Date: 15.06.2026

To,

The Secretary,
Central Electricity Regulatory Commission (CERC)
6th 7th & 4th Floor, Tower B, World Trade Centre,
Nauroji Nagar, New Delhi - 110029

Subject: Comments/suggestion on **Staff Paper on "Capacity Market for Electricity in India"**.

Dear Sir,

1. Hon'ble Commission issued **Staff Paper on "Capacity Market for Electricity in India"** and invited stakeholders for comments/suggestions on the same.

2. The paper discusses options for capacity contracting in India. The proposals discussed in the paper depart from the existing contract design and seek to allocate risks to both buyers and sellers appropriately while, at the same time, indexing capacity contract terms, dispatch, and pricing to the energy market.

3. At the outset, Hindustan Power Exchange Limited (HPX) is pleased to present its comments and suggestions in response to the Staff Paper. We wish to commend the Commission and its staff for the comprehensive and thoughtful articulation of the need for a Capacity Market in India. Our detailed comments/suggestions are enclosed as **Annexure I**.

Thanking you,

For Hindustan Power Exchange Limited

(Harish Saran)

Managing Director

Encl.: A/a

Annexure I

Comments and Suggestions on the Staff Paper on Capacity Market for Electricity in India (April'2026) issued by the Central Electricity Regulatory Commission

I. General Observations on the Staff Paper

The Staff Paper correctly highlights that the existing framework of long-term PPAs primarily ensures recovery of fixed costs but does not necessarily incentivize capacity availability during periods of highest system need. Therefore, linking capacity remuneration with performance during peak and stress hours is a logical and necessary evolution of the market design.

HPX appreciates the recognition that international capacity market models operate on the principle that capacity providers recover revenues through a combination of capacity payments and energy market earnings. While this represents a departure from the traditional Indian framework, a well-functioning energy market can gradually support such a transition.

II. Comments on the Proposed Capacity Market for RA/Capacity Obligation (Section A of the Staff Paper)

HPX welcomes the three options proposed under the RA Obligation Capacity Market framework. We offer the following comments with respect to each option:

2.1 Option 1: RA Obligation Capacity Market – Capacity-only bidding with Net-CONE demand curve

This option offers a clean, market-aligned design where capacity remuneration is discovered competitively against a Net-CONE-based demand curve, consistent with international best practice. However, there are key concerns related to the implementation of option 1 in the Indian context:

a) Artificial Distortion of Market Price Discovery: The proposal to place discom bids above the price cap and generators to be a price taker for those who have participated in RA obligation capacity market will lead to distort the economic interpretation of the demand and supply curve. This departs from the fundamental principle of transparent and welfare maximizing price discovery in DAM/RTM. It has been observed historically that on anticipation of prices to be discovered on higher side due to anticipated demand rise, shortage of fuel, generation outages, extreme weather conditions, discoms and other market participants tends to increase the price in their next session and that keeps on going till the time conditions are not normalized. When the market participants is aware of it, that some buy bid will always be above the price cap, then they will tend to follow it by placing it in the maximum bracket and this will not happen solely on those particular time blocks

but spread would be evident in other time blocks as well. To check the efficacy a simulation for historic data shall be undertaken by plotting the demand curve above the price cap and then extrapolating the bids of market participants to capture the deviation during extreme conditions.

b) Ambiguity Between "Participation" and "Clearing": The proposal requires capacity providers to participate and clear during NLDC-notified stress periods. However, it is pertinent to note that a generator can control availability and bid submission but cannot fully control market clearing outcomes even if it is a price taker. Non - clearance of bid can happen due to transmission constraints, congestion management or insufficient demand in the market. Therefore, penalty should apply only for failure to offer committed capacity as price taker and not for circumstances beyond the generators control.

c) Challenge in determination of Net-CONE: Different technologies have significantly different cost structures and reliability characteristics. Therefore, a single Net-CONE benchmark may not appropriately reflect the value of thermal, hydro, BESS, pumped storage, gas-based resources, and demand response. Thus, a prudent methodology is required to be formulated which shall ensure that burden on consumer shall not be exorbitant and simultaneously it should not be too low to discourage new investment.

2.2 Option **2: RA Obligation Capacity Market – Total cost bidding with market dispatch and bilateral settlement**

This option seems better than option 1 on following grounds:

a) Revenue certainty for capacity providers: Capacity providers recover both fixed (capacity) and variable (energy) costs through the contracted total cost structure thus reduces dependence on the price volatility of DAM/RTM. Stable revenue streams improve financing prospects for Thermal Generations, Hydro projects, Pump storage projects (PSP), Battery Energy Storage system (BESS) etc.

b) Better Suited to Indian Market Structure: It retains the familiar total-cost bidding structure (capacity + variable charge) thus minimizing transition risk from the current procurement model.

c) Protection against energy price volatility: Contract for difference kind of settlement shields both buyers and sellers from extreme price fluctuation and reduces exposure to scarcity driven price spikes. This allows discom to secure future capacity requirement with greater cost visibility.

d) Reduced Merchant Market Risk: Unlike option 1, generators are not entirely dependent on uncertain DAM/RTM revenues and therefore beneficial particularly for long-gestation assets with high capital cost. Such model can attract participation from BESS, PSP, gas-based plants, and demand response providers.

