80%;
- Energy = 13.3%
- Capacity = 6.7%
How the Order Impacts Us

- LS Power strongly supports the transition to a clean energy economy and is actively investing in storage, renewable energy and low carbon technologies.

- This order provides for a durable capacity market design and supports our continued investment in PJM.

- Delay of the capacity auctions and the lack of forward price transparency has impeded the ability to grow low cost capacity resources such as Demand Response, Energy Efficiency and expansions of generation facilities.

- Creating clarity and restoring the 3 year forward price certainty quickly will allow business development cycles to be restored.
PJM Should Focus on the Following

- Promptly conduct the two delayed auctions
  - The DY 22/23 BRA should be held no later than August 2020 and the DY 23/24 BRA should be held by the end of 2020
  - PJM can follow the same time line that was laid out for the cancelled August 2019 auction

- Establish ACR, Net CONE and guidelines for unit specific exemptions
  - 2018 Net CONE and ACR can be refreshed
  - DR and EE Net CONE and ACR are likely to be low but should be established through the stakeholder process

- Clarify the treatment of aggregated DR and EE resources
  - Aggregation for auction purposes makes administrative sense versus a location by location evaluation

- Clarify the definition of “Subsidy”
  - Clarify that costs imposed by a state on a generation resource are not subsidies (like RGGI)

- Ensure that all aspects of the “capacity product” are properly understood through on-going education efforts with policymakers and other stakeholders