

Comments on the Draft Central Electricity Regulatory Commission (Power Market) Regulations, 2020

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I. Background

The Central Electricity Regulatory Commission (CERC) in line with the mandate under Section 66¹ of the Electricity Act, 2003, brought out the 'Guidelines for the grant of permission for setting up and operation of Power Exchange' in 2007².

Subsequently, with the approval of the CERC, two power exchanges viz. Indian Energy Exchange (IEX), New Delhi (w.e.f. 27.6.2008) and Power Exchange India Ltd (PXIL), Mumbai (w.e.f. 22.10.2008) came into operation. Subsequently, the CERC came up with comprehensive regulations, i.e. Central Electricity Regulatory Commission (Power Market) Regulations, 2010 in January 2010.

Objectives of the Power Exchanges, as per these regulations include to (i) Ensure fair, neutral, efficient and robust price discovery; (ii) Provide extensive and quick price dissemination; and (iii) Design standardized contracts and work towards increasing liquidity in such contracts. In

¹ Section 66 of The Electricity Act, 2003 : *"The Appropriate Commission shall endeavour to promote the development of a market (including trading) in power in such manner as may be specified and shall be guided by the National Electricity Policy referred to in section 3 in this regard."*

² CERC Order dated 6.2.2007 in Petition No. 155/2006 (suo motu)
<http://cercind.gov.in/08022007/GuidelinesforGrantofPermissionForsettingupandoperationofPowerExchange.pdf>

April, 2014, these regulations were amended with provisions pertaining to Qualifications and Disqualifications for appointment of Director in the Board of Power Exchanges.

The regulations also specified net worth requirement, shareholding criteria, composition of Board of Directors, contracts including Price discovery mechanism, Risk Management Mechanism requirement etc. As per the regulations, the Power Exchanges are required to function as per Rules, Bye-Laws and Business Rules as approved by the Commission.

The power exchanges have been running for more than ten years now. CERC has now come up with comprehensive draft regulations, which is expected to bring more clarity to the stakeholders to operate in the market as well as to given direction, vision and regulatory certainty to the market development. During this period of 10 years, the market has matured and gained the confidence of market players as well as regulators and policy makers.

II. Draft CERC Power Market Regulations, 2020

The Draft Power Market Regulations have been brought out by the Central Electricity Regulatory Commission (CERC) at a crucial time, considering the development of market during the past decade as well as the requirement of stakeholders for introduction of new products to meet the changing dynamics of the sector. Our detailed comments on critical elements of the Draft Power Market Regulations are provided in the following sections.

a. Market Surveillance & Market Monitoring

The mechanism for carrying out market surveillance and market monitoring as proposed in the Draft Regulations is a laudable effort. Although the current Regulations do not prohibit the Commission from initiating any action to prevent market abuse; the structure, roles & responsibilities to carry out market monitoring and market surveillance as brought out in the Draft Regulations is a welcome measure. The proposed mechanism instils confidence and is expected to bring more efficient operation by the power exchanges as well as the market players.

b. Need to facilitate increase in depth of the short-term market & allow design of new products to bring RE power on board

