

I/24558/2022



भारत सरकार/ **Government of India**
विद्युत मंत्रालय/ **Ministry of Power**
केन्द्रीय विद्युत प्राधिकरण/ **Central Electricity Authority**
आर. ए. प्रभाग/ **Regulatory Affairs Division**

Subject: Monthly Market Monitoring Report for the month of July, 2022-reg.

In the month of July, 2022 a total of 128,255 MU of electricity was transacted in the country out of which 62,587.35 MU was transacted through ISTS, and the remaining through state controlled generating stations.

A total of 18,351MU was transacted under Short Term Market, out of which 7,616 MU was transacted through Power Exchanges and remaining happened as bilateral transactions & deviations. Thus, the total short term trade in July, 2022 was 14.31 % of total volume of electricity traded in July, 2022 and 5.94 % was through Power Exchanges.

If we compare these transactions with respect to the electricity supplied through ISTS, the short term transactions constitutes about 29.32 % of ISTS transactions, out of which transaction through the power exchanges constitutes 12.17 %.

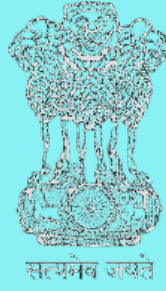
The monthly market monitoring report for the month of July, 2022 giving details of electricity transaction happened in the power exchanges and other short term markets is annexed below for reference.

Pardeep Jindal

Chief Engineer (RA)

To

All Stake holders



जुलाई, 2022 मासिक मार्केट मॉनिटरिंग रिपोर्ट
Monthly Market Monitoring Report
July, 2022



भारत सरकार/ **Government of India**
विद्युत मंत्रालय/ **Ministry of Power**
केन्द्रीय विद्युत प्राधिकरण/ **Central Electricity Authority**
आर. ए. प्रभाग/ **Regulatory Affairs Division**

TABLE OF CONTENTS

S.N. Page	Title	
1.	Summary of Report	7
2.	Day Ahead Market (DAM)	11
3.	Day Ahead Market MCP, FSV and ACP in the Power Exchanges	11
4.	Real Time Market (RTM)	13
5.	Green Day Ahead Market (GDAM)	14
6.	Term Ahead Market (TAM)	15
7.	Green Term Ahead Market(GTAM)	19
8.	Bilateral Transactions	29
9.	Analysis of movement of prices observed in DAM Transactions in July, 2022	30
10.	Analysis of Movement of prices observed in RTM Transactions in July, 2022	33

TABLES

1.	Table:	Daily MCP of IEX and PXIL in DAM for July, 2022 vs June, 2022					11
	1A						
2.	Table: 1B	Daily MCP of IEX and PXIL in DAM for July, 2022 vs July, 2021					12
3.	Table:	ACP of IEX and PXIL in DAM for July, 2022 vs June, 2022					
	2A						12
4.	Table: 2B	ACP of IEX and PXIL in DAM for July, 2022 vs July, 2021					12
5.	Table:	FSV of IEX and PXIL in DAM for July, 2022 vs June, 2022					
	2C						13
6.	Table:	FSV of IEX and PXIL in DAM for July, 2022 vs July, 2021					
	2D						13
7.	Table:	FSV of IEX and PXIL in RTM for July, 2022 vs June, 2022 and July, 2021					
	3A						13
8.	Table: 3B	Daily MCP of IEX and PXIL in RTM for July, 2022 vs June, 2022 and July, 2021					14
9.	Table:	ACP of IEX and PXIL in RTM for July, 2022 vs June, 2022 and July, 2021					
	3C						14
10.	Table:	FSV of GDAM in IEX for July, 2022					
	4A						15
11.	Table: 4B	Daily MCP and ACP of GDAM in IEX for July, 2022					15
12.	Table:	Volume transacted in TAM in PXs for July, 2022 vs June, 2022 (on trade date basis)					
	5A						16
13.	Table: 5B	Average MCP of IEX and PXIL in TAM for July, 2022 vs June, 2022 and July, 2021 (on trade date basis)					17
14.	Table:	FSV of IEX and PXIL in TAM for July, 2022 vs June, 2022 (on delivery date basis)					
	5C						18
15.	Table:	Average MCP of IEX and PXIL in TAM for July, 2022 vs June, 2022 and					
							18

