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Ref: V.P. (PMG)/BYPL/22-23/2374 Dated:04.11.2022

The Secretary,
Central Electricity Regulatory Commission,
Third Floor, Chanderlok Building,
36, Janpath,New Delhi-110001

Sub: BYPL comments/suggestions on Staff Paper on "Power Market Pricing"- Reg

Ref: Hon'ble CERC's Public Notice No. Eco-4/2022-CERC dated 12.10.2022.

Sir,

We write in reference to the aforesaid Public Notice, wherein comments have been sought from the stakeholders.

Accordingly, BYPL comments on the same are enclosed as **Annexure-A** for kind consideration of the Hon'ble Commission.

Thanking You,

***For BSES Yamuna Power Limited,***

04/11/2022

Jitendra Nalwaya

(Head- Power Management Group)

Encl: As above

Annexure-A

# BYPL COMMENTS/SUGGESTIONS ON STAFF PAPER ON "POWER MARKET PRICING"- REG

## A. Does Pricing Methodology need a change?

A1. Would it make sense to switch to pay-as-bid pricing methodology and would it address the concerns regarding super normal profits for inframarginal generators under Uniform Market Clearing Price?

***BYPL COMMENTS*:**

- Uniform pricing is the best method. In *pay-as*-bid , the bidders may quote artificially high though their MOD prices may be low. Under the present uniform pricing rules, suppliers in an effectively competitive market have every reason to bid approximately their marginal opportunity costs for energy in each of the blocks of power that they offer. They know that if any of those bids is rejected because there are lower bids sufficient to satisfy the demand, they will be better off, because they will not have committed themselves to sales at prices that fail to cover their avoidable costs. More importantly, theyalso know that on their accepted bids they will receive the full benefit of whatever price above that level is necessary to equate demand and supply in the market, regardless of the level of their own bids, permitting them to pocket the difference between their avoidable costs and the market clearing price as a necessary contribution toward recovery of their fixed charges and profits.

- Discoms also follow the merit order dispatch (MOD) of power for managing the demand, and dispatching the surplus power, in merit order of generators from lowest to the highest marginal cost output—the consequence is that power is supplied at the minimum cost at each point in time to the Discoms as well as to the market.

- The change in the rules from uniform pricing mechanism to pay as bid mechanism would simply wipe out above mentioned markups. This would make the generators to bid at the prices which they expect will turn out to be the market-clearing price. We expect that this in turn would increase the market-clearing prices and hence will defeat the purpose of introducing pay as bid mechanism for suppressing super normal profits.

- Further, as has been pointed out in this staff paper, another inefficiency which may be introduced by moving to pay-as-bid would be the cost of forecasting market prices that it would impose on all participants. Under the uniform, market-clearing price system, sellers have every motivation to bid their marginal costs, which are of course readily available to them. **Under pay-as bid, seller's profitability depends heavily also on successful forecasting.** The change in the method would introduce large uncertainties into their calculations and the correspondingly

large costs of attempting to forecast what the market-clearing price or prices would turn out to be. These costs, too, would ultimately be borne by consumers.

- **Accordingly, BYPL suggest not to shift towards pay as bid mechanism, as this may increase the market prices which will eventually hurt end consumers in longer terms.**

- Due to recent events in Indian power market with prices reaching at alarming level, this Hon'ble Commission has decided to relook at the pricing methodologies. **We suggest the Hon'ble Commission to enable a mechanism through which this Commission may investigate incidents to check whether large generators may have engaged in strategic withholding of supplies in times of peak demand and consequently sharply increasing market-clearing prices and some penal provisions may be introduced to prohibit such acts.**

**B. What should be the criteria for Regulatory Interventions?**

B1. Would it be advisable to define a tolerance level (for instance, how many times during a day or over the week/month are we tolerant with the price touching the ceiling) beyond which intervention is justified?

***BYPL COMMENTS:***

- We understand that there is no such requirement to define the tolerance level beyond which the intervention of the Commission is justified. There are other mechanism as have been suggested by this Hon'ble Commission in tihis staff paper, which would take care of the issues.

B2. What should be the basis for such intervention and tolerance level in the Indian context?