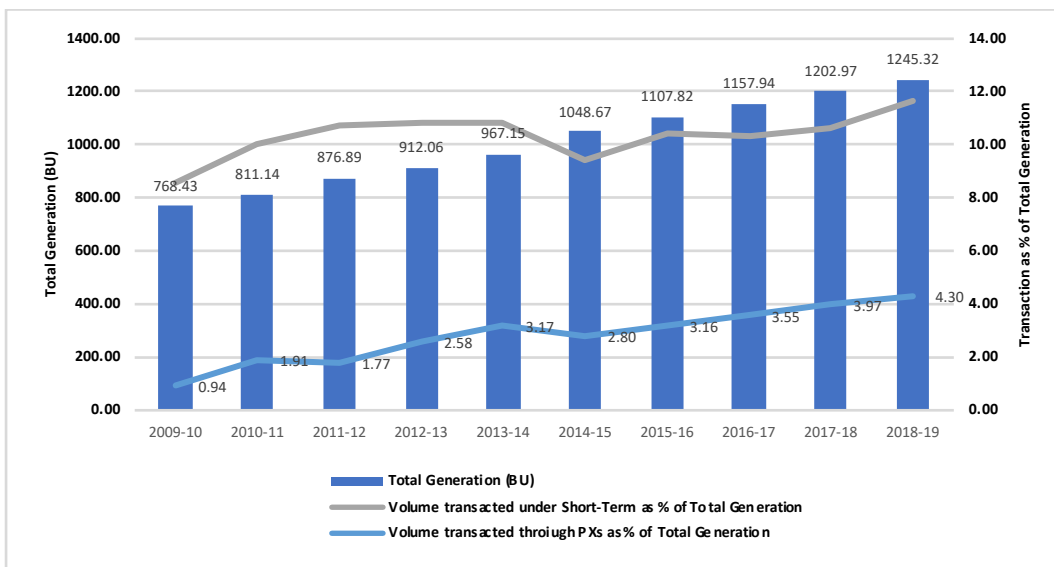
The explanatory memorandum to the Draft Regulations discusses the depth of the short-term market. Since 2009-10, the volume of the short-term market including electricity traded under bilateral transactions through Inter-State Trading Licensees, electricity traded directly by the DisComs, electricity traded through Power Exchanges (PXs) and electricity transacted through the Deviation Settlement Mechanism (DSM) fluctuated within the range of 9 – 12% of total electricity generation in each year. , During the same period, energy transacted through power exchanges has never exceeded 5% (touched the maximum mark of 4.30% in 2018-19) of the total energy generation (Table – 1 & Figure – 1). There has been no significant change or phase shift in the market share of the short-term market or the share of transactions on PXs.

Table – 1 : Total Generation vs. Volume transacted under Short-Term Market and Volume Transacted through Power Exchanges (in MU) during FY 2009-10 to FY 2018-19³

Year	Total Generation (BU)	Volume transacted under Short-Term (BU)	Volume transacted under Short-Term as % of Total Generation	Volume transacted through PXs (DAM + TAM) (BU)	Volume transacted through PXs (DAM + TAM) as % of Total Generation
2009-10	768.43	65.90	8.58	7.19	0.94
2010-11	811.14	81.56	10.05	15.52	1.91
2011-12	876.89	94.51	10.78	15.54	1.77
2012-13	912.06	98.94	10.85	23.54	2.58
2013-14	967.15	104.64	10.82	30.67	3.17
2014-15	1048.67	98.99	9.44	29.40	2.80
2015-16	1107.82	115.23	10.40	35.01	3.16
2016-17	1157.94	119.23	10.30	41.12	3.55
2017-18	1202.97	127.62	10.61	47.70	3.97
2018-19	1245.32	145.20	11.66	53.52	4.30

³ CERC Report on Short Term Power Market in India : 2018-19
http://www.cercind.gov.in/2019/market_monitoring/Annual%20Report%202018-19.pdf

Figure – 1 : Total Generation vs. Volume transacted under Short-Term Market and Volume Transacted through Power Exchanges (in MU) during FY 2009-10 to FY 2018-19⁴



About 88% of the total generation has been transacted through either long-term or medium-term PPAs. Therefore, in order to facilitate further increases in RE generation and provide mechanisms to accommodate the increased forecasting errors associated with this additional generation of RE, the short-term market will need space to accommodate much greater depth.

For achieving such depth, the short-term market needs to facilitate innovative products on the platform. However, the Draft Regulations have not provided scope for introduction of such innovative products, viz. for accommodating variable renewable generation, the emerging interventions such as distributed energy generation, virtual power plants etc.

Therefore, in order to increase liquidity in the short-term market and facilitate the introduction of new products in the market, we recommend:

⁴ CERC Report on Short Term Power Market in India : 2018-19
http://www.cercind.gov.in/2019/market_monitoring/Annual%20Report%202018-19.pdf

- i. Periodically, say before the beginning of each financial year, the PXs should come up with their proposal for newer products such as varying block-bids, RE specific products, products to facilitate distributed energy resources, aggregators of electric vehicle charging stations, virtual power plants etc.
- ii. The periodical submissions (in the form of a Petition) to the Commission should also include performance of the existing products on the trading platform. The PXs should essentially carryout study on the performance of the products and include the findings of the report as part of periodical / annual submission before the Commission.
- iii. PXs should also provide their analysis of the market with suggestions about the products which may need to be discontinued.
- iv. Considering the dynamic nature of the market and changing overall ecosystem, the Commission may decide on the submissions and dispose of the annual submission (petition) for new products within a reasonable period, say 90/120 days, preferably before the beginning of the financial year.
- v. Accordingly, the Power Market Regulations should include a calendar which provides due dates for the Power Exchanges to submit their annual reports on product performance and petitions for introduction of new products along with other recommendations (based on relevant research study), due dates for disposal of petitions and for and deadlines for implementation of directions of the Commission.

