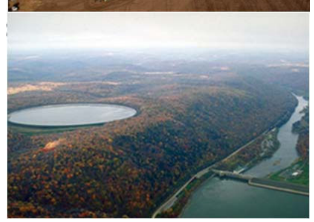
Core Principles Review of a Forward Capacity Market (FCM) without a Minimum Offer Price Rule (MOPR)

August 12, 2021







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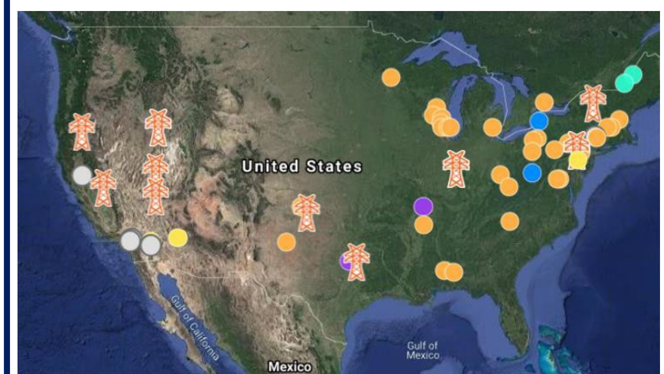
LS Power Group Overview

LS Power is a development, investment and operating company focused on the North American power and energy infrastructure sector

- **Founded in 1990, LS Power has over 250 employees** in NY, NJ, MO, TX and CA, beyond which its projects and businesses have **provided thousands of construction and operations jobs**
- **LS Power has raised over $47 billion in debt and equity** (including over $10 billion through its investment partnerships) **to finance and support energy infrastructure investments in the U.S.**
- LS Power actively invests in competitive power markets and
  - **Manages over** 14,000 MW of generation capacity and over 4,000 MW of demand response and energy efficiency, for a total of over **18,000 MW throughout the US**
  - **Makes fuel neutral investments,** including solar, wind, battery energy storage, natural gas, hydro (both run-of-river and pumped storage), demand response and energy efficiency
  - **Leaders in distributed energy through EVgo** (the nation's largest fast charging platform for electric vehicles), **Endurant Energy** (provider of on-site energy and microgrid solutions in North America), **CPower Energy Management** (leading demand-side energy management company that helps commercial, industrial and government organizations save on energy costs, earn revenue through energy curtailment, enhance sustainability efforts, and contribute to a balanced, reliable grid)
  - **Invests over $2 billion in high voltage transmission to support U.S. renewables and grid reliability**

Innovation and Investment in Energy



Presentation's Purpose

A package of reforms reduces the legal and regulatory uncertainty of a straight elimination of the MOPR and can be done reasonably quickly

- Briefly frame the debate.
- Describe the need to add "something" to MOPR elimination
- Describe the "something":
  - Address existing FCM problems that MOPR elimination will exacerbate – persistent capacity surplus;
  - Address foreseeable FCM concerns that MOPR's elimination will accelerate – over-accreditation of certain capacity resources;
  - Compensate Sellers for accepting incremental "public policy" risk created by Buyers; and
  - Reform supplier-side mitigation to balance Seller and Buyer interests.
- Solicit stakeholder, IMM, and ISO feedback on this presentation in order to refine the next steps.

Framing of the Debate

Irrespective of whether the current market design is Just & Reasonable (J&R), elimination of the MOPR without accompanying changes may not yield a J&R rate either.

- The Federal Power Act, Commission precedence, and the ISO-NE Tariff explicitly require federal regulators to balance seller and buyer interests.
- Simply declaring that a market with a MOPR does not create a J&R rate without establishing a sufficient record does not support that MOPR's elimination without accompanying changes would yield a J&R rate either.
- EMM's states that significantly more zero-cost capacity resources must be removed from the market to ensure revenues in the no-MOPR and MOPR cases are equal (see slide 25 of its 8/11 presentation). This reduction may suggest that an increase in WACC is insufficient to yield a J&R rate; removal of zero-cost capacity is antithetical to the very purpose of the elimination of MOPR.
- ISO's 8/11 presentation appears to rely on the EMM's results (that only addressed the narrow question ISO posed to them) to justify ISO's position that the EMM's results sufficiently addresses the J&R question.
    - "The [greater uncertainty (risk) over future capacity prices without the MOPR] *appear* to be addressable with limited changes to cost of debt and return on equity values used in the Net CONE calculation" (Slide 4)

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A Basket of Possible Market Design Changes Are Needed

Balancing interests benefits both sellers *and buyers* in the long-term.