I/24558/2022

	5D	July, 2021 (on delivery date basis)	
16. Table:6A		FSV of IEX and PXIL in Solar Segment of GTAM for July, 2022 vs June, 2022(on Trade date basis)	20
17. Table: 6B		Daily MCP of IEX and PXIL in Solar Segment of GTAM for July, 2022 vs June, 2022 (on trade date basis)	21
18. Table: 6C		FSV of IEX and PXIL in Solar Segment of GTAM for July, 2022 vs June, 2022 (on delivery date basis)	22
19. Table: 6D		Daily MCP of IEX and PXIL in Solar Segment of GTAM for July, 2022 vs June, 2022 (on delivery date basis)	23
20. Table: 6E		FSV of IEX & PXIL in Non-Solar Segment of GTAM for July, 2022 vs June, 2022 (on trade date basis)	24
21. Table: 6F		Daily MCP of IEX & PXIL in Non-Solar Segment of GTAM for July, 2022 vs June, 2022 (on trade date basis)	25
22. Table: 6G		FSV of IEX & PXIL in Non-Solar Segment of GTAM for July, 2022 vs June, 2022 (on delivery date basis)	27
23. Table: 6H		Daily MCP of IEX & PXIL in Non-Solar Segment of GTAM for July, 2022 vs June, 2022 (on delivery date basis)	28
24. Table: 6I		FSV of IEX in Hydro Segment of GTAM for July, 2022 vs June, 2022 (on Trade date basis)	29
25. Table: 6J		Daily MCP of IEX Hydro Segment of GTAM for July, 2022 vs June, 2022 (on Trade date basis)	30
26. Table: 6K		FSV of IEX Hydro Segment of GTAM for July, 2022 vs June, 2022 (on delivery date basis)	30
27. Table: 6L		Daily MCP of IEX Hydro Segment of GTAM for July, 2022 vs June, 2022 (on delivery date basis)	30
28. Table: 7A		Total volume in Bilateral transaction for July, 2022	31
29. Table: 7B		Region wise volume in Bilateral transaction for July, 2022	31

FIGURES

1. Figure: 1	Comparison of volume of electricity transacted through both PXs together in DAM and Bilateral buy (Direct and through Traders)	32
2. Figure: 2	Comparison of Total Purchase, Sell bids along with FSV and Daily MCP in DAM	33
3. Figure: 3	Comparison of Maximum, Minimum, Daily, Evening Time MCP (Rs/kWh) in DAM	33
4. Figure: 4	MCP duration curve for 2976 Time Blocks in July, 2022 in DAM	34
5. Figure: 5	Daily MCP duration curve for the period 1 st April, 2022 to 31 st July, 2022 in DAM	34
6. Figure: 6	Comparison of Total Purchase, Sell bids along with FSV and Daily MCP in RTM	36
7. Figure: 7	Comparison of Maximum, Minimum, Daily, Evening Time MCP (Rs/kWh) in RTM	36
8. Figure: 8	MCP duration curve for 2976 Time Blocks in July, 2022 in RTM	36
9. Figure: 9	Daily MCP duration curve for the period 1 st April, 2022 to 31 st July, 2022 in RTM	37

ANNEXURES

I/24558/2022

1.	Annexure I	FSV and Average MCP in DAM for the months April, 2022 to March, 2023	39
2.	Annexure II	FSV in TAM for the months April, 2022 to March, 2023 (on delivery and trade date basis)	40
3.	Annexure-III	Top Five Entity (Buyers and Sellers) in Bilateral transactions in July, 2022	41
4.	Annexure-IV	All MCPs vis: Evening, Day, Night, Morning, Maximum, Minimum, Average MCP (Rs/kWh) and Final Schedule Volume (MU) in DAM in July, 2022	42
5.	Annexure-V	Comparison of MCP w.r.t. Purchase Bid for 2976 Time Blocks during the month of July, 2022 in DAM	43
6.	Annexure-VI	Max. FSV, Min FSV, Max MCP and Min MCP w.r.t. all Time blocks in DAM in July, 2022	44
7.	Annexure-VII	Sellers and Purchasers of Electricity in DAM in July, 2022	45
8.	Annexure-VIII	All MCPs vis: Evening, Day, Night, Morning, Maximum, Minimum, Average MCP (Rs/kWh) and Final Schedule Volume (MU) in RTM in July, 2022	47
9.	Annexure-IX	Comparison of MCP w.r.t. Purchase Bid for 2976 Time Blocks during the month of July, 2022 in RTM	48
10.	Annexure-X	Max. FSV, Min FSV, Max MCP and Min MCP w.r.t. all Time blocks in July, 2022 in RTM	49
11.	Annexure-XI	Sellers and Purchasers of Electricity in RTM in July, 2022	50
12.	Annexure-XII	Cross Border Transactions of Electricity with Nepal in DAM in IEX in July, 2022	52