However, concerns regarding artificial distortion of Market Price Discovery and ambiguity between "Participation" and "Clearing" needs attention as discussed in option 1.

2.3 Option 3: Residual RA Obligation Capacity Market – Centralized auction for shortfall capacity

This option is useful as a backstop mechanism for discoms unable to meet RA obligations bilaterally, ensuring system-wide adequacy through a centralized agency-led auction on Net-CONE principles. Its benefit lies in aggregating residual demand, potentially achieving scale economies and standardized contracting (10-15 years), while also creating a short-term secondary market for surplus capacity. The peak/stress hour obligations and penalty structure mirror the other options, maintaining consistency in availability assurance.

However, the centralized auction approach raises several concerns.

a) It introduces an additional layer, a central agency between discoms and generators, which adds contractual and counterparty complexity and may dilute accountability if a discom's RA shortfall recurs or if the central agency's creditworthiness/payment security mechanism is weaker than that of individual discoms.

b) Aggregating residual demand across discoms with differing load profiles, peak timings, and regional constraints (transmission corridors, intra-state vs inter-state) may result in a capacity mix that is not optimally suited to any individual discom's actual system needs.

c) Since buying entities under Option 3 have no scheduling rights, discoms lose operational flexibility over capacity they are financially obligated to pay for, which could create a disconnect between financial liability and operational control.

d) Treating this as a "residual" market may create a moral hazard, discoms might deliberately under-procure in the primary bilateral RA process, knowing a centralized backstop exists, thereby weakening the incentive for proactive resource planning.

e) The long contract tenure (10-15 years) discovered through a centralized, possibly less liquid auction (since only shortfall discoms participate) may not reflect true competitive market pricing, especially in early years when participation could be thin.

Additional Suggestion

It may be considered that capacity providers under the RA framework be permitted/required to sell their contracted energy only in the Day-Ahead Market (DAM) and not in the Real-Time Market (RTM). Restricting transactions to the DAM, which is finalized on a day ahead basis, provides adequate buffer time to identify and rectify bidding errors, system glitches, or communication failures, thereby protecting RA capacity providers from such inadvertent and disproportionate negative outcomes while still preserving the principle of market-based dispatch.

III. Comments on the Proposed Reserve Capacity Market (Section B of the Staff Paper)

The proposed Reserve Capacity Market may be viewed as a more structured evolution of the existing TRAS framework. While the proposal introduces annual auctions, clearer compensation mechanisms, and demand-curve-based procurement, its success will depend on addressing the liquidity challenges.

To improve participation, HPX recommends:

a) Establishment of a transparent methodology for determining commitment or holding charges.
b) Compensation levels that adequately reflect the opportunity cost of reserving capacity.
c) Periodic review of dispatch outcomes to ensure that the reserve market remains commercially viable.

IV. Comments on the Proposed Secondary Short-Term Capacity Market (Section C of the Staff Paper)

HPX welcomes the proposal to introduce a short-term capacity market and views it as a timely and necessary complement to the long-term RA framework, enabling efficient redistribution of surplus and deficit capacity on a quarterly/monthly basis. Power Exchanges, as established technology platforms with proven experience in conducting transparent price discovery for DAM, RTM, and various other market segments, are well-positioned to operate such short-term capacity market. The existing exchange infrastructure already supports robust bid collection, matching algorithms, settlement systems, and market surveillance mechanisms capabilities that can be readily extended to capacity auctions without requiring significant new technology investment, thereby ensuring quick, reliable, and cost-effective implementation of this proposal.

HPX is of the view that Option 2 is better suited for market adoption. The two-part bid structure (capacity charge + energy charge) closely mirrors the bidding format that market participants are already familiar with under long-term PPA/bilateral procurement procedures, where both capacity and energy components are quoted together. This familiarity is likely to ease participant onboarding and reduce bidding complexity compared to Option 1's single-part capacity-only structure, which would require sellers to separately navigate DAM bidding for the energy component.

Additionally, the scheduling mechanism proposed under Option 2 where the contracted buyer holds the first right of scheduling until the day-ahead market window, failing which the seller can access the energy market closely resembles the existing scheduling procedure under the IEGC, where RA-contracted capacity holders enjoy first right of scheduling. This alignment with an established and well-understood operational framework would minimize transition challenges for discoms, generators, and system operators alike, and is likely to support smoother and faster adoption of the short-term capacity market.

The Critical Need for Market Coupling

HPX wishes to draw the Commission's attention to the operationalization of full-fledged Market Coupling across all power exchanges in India as a prerequisite for the effective implementation of the proposed Capacity Market:

The Capacity Market proposals envisage that day-ahead and real-time dispatch will be routed through the energy market and that the Market Clearing Price (MCP) will serve as the basis for energy settlement and bilateral contract reconciliation. This architecture implicitly requires a single, unified MCP reflecting the true system-wide supply-demand equilibrium. At present, however, multiple power exchanges in India operate with separate bid pools and independently derived MCPs, which may diverge significantly under conditions of market stress, transmission congestion, or concentrated liquidity.

In the absence of Market Coupling, the proposed Capacity Market framework would give rise to the following specific concerns:

a) Commercial inequity arising from settlement against a benchmark that differs from the transaction price on another exchange.
b) Distortion of competitive neutrality among exchanges.
c) Sub-optimal economic dispatch due to fragmented price discovery.
d) Reduced market confidence arising from inconsistent settlement outcomes