- Proper accreditation and actual performance risk:
  - Elective Load Carrying Capability (ELCC) ensures resources are being compensated for the services provided (our reliance on ISO's expressed intent to pursue these changes)
  - Pay-for-performance reforms that introduce meaningful performance risk and differentiate resources based on actual contribution (see Jericho presentation of 7/26)
- Rationalize excess capacity
  - Require all resources to participate in the energy markets based on class-specific technological operating limitations (see Calpine's 7/7 proposal).
  - Allow Market Participants to monetize interconnection rights (as PJM and NYISO do). This missed opportunity contributes to transmission overbuild, higher costs to ratepayers, and less incentive to rationalize surplus (Jericho's future September presentation)
- Shifting "public policy" risk from buyers to sellers requires compensation and seller's ability to manage future risk
  - Enhanced price formation in the FCM fairly compensates sellers for taking on this incremental risk (see Jericho presentation of 7/26).
  - Supplier-side mitigation reforms are necessary for Sellers to protect against future incremental risks (introduced by Buyers) that may not be compensated with the foregoing price formation changes (next slides).

Supplier Side Mitigation Reforms

Proposed changes remain dedicated to prevent the exercise of supplier market power for financial gain.

- Current framework (i.e., Dynamic Delist Bid Threshold (DDBT)) casts the widest possible net and only then looks for the possible exertion of market power. All market participants, regardless of portfolio size or *pro rata* quantity, that wish to delist must submit a cost workbook months in advance and lock in their bids.
  - With elimination of the MOPR, mitigation will only be applied to existing merchant resources, not existing subsidized and not new entry.
- The DDBT is calculated based on the preceding auction clearing price, *which is presumed to be a competitive result*.
  - Ignores the administrative barriers that prevent Market Participants from submitting competitive offers
  - Does not take into account the effects of the elimination of the MOPR, which will likely result in an uncompetitive auction clearing price.
- Potential changes may include
  - Calculate the DDBT based on a simulated competitive result (e.g., EMM's E(revenues) = Gross CONE?)
  - Apply a net benefits test to determine which Market Participants may actually be capable of wielding market power and allow the rest to submit competitive bids.
  - Examine the need of a sealed bid auction framework to address concerns of Market Participants wielding start-of-round market power.

Supplier Side Mitigation Reforms (cont)

Using a hypothetical example to illustrate a conceptual framework for market power screening.

- Assumptions:
  - Market Participant (MP) with 1,000 MW (only ~10 MP's have larger portfolios)
  - End of Round 4 of FCA15: $3.00/kWm and 1,246 MW excess
  - 1 GW MP offers a higher priced tranche at $3.000 (beginning of 5th round price) and the rest of the portfolio at a price at or below the actual clearing price of $2.611/kWm.
  - The modified clearing price clears on the demand curve (i.e., full rationing of the new marginal resource). This is reasonable because the excess MWs at end of round greatly exceeded the MP's portfolio size and it has no knowledge of how others may offer/bid.
  - Results:

$3-priced tranche size (MW/% of portfolio)	10/1%	30/3%	50/5%	100/10%
Adjusted clearing price ($/kWm)	$2.577 (May result in a lower clearing price because the marginal unit appears to be non-rationable)	$2.632	$2.688	$2.830
Net Change in Portfolio Position ($000's/yr)	($717)	($695)	($689)	($768)

  - A relatively large MP would not be able to wield market power in this scenario and in most other scenarios. Smaller MPs would, in almost every case, be unable to wield market power.

Proposed Path Forward

- Meeting scheduled with ISO on understanding potential limitations of the PfP reform proposal.
- Solicit information from the EMM from its model to quantify FCM enhancements
- Provide a comparative analysis, by RTO, of Market Participants ability to monetize interconnection rights.
- Solicit input from the IMM on proposed changes to the supplier-side mitigation framework.

Thank you for your time and attention