***BYPL COMMENTS:***

- Please consider the above comment

B3. Would it be advisable to define a dynamic price cap - for example, if the prices breach the tolerance level as defined above,

B4. The price cap is automatically reduced to a point where say 90% or 95% of the supply is cleared? Or

***BYPL COMMENTS:***

- Dynamic price capping mechanism is a good proposition. However, we would like to highlight the fact that the Dynamic capping can be introduced wrt generators as a seller. Whereas, a good amount of power sale is also being done by the Distribution licensees to manage their power surplus portfolio. Discoms have a power mix of different generating stations and after meeting their power demand,

Discoms sale power in market based on merit order dispatch (MOD) principle having different price points for different quantum of bids. The price points are generally being defined based on the variable cost of generators for previous month ( which may substantially increase/ decrease for current month). Any gains in the market by Discoms are being pass through for end consumers in terms of reduction in tariff.

- Accordingly we request this commission to look into the aspect of power sale by Discoms and accordingly decide the system of Dynamic pricing.

B5. generators are mandated to run and are compensated under administered route or based on some pre-specified norms, till the situation (breaching the tolerance level) normalizes?

***BYPL COMMENTS***:

- Not Required

B6. Can a cap be considered on the excess revenues made by power plants that do not use gas or other high cost fuel to produce electricity, such as solar, wind, domestic coal, nuclear, hydropower and lignite? The cap could be uniform and set in advance based on the marginal generator amongst these inframarginal generators and all revenues that exceed the said cap may be collected by system operator.

***BYPL COMMENTS***:

- These type of mechanism is used in Europe.
- For ex:- Crude oil has a cap of ' windfall profits".
- But Hon'ble CERC is to define the mechanism for claw back of excess profit.
- We agree with this proposal. All the power plants which do not use the high cost fuel should not be allowed to make huge gains due to Uniform market price design. However, instead of collecting and refunding the excess revenue, we propose that the separate cap rates should be defined for such generators beyond which they cannot bid in the market.
- Hon'ble commission vide order dated 01-Apr-2022 (Petition number 4 /SM/2022(Suo-Motu)) directed the power exchanges, to re-design, with immediate effect, the bidding software in such a way that members can submit their bids in the price range of Rs.0/kWh to Rs.12/kWh for DAM and RTM. Justification for reducing the cap from Rs 20/Kwh to Rs 12/Kwh was given as under:-
- *"In view of the fact that higher price has not led to commensurate increase in supply* and such position is likely to remain for some time in coming days due to supply

constraints and in view of the fact that 99% of the supply bids (for the days for which data has been analysed) have been in the range of Rs.12/kWh and only 1% of the supply bids have been higher than Rs.12/kWh, the Commission in exercise of powers under Regulation 51 (1) of PMR 2021 directs the power exchanges until further orders, to re-design, with immediate effect, the bidding software in such a way that members can submit their bids in the price range of Rs.0/kWh to Rs.12/kWh for DAM and RTM."

- Similar price capping for all power plants (which do or which do not use the high cost fuel), coupled with the fact that desperate buying happens during crisis period, the market clearing prices of GDAM market ( having low cost fuel sellers) were higher than the DAM market (having high cost fuel sellers). A comparative statement of IEX –MCP for GDAM Vs DAM market is shown hereunder-

