



Letter No \_\_\_\_\_

Patna dated: - \_\_\_\_\_

**H.I.S.CELL-DAM (CERC)-100/2019**

From;

**A.K Sinha**  
**Director (Technical)**  
**I/C (Power Management Cell)**

To,

The Secretary  
**Central Electricity Regulatory Commission,**  
**3<sup>rd</sup> & 4<sup>th</sup> Floor,Chanderlok Building,**  
**36,Janpath, New Delhi-110001**

**Sub: - Submission of comments and suggestion for Discussion Paper on “Market Based Economic Dispatch of Electricity: Re-designing of Day-Ahead Market (DAM) in India”.**

Sir,

With reference to above, it is inform that Bihar State Power (Holding) Company Ltd (BSPHCL) is hereby submitting the comments and suggestion on Discussion Paper on “Market Based Economic Dispatch of Electricity: Re-designing of Day-Ahead Market (DAM) in India”.

**Observations on CERC discussion paper on Market Based Economic Dispatch (MBED of Electricity**

We appreciate that CERC has issued discussion paper on market based economic dispatch (MBED) to optimize scheduling and dispatch of generation capacity available in Indian power market. We welcome the following major salient proposals discussed in the discussion paper:

- The model intends to broadly create two markets- capacity market & energy market and scheduling and dispatch would be based on economic principles i.e. prioritizing dispatch on least cost generation mix which is really a good proposal.

- Model proposes a hedging arrangement (referred as Bilateral Contract Settlement or BCS) of refunding, to Discoms, the difference between the MO discovered MCP for each time block and the contracted price (VC as per existing PPA), in case MCP is greater than VC of a contracted generator which would optimize the power purchase cost for Discoms.
- The hedging arrangement is based on the premises of capacity market and energy market, which is very much like expanding our FC+VC arrangement with individual generators to a group/ pool of generators. Proposed new arrangement would give rise to numerous hedging as well as trading products.
- Model proposes that during transition of 1 year, URS capacities shall have right to participate in MBED market and concerned Discom shall not have right to recall. However, revenue earned through MBED is proposed to be shared in 50:50 ratio which is again a welcome step.

**We also have following observations in the proposed structure and would like to have clarification on the same:**

1. Flexibility in RE generation is important constraint in scheduling power however, proposed structure does not explain how to handle increasing flexibility requirement due to increasing RE capacity and its penetration.

India has about 89 GW RE installed capacity (wind- 56%, solar- 28% and rest- 16%). A 10% fluctuation in renewable generation during peak generation (when both wind and solar resources are available either simultaneously or individually), the implication on grid would be 5-10 GW. With additional capacity of 80-90 MW coming up in future, the implications would be even higher. This requirement would further get complicated with increasing penetration of solar rooftop systems across length and breadth of geographies. This would require more efforts to improve not only forecasting of RE generation but also availability of balancing power at par i.e. availability and flexibility of balancing power (mostly, non-RE or storage system) to match the requirement, which may vary every 5 minute (time block). Thus, the requirement of non-RE power to manage flexibility and un-certainty associated with RE generation would increase. Proposed MBED or other discussion papers on Real Time Market (RTM) or Ancillary Services Market (ASM) etc. have to address this aspect adequately before embarking on market reforms such as MBED etc.

2. There needs to be state specific impact analyses on benefit of 100% despatch of low cost (VC) power versus loss in maintaining costlier power at Technical Minimum (TMM).

Implementation of MBED targets to maximize utilization of cheaper URS power, which otherwise presently suffer due compulsion to maintain technical minimum (TMM) of entitlement plants.

However, this proposal has to be assessed for two fold implications for power surplus States like Bihar-

- a) Economic trade-off: States need to assess trade-off between maximum/ full utilization of lower VC plants vis-à-vis shaving off the burden of higher VC paid to maintain TMM of entitlement plants as per State specific experience and plans. Further, recommendations of all States must be examined before finalization of MBED;
  - b) Loss off opportunity: Potential URS plants with lower VC or plants running at TMM are utilized to maximize revenue of utilities, which, in turn, is utilized to off-set fixed cost (FC) burden of utilities towards surplus capacity. This aspect needs to be examined as per State specific experience and their recommendations before implementation of MBED.
3. There has to be a mechanism for periodic re-alignment of PPAs with lower MOD (higher VC) once this model is implemented.