APPENDIX

1.	Appendix-I	Definitions/ Terminologies used in the Report	53
-----------	-------------------	---	-----------

MARKET MONITORING REPORT
FOR THE MONTH OF JULY, 2022

SUMMARY

I/24558/2022

SUMMARY FOR MONTH: JULY, 2022

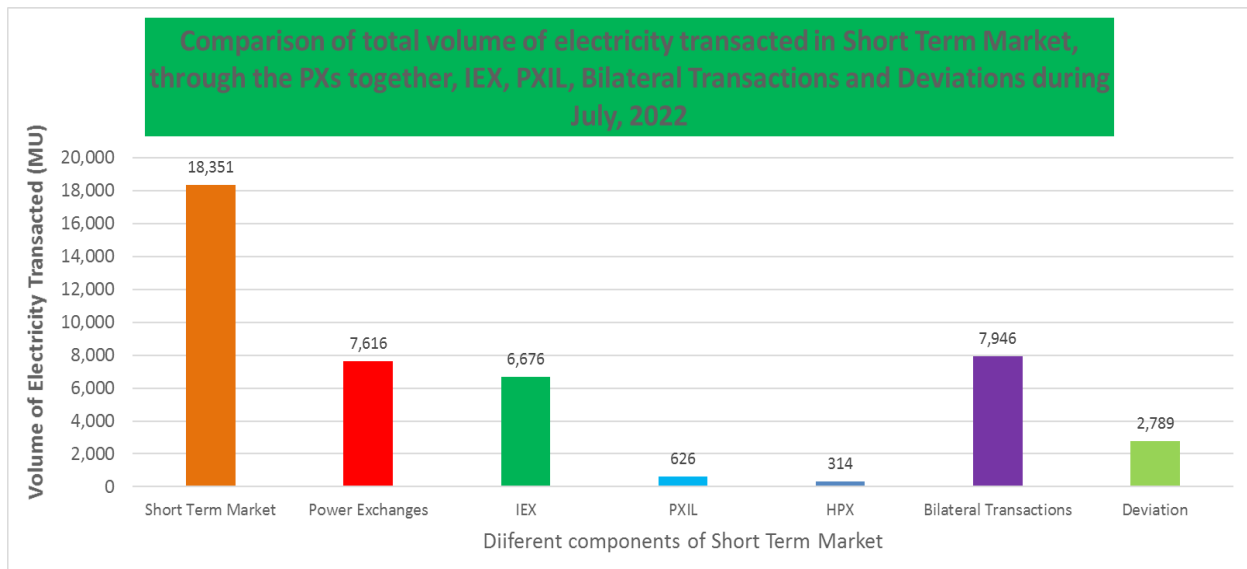
SUMMARY OF ELECTRICITY TRANSACTIONS ON POWER EXCHANGES IN INDIA

- A total volume of **7,616 MU** electricity was transacted in both the power exchanges i.e. IEX & PXIL, during the month of July, 2022. This volume of electricity is on delivery date basis and includes transactions through DAM, GDAM, RTM, TAM and GTAM market segments.

Segment	Transactions happened in PXs (IEX and PXIL combined)			
	FSV (MU)	Average MCP (Rs/kWh)	Congestion (MU)	Real Time Curtailment (MU)
DAM	3550	6.45	4.45	0.00
GDAM	447	4.63	0.69	0.00
RTM	2142	4.88	0.04	0.00
TAM	1284	7.12	0.00	1.58
GTAM	194	5.87	0.10	0.00
Total in PXs	7,616	6.00*	5.28	1.58

* The total average is weighted average of all market segments.

- Under the Bilateral trade a total of **7,946 MU** of electricity was transacted and **2,789 MU** was transferred as deviation. Thus a total of **18,351 MU** of electricity was transacted as short term trade. In the month of July, 2022 a total of **128,255 MU** of electricity was supplied in the country, thus the share of short term market in the total volume of electricity traded in July, 2022 was **14.31%**.