| GDAM Rates (IEX) | Month | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apr-2022 | 11520 | 11215 | 11209 | 11207 | 11207 | 11153 | 11234 | 10876 | 9087 | 8094 | 8333 | 7737 | 7798 | 7488 | 8566 | 9567 | 10171 | 10715 | 11327 | 11350 | 11333 | 11307 | 11255 | 11261 | 10209 |
| | May-2022 | 8897 | 8321 | 7365 | 7029 | 7170 | 7360 | 7007 | 6251 | 5666 | 5529 | 5472 | 5586 | 5671 | 5704 | 6331 | 6684 | 6770 | 6994 | 7772 | 8725 | 8533 | 9048 | 9256 | 9048 | 7175 |
| | Jun-2022 | 10645 | 10320 | 9552 | 9065 | 9186 | 7653 | 7576 | 6146 | 5231 | 4782 | 4705 | 4912 | 4973 | 4895 | 5278 | 5829 | 5965 | 6517 | 8227 | 9797 | 9516 | 10460 | 10610 | 10556 | 7600 |
| | Jul-2022 | 6577 | 6235 | 5598 | 5307 | 5456 | 5579 | 5820 | 5141 | 4324 | 4091 | 3921 | 3715 | 3706 | 3659 | 3695 | 4286 | 4754 | 5304 | 6607 | 9293 | 9446 | 9311 | 9111 | 8842 | 5824 |
| | Aug-2022 | 6468 | 5857 | 5472 | 5407 | 5408 | 5803 | 6159 | 5705 | 4752 | 4560 | 4289 | 4005 | 3930 | 3961 | 4054 | 4941 | 5686 | 5676 | 8251 | 9927 | 9782 | 9671 | 9419 | 9154 | 6181 |
| | Sep-2022 | 6609 | 5743 | 5394 | 5495 | 5574 | 6710 | 7235 | 6050 | 5113 | 4907 | 4473 | 4211 | 4293 | 4297 | 4507 | 5208 | 5425 | 6919 | 10156 | 11439 | 10197 | 9607 | 9086 | 8203 | 6536 |

| DAM Rates (IEX) | Month | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apr-2022 | 11817 | 11520 | 11218 | 10929 | 10742 | 11107 | 11259 | 10052 | 8592 | 8349 | 8447 | 8192 | 7441 | 6817 | 8072 | 9264 | 9981 | 10287 | 10858 | 11273 | 10893 | 11210 | 11252 | 11776 | 10056 |
| | May-2022 | 9134 | 8057 | 7290 | 6773 | 6665 | 6716 | 6395 | 5152 | 4168 | 4140 | 4444 | 4855 | 4838 | 5054 | 6168 | 7139 | 6947 | 6680 | 6880 | 8261 | 8231 | 9152 | 9549 | 9485 | 6757 |
| | Jun-2022 | 10511 | 8896 | 7614 | 6676 | 7173 | 6778 | 6026 | 4234 | 3190 | 2926 | 3268 | 3594 | 3843 | 4015 | 5086 | 6176 | 5462 | 4765 | 5305 | 9291 | 9342 | 10417 | 10720 | 10515 | 6493 |
| | Jul-2022 | 7038 | 5560 | 4573 | 4110 | 3993 | 4763 | 5465 | 5145 | 3791 | 3338 | 3139 | 3010 | 2930 | 2789 | 3058 | 3692 | 3897 | 4073 | 6523 | 9881 | 10184 | 10120 | 9849 | 8913 | 5410 |
| | Aug-2022 | 5258 | 4425 | 3907 | 3693 | 3873 | 5397 | 6144 | 5277 | 4001 | 3624 | 3335 | 3287 | 3049 | 2824 | 3218 | 3814 | 4343 | 4378 | 6624 | 9627 | 9386 | 9120 | 8427 | 6963 | 5166 |
| | Sep-2022 | 6030 | 5113 | 4580 | 4185 | 4320 | 5426 | 7053 | 5520 | 3996 | 3508 | 3344 | 3363 | 3370 | 3129 | 3707 | 4536 | 5015 | 5781 | 8997 | 11226 | 9334 | 8487 | 7910 | 7221 | 5631 |

- One of the reason of the higher GDAM rates vis-s-vis DAM rates can be due to the fact that the bid matching preference is being given to GDAM bids followed by DAM bids. At present GDAM and DAM market are being operated in parallel. The members (buyers & sellers) during the bids may opt for transfer of unsuccessful bids of Green Day Ahead Contract to Day Ahead Contract with same or different price. At the end of the bid session, the exchange trading platform matches orders for each Contract sequentially i.e. first Green Day Ahead Contract will be matched followed by Day Ahead Contract considering the uncleared bids of Green Day Ahead Contract, if any. During the crisis situations, the members while switching from GDAM bids to DAM bids, may choose the option of paying premium rates (buyers) or discount rates(sellers) in DAM rates to secure the power. This process might be impacting the GDAM & DAM prices.

- We propose that the option of revising the bid rates (premium or discount) from GDAM to DAM market should not be allowed. This will ensure that the GDAM sellers not getting benefitted due to preference given for bid matching.

