

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 8/SM/2024

**Coram:
Shri Jishnu Barua, Chairperson
Shri Ramesh Babu V., Member
Shri Harish Dudani, Member**

Date of Order: 4.10.2024

IN THE MATTER OF:

Directions by the Commission to the Power Exchanges registered under the Central Electricity Regulatory Commission (Power Market) Regulations, 2021.

DRAFT ORDER

In exercise of the powers conferred under Section 66 read with Section 178 of the Electricity Act, 2003 and the National Electricity Policy, the Commission notified the Central Electricity Regulatory Commission (Power Market) Regulations, 2021 (hereinafter ‘PMR 2021’) on 15.02.2021, which came into force with effect from 15.08.2021. These regulations apply to the Power Exchanges, market participants other than Power Exchanges, and the OTC Market.

2. Regulation 4 of the PMR 2021 enlists the various types of contracts for trading, and Part 3 (i.e., Regulations 5 to 7) provides the features of each of these contracts, covering aspects like Price Discovery, Scheduling & Delivery, etc.

3. At present, the following types of contracts for electricity are available at the Power Exchanges:

- a. Day Ahead Contracts, including Green Day Ahead and High Price Day Ahead contracts
- b. Real-Time Contracts



- c. Intraday Contracts, including Green Intraday and High Price Intraday contracts
- d. Day-Ahead Contingency Contracts, including Green Day-Ahead Contingency and High Price Day-Ahead Contingency contracts
- e. Term Ahead Contracts (Daily/Weekly/Monthly/Any-Day Single Sided Contracts) including Green Term Ahead and High Price Term Ahead contracts

4. Initially, when the two Power Exchanges, viz., Indian Energy Exchange (IEX) and Power Exchange India Ltd. (PXIL), started operations in 2008, only Day Ahead contracts were offered on their platform. Later, vide Orders dated 31.08.2009 in Petition No. 120/2008 (of IEX) and Petition No. 166/2008 (of PXIL), the Commission approved the introduction of additional contracts, i.e., Day-ahead Contingency contracts, Intra-day contracts, Daily contracts & Weekly contracts.

5. To serve the growing volumes of electricity trade and increasing penetration of renewable energy in the grid, the Commission approved the introduction of a Real-Time Market (RTM) vide Order dated 29.05.2020 in Petition No. 225/RC/2020 (of IEX) and 304/MP/2020 (of PXIL). RTM provides buyers & sellers with an organized platform for trading electricity closer to real-time.

6. Further, the Commission, vide Orders dated 07.06.2022 in Petition No. 219/MP/2021 and 229/MP/2021 of IEX and PXIL, respectively, approved the introduction of longer duration contracts up to 3 months duration in the Term-Ahead market and Green Term-Ahead Market. The introduction of these contracts has been made possible due to the outcome of the Hon'ble Supreme Court of India Order dated 06.10.2021, which disposed of the jurisdictional matter between CERC and SEBI in terms of the agreement reached between the two, which provided that the CERC will regulate all the physical delivery contracts, whereas the SEBI will regulate the financial contracts. These contracts are allowed as non-transferable specific delivery-based forward contracts (NTSD contracts) at power exchanges in both conventional and renewable energy segments. The Commission approved these contracts for a maximum duration of three months by following a gradual approach. The Commission allowed the revision in timelines of the existing Daily and Weekly contracts, as well as the introduction of Monthly and Any day single-sided contracts on the exchange platform.

7. The Table below provides details of matching mechanisms and bidding timelines in various types of contracts on the Power Exchanges.

Table 1: Matching Mechanism and Bidding Timelines in Power Exchanges

Contract Type	Matching Mechanism	Bidding/Trading Time		
		IEX	PXIL	HPX
Integrated-Day Ahead Market	Double Sided Closed Auction with Uniform Price	10:00 - 11:00	10:00 - 11:00	10:00 - 11:00
Real-Time Market		22:45 - 23:00 (Session 1) and onwards	22:45 - 23:00 (Session 1) and onwards	22:45 - 23:00 (Session 1) and onwards
Intra-day	Continuous Matching	00:15 - 19:30 Delivery 3.5 hrs ahead	00:15 - 20:30 Delivery 2.5 hrs ahead	00:00 - 20:30 Delivery 2.5 hrs ahead
Day Ahead Contingency		13:00 - 23:30 Delivery 3.5 hrs ahead	13:00 - 23:00 Delivery 2.5 hrs ahead	13:00 - 23:30 Delivery 2.5 hrs ahead
Term Ahead Market - Daily	Uniform Price Step Auction	12:00 - 17:00	12:00 - 17:00	12:00 - 17:00
Term Ahead Market - Weekly		12:00 - 17:00	12:00 - 17:00	12:00 - 17:00
Term Ahead Market - Monthly		12:00 - 17:00	12:00 - 17:00	12:00 - 17:00
Any Day Single Sided Contracts (ADSS)	Reverse Auction	00:00 - 24:00	00:00 - 24:00	00:00 - 24:00

8. Lately, some concerns have been raised by the stakeholders regarding price discovery in the Day-Ahead Contingency contracts. The issues relating to high prices in Day-Ahead Contingency contracts and potential deficiencies in the price discovery mechanism in the case of TAM have also been pointed out by the Ministry of Power. Moreover, the Commission's staff has observed some anomalies in the operation of the Term-Ahead Market, including Any-Day Single-Sided contracts.