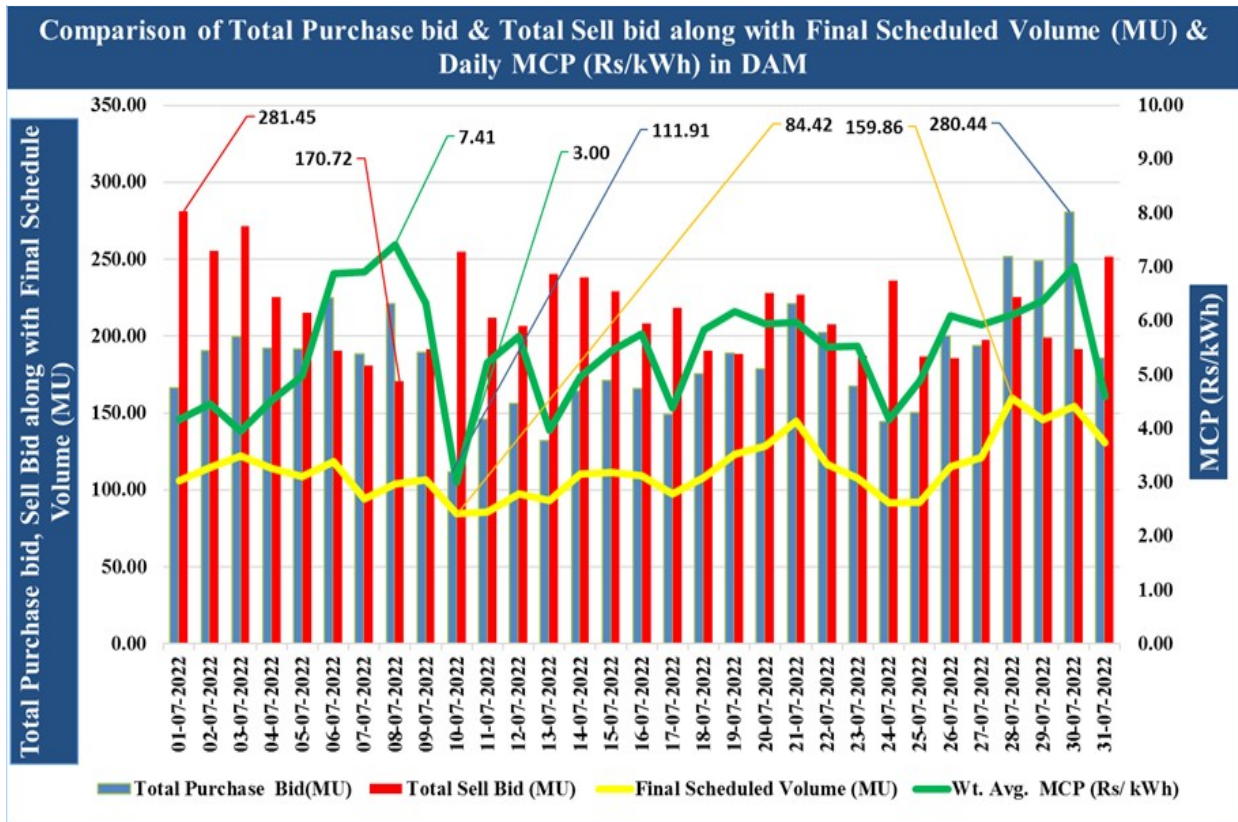
- The total volume of congestion that happened during the month of July, 2022 was **5.28 MU** which is only 0.069 % of the total volume of electricity transacted in the power exchanges and 0.004 % of the total energy supplied during July, 2022.
- Congestion observed in DAM for 55 time blocks on 3 days i.e. 3rd, 7th & 9th July, 2022, in RTM for 2 time blocks on 1 day i.e. 9th July, 2022, in GDAM for 39 time blocks on 3 days i.e. 3rd, 7th & 9th July, 2022 and in GTAM on 1 day (22.07.2022), whereas, there was no congestion happened in TAM.
- The total volume of real time curtailment reported in the month of July, 2022 was only **1.58 MU**. The total volume of electricity scheduled at ISTS during the month of July, 2022 was