c. Competition & Market coupling

Since introduction of power exchange platform for short term trade, the Central Electricity Regulatory Commission has preferred existence of multiple power exchanges as part of the market framework arguing that competition among the power exchanges would facilitate optimal price discovery, product innovation, efficiency in service delivery etc.

At macro level, the current framework for operation of power exchanges is facing three distinct issues, first – “lack of depth in the short term market”, second – “complete market dominance of one exchange” and the third – “non-convergence of prices for the same time-block on the PXs”. These three issues are critical enough to create market distortions thereby necessitating immediate attention of the regulator for taking appropriate regulatory interventions.

The first issue of lack of depth of short-term market has been discussed under Point (b) above.

i. Market dominance of One Player

In case of multiple exchange model, ideally transactions on power exchanges are expected to be representative of entire spectrum of generation (besides resulting in convergence of prices). However, in Indian power market, It is evident from the information in Table – 1 that little less than 5% of total generation is transacted on both the exchanges together, which includes Day Ahead Market, Term Ahead Market and Real Time Market put together. Transaction of the rest of the entire generation is external to the Power Exchanges. In the same context, it is also crucial to underscore that power transacted on PXs chiefly constitutes thermal generation.

Also that the market share between the two PXs is skewed since beginning of the PX operations (Ref. Table – 2 below). One power exchange completely captured the market and during the ten years of operation of the PXs, transaction on one exchange barely touched 18% (for a brief period) of the total and the other exchange has enjoyed complete dominance since 2011-12.

Table – 2 : Volume of Electricity Transacted through Power Exchanges, 2008-09 to 2018-19⁵

Year	Electricity Transacted through IEX (BUs)		Electricity Transacted through PXIL (BUs)		% of IEX Transactions ⁶	% of PXIL Transactions ⁷
	Day Ahead Market	Term Ahead Market	Day Ahead Market	Term Ahead Market		
2008-09	2.62	-	0.15	-	94.58	5.42
2009-10	6.17	0.1	0.92	0.003	87.17	12.83
2010-11	11.8	0.91	1.74	1.07	81.89	18.11
2011-12	13.79	0.62	1.03	0.11	92.67	7.33
2012-13	22.35	0.48	0.68	0.04	96.94	3.06
2013-14	28.92	0.34	1.11	0.3	95.40	4.60
2014-15	28.12	0.22	0.34	0.72	96.39	3.61
2015-16	33.96	0.33	0.14	0.58	97.94	2.06
2016-17	39.78	0.74	0.25	0.35	98.54	1.46
2017-18	44.84	1.37	0.73	0.75	96.90	3.10
2018-19	50.06	2.1	0.09	1.26	97.48	2.52

However, it was reiterated⁸ before the Standing Committee on Energy that competition in power exchanges is encouraged by the CERC Power Market Regulations, ensuring that there are at least two power exchanges in operation. It was also stated that market participants benefit as the exchanges compete with each other to provide better service.

In line with the above, the CERC in its recent Order dated 24.4.2019 in Petition No. 302/MP/2018, observed that one of the power exchanges, i.e. PXIL had not fulfilled the minimum net-worth requirement and shareholding pattern specified under Regulation 18(i) and 19(1) of the Power Market Regulations to operate a power exchange. In its Order, the Commission expressed hope that the petitioner would be able turnaround its business, improve its market share and attain the minimum prescribed net-worth in the near term.

⁵ CERC Report on Short Term Power Market in India : 2018-19

http://www.cercind.gov.in/2019/market_monitoring/Annual%20Report%202018-19.pdf

⁶ Derived from the information in other columns of Table-2

⁷ Derived from the information in other columns of Table-2

⁸ 31st Report of the Standing Committee on Energy on “Action Taken on the recommendations contained in the Fourteenth Report (16th Lok Sabha) on Evaluation of Role, Performance and Functioning of the Power Exchanges”, presented on 7.3.2018 in Lok Sabha and Rajya Sabha.