9. The Commission has examined the trend in volume and price of Contingency and Term Ahead Contracts in Power Exchanges over the years and the emerging issues in these market

segments/contracts. Each of these market segments/contracts is dealt with in the subsequent paragraphs.

Intraday and Day-Ahead Contingency Contracts

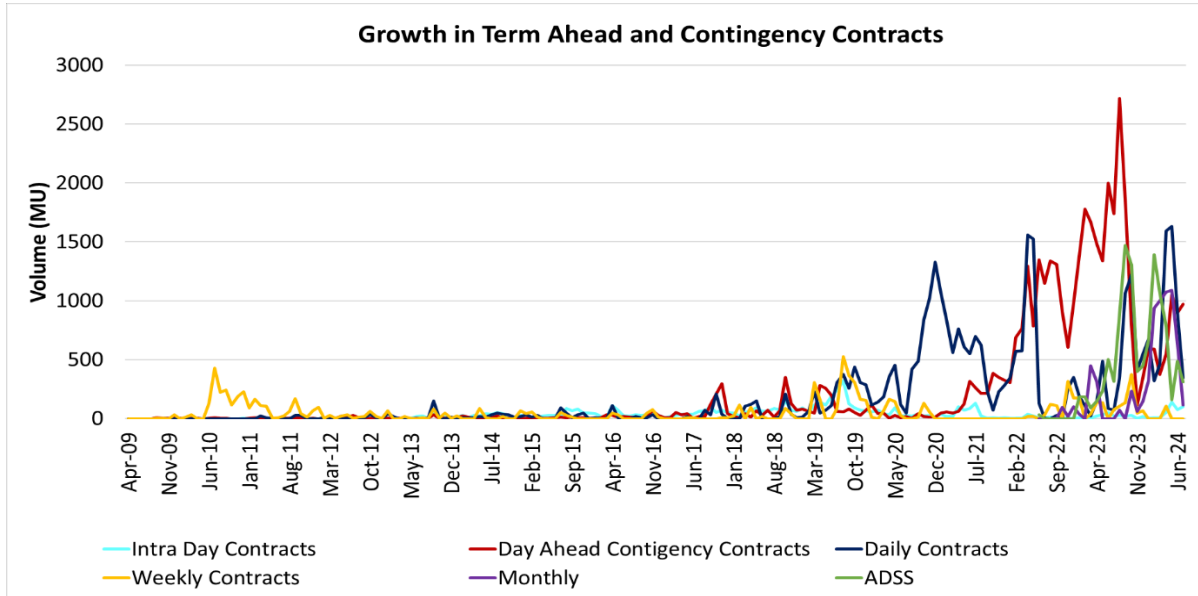
10. While the Intra Day market in the Power Exchanges was specifically introduced to address the need for meeting energy requirements closer to real-time, the Day Ahead Contingency market (DAC) was introduced primarily with the objective of addressing the unexpected changes or contingencies that occur after closing of Day Ahead Market (DAM).

11. In order to provide the grid-connected entities with measures to respond optimally and in pursuance of the development of the market, the staff of the Commission published a staff paper on “Extended Market Session on Power Exchanges” on 8th July 2014, which proposed two options – (1) 24x7 intraday/contingency contracts, (2) Operating Day ahead auction in the evening on Power Exchanges. Subsequently, the Commission vide Order dated 8.4.2015 in Petition No. 6/SM/2015, after public consultation & deliberations, directed the Power Exchanges to operate 24x7 intraday/contingency market. The directions given in the order were implemented by IEX and PXIL w.e.f 20.7.2015.

12. With regard to the Intra Day contracts, it has been observed that the segment of the market has not been able to attract much liquidity since its introduction (Chart-1 below). This was also discussed in the CERC discussion paper on “*Re-designing Real-Time Electricity Markets in India,*” wherein some of the plausible reasons for such low response observed were (i) inertia of DISCOMs and absence of delegation of decision-making power at operators’ level, (ii) the price discovery methodology, viz., continuous trading based on pay-as-you bid principle as against the auction based on uniform clearing price, being restrictive to the growth, and (iii) absence of gate closure.