I/24558/2022

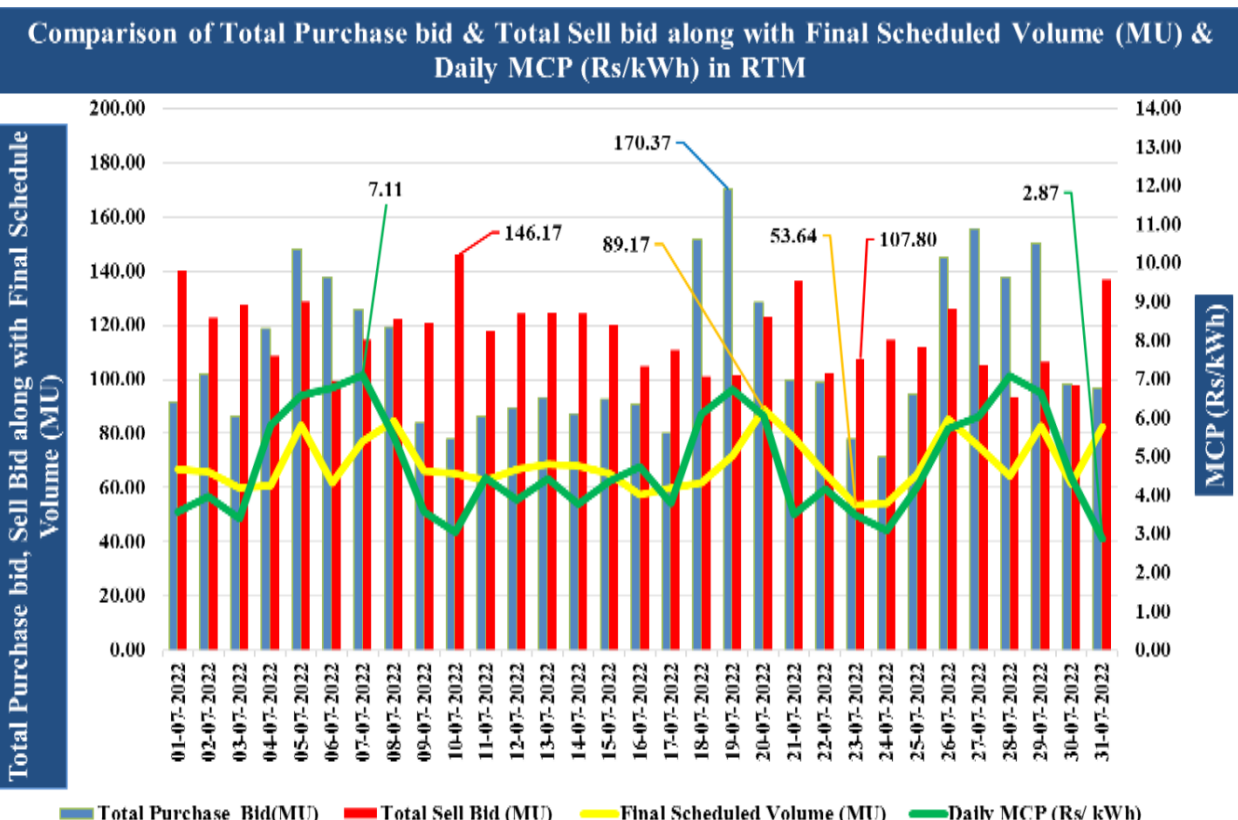
62,587 MU. The total volume of electricity transacted in the short term market was 29.32 % of total volume schedule at ISTS in the month of July, 2022.

- The variation of Purchase and Sell bids, Final Scheduled Volume and Daily MCP in DAM and RTM during the month of July, 2022 are shown in following figures:

DAM Volume



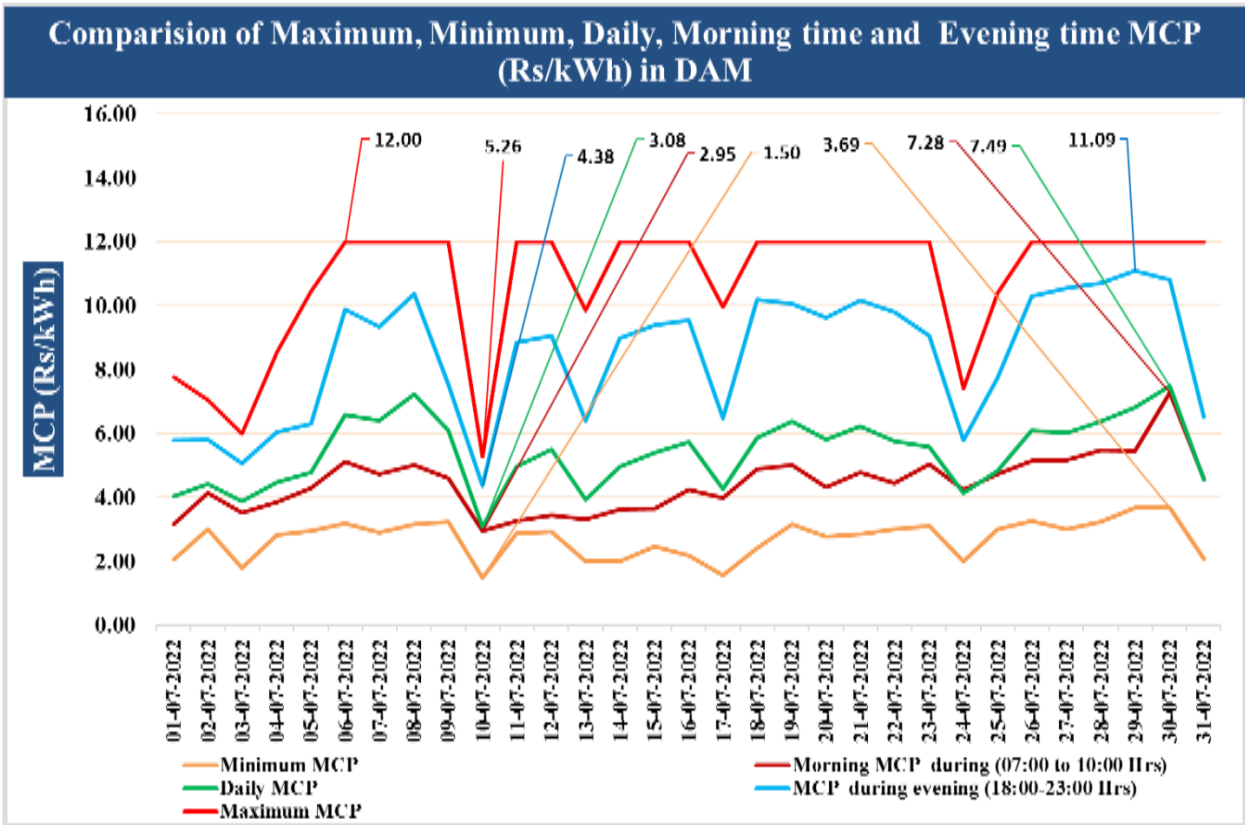
RTM Volume



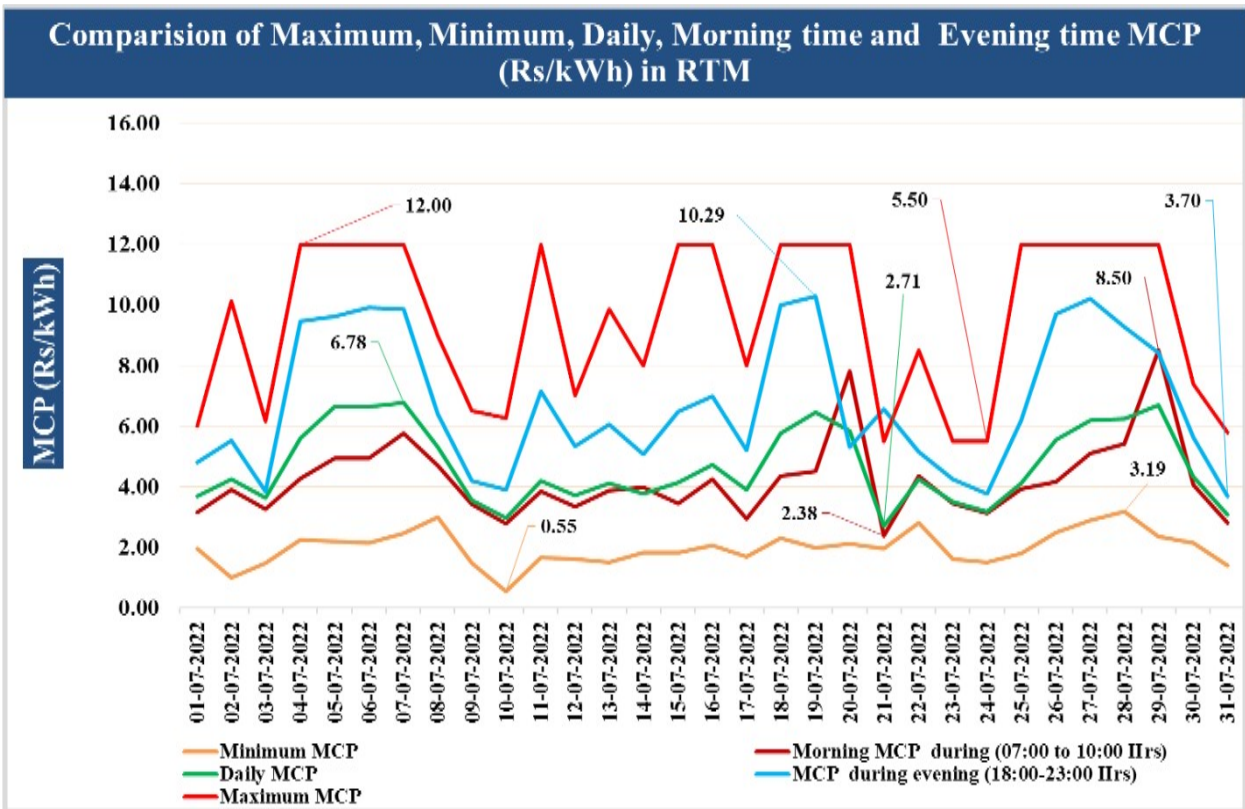
I/24558/2022

➤ The variation of Maximum, Minimum, Daily, Morning and Evening time MCPs in DAM and RTM during the month of July, 2022 are shown in following figures:

DAM Prices



RTM Prices



MARKET MONITORING REPORT

DETAILS

ELECTRICITY TRANSACTIONS ON POWER EXCHANGES IN INDIA**1. DAY AHEAD MARKET (DAM)**

- 1.1. The total volume of electricity transacted on both the power exchanges, viz., IEX and PXIL in the Day Ahead Market (DAM) in the month of July, 2022 was **3,549.86 MU**. The total energy supplied in the country during the month of July, 2022 was 128,255 MU. Thus, the volume of electricity transacted on both the power exchanges in DAM during July, 2022 was 2.77 % of the total energy supplied in the country. Comparing with the total volume of electricity transacted in DAM during the past month .i.e. June, 2022, it was **4,201.19 MU** which was 3.15 % of the total energy supplied [133,263 MU] in the country during June, 2022. Similarly, the total volume of electricity transacted in DAM during previous year .i.e. July, 2021, it was **4,241.01 MU** which was 3.43 % of the total energy supplied [123,720 MU] in the country during July, 2021.