In its order, the Commission also said that it is considering a number of initiatives to strengthen the power market in India whose success would be intricately linked with the performance of the power exchange market and they had taken a broad regulatory approach of having multiple power exchanges to promote competition amongst the power exchanges for the inherent benefits viz. product innovation, improved services, price control etc. This was another reason the Commission said to give the petitioner more time for complying with the minimum net-worth requirement under the provisions of Regulation 64 of the Power Market Regulations.

ii. Price Convergence

In case of existence of healthy competition among the market players (here, the power exchanges), over the period, the prices are expected to converge. The product being non-re-tradable, the question of arbitrage between the power exchanges does not arise in this case. However, over the period, movement of sellers towards the exchange that discovers higher MCP and buyers towards the exchange that discovers lower MCP is expected to take place, thereby resulting in price correction and finally convergence of MCP within reasonable limits.

However, in case of the power exchange in operation in India, no such convergence of price has taken place, which can be construed as one of the critical market distortions. This distortion needs to be analysed in the backdrop of the systemic frameworks and take necessary action through appropriate regulatory and policy interventions.

iii. Market Coupling

Contrary to this argument favouring competition between multiple exchanges, the Commission has proposed the establishment of a Market Coupling Operator (MCO). As part of the framework, it has also been proposed that the Commission will designate a Market Coupling Operator to aggregate the bids collected by the Power Exchanges and undertake the price discovery.

As per the framework specified in the draft regulations, establishment of new entity as MCO is likely to reduce the power exchanges to insignificant entities, leaving them to merely accept the bids from the sellers and buyers, transfer them to the MCO and finally carry the signal received from MCO about market clearing price (MCP) & market clearing volume (MCV) back to the bidders.

The market distortions which include (i) lack of depth of short-term market, (ii) market dominance of one player and (iii) non-convergence of prices, as detailed above together flash a clear signal that market is not competitive. In this backdrop, the it has not been indicated whether the proposal for coupling the markets is arrived through detailed empirical evidence based research and analysis.

As such any decision to correct the market distortions should be based on evidence based analysis, while evaluating the current structure and mechanism of market operations, examining the issues of lack of depth of short-term market as well as issues of market concentration, identifying the reasons for emergence of these problems along with regulatory measures initiated etc. The study should also explore all possible solutions, both policy as well as regulatory interventions, examine their merits and demerits besides drawing lessons from international experiences of such markets where multiple exchanges have evolved and operating in the same geographical area.

The Study is also expected to evaluate market coupling as one of options along with other possible alternatives to mitigate market distortions, costs involved as well system benefits in respect of each of these solutions, merits and demerits of having private / public entities as market coupling operators, how to maintain checks and balances, how to ensure regulatory oversight including market monitoring and market surveillance etc.

It is not clear, whether a detailed research based study has been carried out by the Commission to evaluate different alternatives. For example whether there should be only one exchange (by cancelling the license of the power exchange which evidently has no market share) (or) giving the option for running the market engine alternatively by the exchanges (or) any other alternative. Without carrying out a detailed study and evaluating these alternatives, deciding to couple the markets does not seem to be appropriate.

Another possible disadvantage of market coupling could be lack of any incentive for market to facilitate product innovation and development. It is very essential to continue to develop this market segment by introducing innovative products to handle the newer technologies and introduce regulatory interventions to increase the depth of the market. Hence, the framework is expected to include necessary incentive mechanism for power exchanges to develop innovative products to be brought to the trading platform.

As such, the market coupling operation without an evidence based research study would not provide any incentive to introduce innovative products. Therefore, we suggest that the proposal for market-coupling be dropped until a detailed study is carried out to understand the implications of such coupling on the development of power markets.

III. Conclusion

Under the proposed Power Market Regulations, the Commission has taken several bold decisions including mechanism for market monitoring and market surveillance, clarity through defining critical terms, platform for OTC market etc. Although these measures are necessary, but it would be beneficial for development of electricity market, if the existing market distortions are appropriately addressed as well as a clear vision and regulatory certainty for the next five year period or so is provided.