13. With the introduction of the RTM in June 2020, a market closer to real-time with sale/purchase based on the methodology of uniform clearing has been made available to market participants, and the concept of gate closure has also been brought in. Thus, the concerns related to the intra-day market were considerably addressed with the introduction of RTM. There has been a significant growth in the RTM volume compared to the intra-day market.

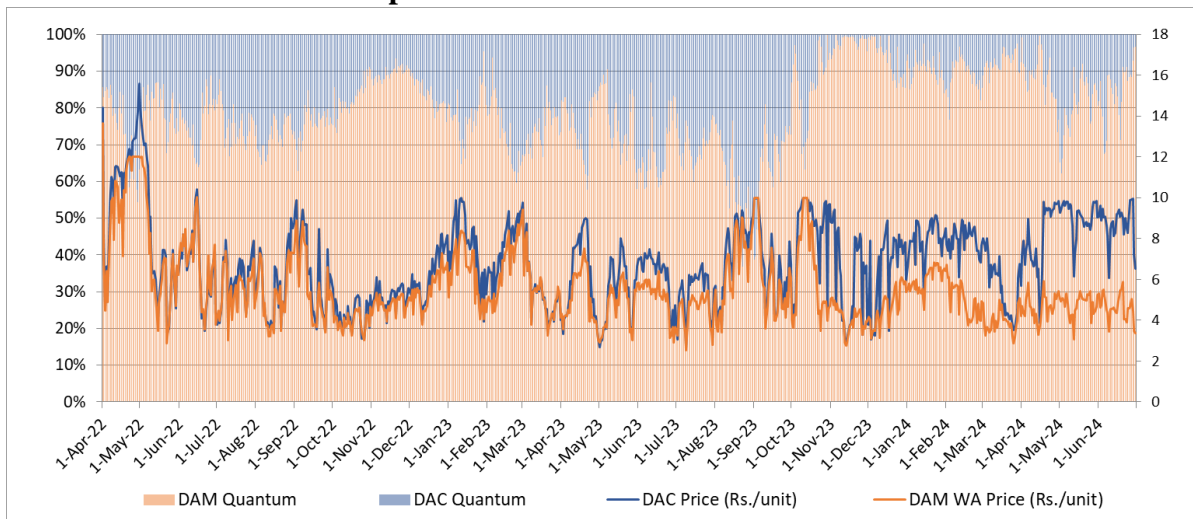
Chart 1: Growth in Term Ahead and Contingency Contracts



14. The Day Ahead Contingency market had also not witnessed much volume till the year 2020, except for minor spikes in between. In comparison to the Intra-day market, however, there has been a noticeable increase in DAC volume from 2020-21 onwards (refer Chart-1).

15. We have examined the trend in the daily volume and weighted average price of transactions in DAM and DAC for the period from April 2022 to June 2024, as shown in the chart below.

Chart 2: Comparison of transactions in DAM and DAC



16. From the above trends, it has been observed that the prices in DAC generally follow the same trend as prices in DAM, though with a slight premium owing to it being for contingency measures. However, from October 2023 onwards, there has been significant variation in the prices, with prices in DAC remaining consistently higher than DAM.

17. Such high prices in the DAC segment have raised both policy and regulatory concerns. During various consultations, stakeholders have also hinted at potential manipulations in the Day-Ahead Contingency contracts.

18. The Commission has always been sensitive to any form of connivance or malpractices by the market participants. The Commission also notes that continuous matching was initially allowed in the contingency contracts on the assumption of inadequate liquidity in these segments. However, the DAC has witnessed significant growth over the period, presenting a case for the discovery of a single price rather than price discovery based on continuous matching. Further, without a single price for the same time block/hour, the market becomes fragmented, with disparity of price for different participants, which also increases the price uncertainty.

19. Therefore, the Commission feels that there is a need to review the (i) continuation of existing contracts and (ii) current matching mechanism for Contingency contracts in light of the performance of these market segments/contracts over the years and with the introduction of other competing contracts, like RTM.

Term Ahead Market Contracts

20. The Commission notes that pursuant to the settlement of the issue of the longer duration contracts (beyond T+11 days) in 2021, the exchanges sought approval on the longer duration TAM & GTAM contracts beyond 11 days. After examining the Petitions and following due process, the Commission, vide Orders dated 7.6.2022 in Petition No. 219/MP/2021 and 229/MP/2021 for IEX and PXIL, and vide Order dated 30.12.2022 in Petition No. 206/MP/2022 for HPX, approved TAM & GTAM contracts for the maximum duration of three months, considering the month in which transaction is made as the zero month.