There are many States which have sufficient capacity tie up i.e. about 25-30% more than present peaking demand. Also, there is wide range in peaking demand of lean season and peak season. Further, such surplus power situation is expected to prevail over next 3-5 years. Given this scenario, some surplus capacity of these States may be declared entitlement of deficit States for appropriate medium term time horizon (say, 1 year or 2 years etc.) after due stakeholder consultations. This would not only reduce FC burden on surplus States, thus improving financial health of distribution companies but also add vibrancy in capacity market, a plank to MBED. Hence, market reform should also assess and address this aspect before implementation of MBED.

4. It is required to rationalize the Round The Clock (RTC) PPAs for better functioning of proposed structure (MBED). Also, a mechanism needs to be developed to absolve the buyers from the liability of paying fixed charges for the plants which are not able to dispatch power to beneficiaries under MBED due to their high cost of VC (Poor operating efficiency etc.).
5. Proposed structure needs to elaborate on methodology for RE scheduling and despatch alignment. Also it needs to explain the following:

- Is there any possibility of RE being incorporated in national Merit Order Dispatch (NaMOD) and possibility of separate MOD for RE
- How to optimize RE power procurement to avoid curtailment and ensure maximum despatch)

Presently, solar and wind projects enjoy must run status. These projects have associated natural pattern of generation and associated operational as well as commercial implications. Given the underlying principle of MBED being push for more efficient and vibrant operation of power market, it would be worthwhile to explore answer to above possibilities in order to make RE sector more innovative and provide RE poor States with opportunity to meet their renewable power obligation (RPO) targets.

6. If all generators from entitlement of a State get accommodated in NaMOD but actual power does not flow due to transmission constraints then how following issues need to be addressed under MBED:

- a) How would concerned State get power, supposing that such requirement is significant and beyond the scope of ASM or demand response market (DRM)? The MBED needs to provide for dealing with such situations and fix accountability on SO or MO to ensure supply in such situations;
- b) How would interest of both generator and State be protected i.e.
  - i. Would financial implications on buyer utility be mitigated from congestion fund or some other pooled fund? In such situations, utilities may face implications in terms of cost of alternative supply, FC burden, minimum off-take guarantee burden and UI/DSM etc. MBED needs to address this aspect before its implementation.
  - ii. Would generator share any benefit resulting from trading (in TAM, RTM or ASM) of such un-despatched capacity (attributable to such constraints) in some other market? MBED model needs to provide a mechanism which helps not only energy market of MBED but also helps lessen burden on distribution licensees.

7. As netting off the payment to generator i.e. hedging platform to be handled by MO and the MBED shall operate on VC, verification of VC becomes critical for the functioning of the proposed MBED. In view of this, it needs clarification on agency for handling real-time grid balancing issues. In view of this it is suggested that a regulator / Govt. agency should be appointed to regulate the MBED mechanism.

8. There needs clarification on Right to recall i.e. if MCP is more than the VC then how to protect interests of Discoms in case generator fails/ unwilling to supply.

9. It needs to clarify on mechanism for benefit sharing in case unscheduled DC (due to transmission issues) gets despatched at MCP becomes more than the VC.

The model proposes a NaMOD. However, there may come a situation wherein curtailment or restriction may be imposed due to transmission system un-availability. In such situations, the declared capacity (DC) or a part thereof may get scheduled in term ahead market (TAM) or real time market (RTM), which may fetch higher than VC. A mechanism needs to be evolved to address profit sharing between generator and original beneficiaries.

10. On delivery point related issues it may need clarification on the structure of transmission losses and charges and who shall bear those?

Generally every contract has specified delivery point. Accordingly, transmission losses and charges are owned/ paid by parties to a transaction, which is now aligned to point of contact (PoC) philosophy. Under MBED model, whole nation is, ideally and theoretically, envisaged to be one

boundary. In such scenario, MBED needs to address this issues for all PPAs, which may require different treatment as per time horizon of contract i.e. long term, medium term or short term.

11. It needs clarification on issues if arises due to implementation of supplementary PPAs in respect of existing PPAs under Section 63 and any issues related to UI & DSM .

Yours faithfully,

Sd/-

**A.K Sinha**  
**Director (Technical)**  
**I/C (Power Management Cell)**