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Sent: Friday, September 1, 2023 3:08:45 PM

Subject: Comments on Staff Paper on Market Coupling

To the esteemed commissioners and CERC members:

Firstly, I want to congratulate you on the excellent paper on market coupling. This is an urgent need for India and I applaud you for taking this action forward.

Having worked in North American markets (specifically MISO), I wanted to offer the following observations. Especially given that the international examples are heavily weighted toward Europe, I hope this perspective is valuable:

- 1) In Europe, the challenge is that the markets are physically disconnected due to poor transmission ties. It should be clear that India (unlike Europe) has a unified transmission grid, so the challenge is not geographic coupling, but coupling among markets.
- 2) Not requiring transmission block allocation would be a very good step-though congestion is limited now, this could become a problem as more RE is added and markets become more integrated
- 3) I disagree with the concern this could dampen innovation & technology investment. Though the analogy is imperfect, having a government-run neutral market-maker (think like UPI), but liberalizing what services market operators can provide (Paytm, BharatPe, Gpay, etc.) would unleash innovation. However, it is crucial for enabling regulation/legislation to allow market operators to provide more such services

Specific recommendations addressed in section 5:

- 1) The natural market coupling operator is Grid India. It is crucial for the auction itself to be run by a neutral central government party with independent governance.
- 2) In terms of settlement, I would consider multi-settlement algorithms used by ISOs in North America (similar to Europe)
- 3) It is crucial to introduce in as many market segments as possible. The reason there are insufficient supply side bids is a lack of overall supply in the market (~220 GW of firm capacity that is available at the maximum price of Rs. 10 or less vs. demand of 230 GW+. This is not a fault of the market operation but of the lack of capacity resource planning

Other recommendation:

- 1) As the paper notes, only 7% of power is currently sold through exchanges. It is crucial to increase this amount, for example by obligating or at least encouraging DISCOMs to procure real-time energy in the exchange (and separating out capacity contracted for reliability purposes). Thermal generators (including state and private) should be obligated to offer surplus capacity in the market
- 2) All power should be bid at marginal variable cost (eg. ~0 for RE), *not* PPA cost
- 3) It is crucial to resolve the jurisdictional dispute between CERC and RBI ASAP and allow financial structures. This would be a key role for the existing market operators going forward-they could offer "fixed price" short, medium and long-term contracts to both DISCOMs and generators and compete on who can offer the best prices/lowest spreads. Allow market operators to "cancel out", hedge prices and take market risk, similar to financial market makers in other jurisdictions
- 4) Should move toward reducing gate close from 15 minutes to 5 minutes and/or decreasing the number of time blocks from n-6 to n-2 to increase liquidity
- 5) It would be best to have one unified market discover and publish the "true" price where supply-demand meets, rather than with an arbitrary cap, with **payments** reduced to the cap (eg. Rs. 10/kWh) to ineligible bidders (eg. domestic coal, hydro, vanilla wind and solar) rather than separating out as an HP-DAM market. That is, if the true market clearing price is Rs. 20/kWh, eligible bidders (LNG, battery storage, pumped hydro, etc.) would receive Rs. 20/kWh and others would receive the market cap. Buyers would pay the weighted average.

Thanks & Regards.

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Thank you!

What is this?

Haha, thanks!