21. As observed from Chart-1 and also affirmed by the performance report on longer duration contracts submitted by Grid Controller of India Ltd. ('Grid-India') for the period September 2022 to October 2023, the liquidity in the longer duration contracts has increased over time.

22. The Commission has noticed that subsequent to the approval for Daily Contracts/ Weekly Contracts with modified timelines and the introduction of Monthly Contracts (up to 3 months) for pre-specified time blocks notified to the market participants well in advance, the Power Exchanges, through various circulars, have notified the time blocks for these contracts available for the market participants. To date, a variety of slots, like Base/round-the-clock, peak, off-peak, evening, night peak, hourly, etc., have been notified by the Power Exchanges. Many of these slots have overlapping time blocks, and some slots offer a very high level of granularity. The Commission is of the view that by notifying so many slots, the Power Exchanges are effectively letting the buyer/seller define the delivery days and time blocks. This does not augur well with the spirit of the term "pre-specified" intended by the Commission in the direction of Petition No. 229/MP/2021, 219/PM/2021, and 206/MP/2022. The Commission notes that all the Power Exchanges have attempted to introduce all possible slots of time blocks to cater to the specific needs of the market participants by issuing a number of circulars. The Commission does not consider such an approach as proper and is of the view that there is an urgent need to put a check on it by ensuring that only a few established pre-specified slots are made available on the exchange platform thereby improving liquidity.

Any-Day Single-Sided Contracts (ADSS)

23. The Commission, in Orders dated 7.6.2022 and 30.12.2022 referred above, also approved the introduction of Any-Day Single Sided Contract (ADSS) for user-defined days and time blocks for the buyers. It is understood that the ADSS contracts are called upon by the buyers, as per their requisition. However, it has been observed that the Power Exchanges are also providing the option of specifying timelines like bid validity, acceptance window, etc., to the buyers, which might lead to non-serious participation and act as a deterrent to the performance of these contracts. Therefore, there is a need for a defined duration for all the

stages involved in the ADSS contracts, including bid receiving window, bid validity, bid acceptance, etc., for all buyers across the exchange platforms.

24. In view of the above, the Commission proposes to give the following directions:

- (a) All Power Exchanges shall allow only the established pre-specified slots on the exchange platform for TAM contracts (including HP-TAM). These pre-specified slots shall include Base/RTC, Peak, Off-Peak (other than peak), and Night, wherein the peak period would be as defined by the NLDC. In the case of G-TAM, Power Exchanges shall have the liberty to pre-specify slots based on the generation profile of different technologies, as provided by the sellers. Exchanges should submit the pre-specified contracts for approval of the commission.
- (b) All Power Exchanges shall follow the timelines for different stages of ADSS contracts, including the bid receiving window/submission of interest quantity by sellers, IPO auction, Reverse Auction, and Bid acceptance window as follows.

Bid Receiving Window	Max. 2 days (48 hours)
IPO Auction	Max. 2 hours (120 mins)
Reverse Auction	Min. 2 hours (120 mins) with an extension up to 24:00 Hrs of auction day
Acceptance Window	Max. 2 days (48 hours)

- (c) In view of the very low liquidity in Intra Day Contracts since its introduction, the availability of the alternative Real-Time Market, and to avoid market fragmentation, it is proposed to withdraw Intra-Day Contracts in all the Power Exchanges from a pre-specified date, in terms of Regulation 25(3) of PMR 2021.
- (d) It is proposed to modify the price discovery mechanism in the case of Contingency Contracts to Uniform Price Step Auction from the existing Continuous matching. The Commission proposes to issue amendment(s) in PMR 2021 to this effect.
- (e) Till the time the amendments to PMR 2021 come into effect, the Power Exchanges shall follow the directions in case of Contingency contracts as under:



(i) Power Exchanges to make changes in the software/ market watch so that all the parties are able to see all the buy and sell offers for 10 minutes before the order gets transferred to the order book; after the expiry of this period, best buy and sell bids get cleared, and

(ii) Power Exchanges to display information regarding the number and volume of bids received (both buy and sell) on their website, in addition to the data on traded volume.

25. The directions in this order {point (a) and (b) of Para 24 above} shall be in furtherance/addition to the directions in Orders dated 7.6.2022 in Petition No. 219/MP/2021 (of IEX) and 229/MP/2021 (of PXIL) and Order dated 30.12.2022 in Petition No. 206/MP/2022 (of HPX).

Suggestions/Comments from Stakeholders

26. Before we issue the final order on the proposal in paragraphs 24-25 of this order, we intend to give an opportunity to all stakeholders, including power exchanges, to submit their views, comments, and suggestions, if any, within thirty days.

(Harish Dudani)
Member

(Ramesh Babu V.)
Member

(Jishnu Barua)
Chairperson

