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Dear Sir,

Subject: Comments on Central Electricity Regulatory Commission Discussion Paper on Re-designing Ancillary Services Mechanism in India

We are in receipt of the Central Electricity Regulatory Discussion Paper on Re-designing Ancillary Services Mechanism in India.

At the outset Statkraft Markets values the opportunity to provide inputs and interact on an important subject and we appreciate the steps being taken by honourable commission to develop the mechanism where ancillary services are procured by inviting bids and at market determined competitive prices.

1. **Inclusion of Demand Response:** Demand Response may be considered for participation in providing the Reserves at the market determined compensation price. This will ensure energy & environmental efficiency as well as operational benefit since the excess demand is met at the node/load centre itself.

The paper is describing Ancillary Services Mechanism with Centralized Despatch of electricity which is followed in most of US Market. But the current Indian Electricity Market is following the Decentralized despatch as per European Market. The Hon'ble commission may address the following Clarification or challenges:

1. **Inclusion of Long Term Generators:** The share of Short term Collective transactions in India as of now is less than ~10%. Thus short term volume may be inadequate along with the technical issues like Ramp up/Down rate and Technical Minimum; the Base of Participants should increase in order to ensure there are adequate supply of reserves and liquidity in the market.
2. **Exchange based model:** The paper considers the day-ahead energy and spinning reserve bid to be placed on exchange which is also altered or resettled with Real time demand changes. Considering demand for tertiary reserve is at pan India level is monitored by system operator, how will the reserve allotment work in a situation of more than one power exchange.
3. **Capacity charges:** In US and in European Market, resources in Ancillary Services are given a capacity charge. A capacity charge is needed to make successful Ancillary Services in India as per proposed design. In next few years during high intermittent renewable generation, India will be needing the Ancillary Market wherein the fast reserves should be given more revenue than slow spinning reserves. This will motivate power plants to put its few MW as reserves. Sally Hunt in "Making Competition Work in Electricity" at Page No. 156 had also described the same as below: -

When a generator provides reserves, it incurs two types of cost:

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1. Operating costs: Additional standby costs that would not otherwise be incurred if it was shut down; extra fuel costs from not running at optimal output; and extra wear and tear from having to modify operations suddenly.
2. If, by providing reserve, the generator is held back from profitably selling energy into spot energy markets it incurs an additional opportunity cost, equal to the profit foregone.
These reserves are not a separate service from energy—they are options to buy energy if required. They should be priced as options to call energy in the spot market. The way that options are priced in commodity markets is through the combination of an option fee (for standing ready) and a strike price (payment) if the option is called.

4. Difference in regulatory provisions:

Regulatory At Page No. 20 para 2 following is mentioned: -
"All Inter-State / Intra-State generation (Public or Private) resources may be qualified to provide Ancillary Services"
Intra State Public Generating stations are governed by State Regulations wherein its tariff, criteria for qualifying as URS power etc. may differ for each state.

5. Demand estimation:

At Page No. 25 para 4 following is mentioned: -
"6.28 The RLDCs in concert with the SLDCs shall establish ***tertiary reserve demand curves****,one for each type of tertiary reserves requirement. The demand curves shall however be subject to a price cap equivalent to the highest variable cost of the available CERC regulated generation capacities in the country."*
While "Total System Demand" is mentioned in the examples.
Whether in Day-Ahead Market, normal Demand curve will be plotted by System Operator(s) as well in addition to tertiary reserve demand curve.

6. Liquidity in Real Time Market

At Page No. 22 following is mentioned: -
6.16.2 In case the requirement changes in real time and the system operator does not require a supplier selected in day ahead market to provide tertiary reserve services, the supplier would be required to buy back the unserved quantum at real time prices.
The above para is not encouraging for a generator to participate in Day-Ahead reserve market due to following reasons: -

a) Illiquidity in Real Time Market
b) Uncertainty about prices in Real Time Market.

In such cases the settlement mechanism should be different to avoid the uncertainty risk for generators.

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