- In view of the above mentioned reasons, we feel that there should be a separate price capping mechanism for power plants which do not use the high cost fuel.

- Further, introducing the separate price capping mechanism for power plants which do not use the high cost fuel may also help for such situations. Accordingly, we propose that such plants (using no fuel or low cost fuel) should be price capped at a benchmark cost, which can be decided by the Hon'ble commission from time to time. Alternatively, such plants can be capped at say 15% of their cost.

B7. To partially capture the surplus profits made by the inframarginal generators, would it be advisable to impose a levy on supernormal profits, as was done by the Government for Petroleum?

***BYPL COMMENTS:***

- We understand that by applying dynamic pricing based on fuel of power plants, imposing a levy on supernormal profits would not be required. However, we suggest that decision on this aspect can be taken, if reduction in fuel wise cap rates do not provide the desired results.

B8. If price cap for inframarginal generators is levied, should the other supramarginal generators like gas based generating stations be left without a cap or a separate price of Rs 20 or so be levied for this segment as well?

***BYPL COMMENTS:***

- We propose the cap rate on all the inframarginal as well as supramarginal generators having separate price caps based on fuel being used.

B9. How do we address the negative impact of price cap?

B10. What should be the basis for defining supramarginal or high cost generators? Technology or fuel source?

***BYPL COMMENTS:***

- Another market can be introduced as " High Price market", to bring on stream these generators.

B11. Would there be enough liquidity in this small segment for collective transactions (demand and supply curve intersection) to take place?

***BYPL COMMENTS:***

- Currently, these types are not in excess but as per the Govt. of India, the majority of power will be dominated by RE power by 2040 onwards which is lessor priced against the thermal & other generators.

B12. Would it lead to market power by these small sets of generators?

B13. If the high cost/marginal generator setting the market clearing price is a concern and a cause for market intervention, would Term Ahead Market (TAM) be a better option for such transactions to take place without affecting the rest of the buyers?

***BYPL COMMENTS:***

- Price capping based on fuel type that too on dynamic basis may serve the purpose and accordingly we feel that there is no requirement for shifting certain set of generators to TAM market.

**C. What should be the market design for incentivising demand response and energy storage system (ESS)? -** A reduction in demand may ease this pressure on prices.

C1. In EU, a region wide plan to introduce power savings is proposed which includes-

- a mandatory 5% target during peak hours, when gas plays a bigger role in price-setting, and
- a voluntary 10% reduction in overall electricity demand

C2. What should the appropriate market structure/design to encourage flexible resources like Demand Response and ESS?

***BYPL COMMENTS:***

- CERC to define the mechanism where system operator will run flexible resources ( for immediate requirement of supply) / crate a different market to being on stream flexible resources / role of ancillary market.
- Present techniques for Demand Response are still evolving & assessing their impact on power pricing / mechanism would require these techniques to be at a more scaled-up penetration. Similarly, for ESS, to have large impacts would require penetration with large capacity (Again, large capacity ESS is how much different from any generator needs to be ascertained!).
- These techniques / technologies are required to be promoted for peak-shaving / flattening of load - curve.
- Some of the steps required to attain maturity for demand response would require :-
  - *Reaching-out to most of the customers / end-users including Domestic segment as well*
  - *Metering capability to record contributions by consumers / end-users.*
  - *Instant connect of utilities with all customers along-with their willingness / situation to participate in the events.. May be role of an aggregator suits the need.*
  - *Capability, of Utilities, to carry out demand response at each customer / end-user level along-with interventions required at end-use.*

- For achieving target of 5% or so for power savings during peak hours, we propose that utilities should be allowed for dynamic ToD tariffs for all/ certain set of consumers. The period for dynamic tariff can be defined by the Discoms on 15 days or one month advance basis and can be published in their website for wider reach of consumers.

C3. Apart from Time-of-Day (ToD) tariff or dynamic tariff for varied consumer categories, what are the mechanisms that can be considered for encouraging such resources? Can we think of bringing aggregators to pool together such resources and participate in the market? If yes, what should be bidding criteria or the cost recovery mechanism for such resources given that their usage is going to be limited to a very small duration during the year?

***BYPL COMMENTS:***

- For successful implementation of demand response, the role of aggregators may be beneficial.