- 1.2. The volume of electricity transacted on on IEX and PXIL during July, 2022 were **3,516.65 MU** and **31.78 MU**, respectively, which means that the total volume transacted on IEX was **99.06 %** of the total volume on power exchanges. The volume of electricity transacted on IEX and PXIL during June, 2022 were **4,084.99 MU** and **116.20 MU**, respectively, which means that the total volume transacted on IEX was **97.23 %** of the total volume on power exchanges. Also, the volume of electricity transacted on IEX and PXIL during July, 2021, were **4,238.25 MU** and **2.76 MU** respectively.
- 1.3. There DAM volume for July, 2022 in IEX is inclusive of Cross Border Transactions of Electricity happened with Nepal [details given at **Annexure XII**].
- 1.4. The Average Market Clearing Price (MCP) on IEX during the month of July, 2022 was **Rs 5.50/kWh**, which shows a decrease of 15.25 % and an increase of 86.44 % when compared with average MCP's for the month of June, 2022 and July, 2021, which were **Rs 6.49/kWh** and **Rs 2.95/kWh**, respectively. On PXIL, the average MCP during the month of July, 2022 was **Rs 5.01/kWh**, which shows a decrease of 24.21 % and 65.89 % when compared with average MCP's for the month June, 2022 and July, 2021, which were **Rs 6.61/kWh** and **Rs 3.02/kWh** respectively.

2. DAM MARKET CLEARING PRICE, AREA CLEARING PRICE AND FINAL SCHEDULED VOLUME OF DAM IN THE POWER EXCHANGES

- 2.1. **A comparison of the Minimum, Maximum and Average of Daily MCP during the month of July, 2022 with that of June, 2022 and July, 2021 is given in Table- 1A & 1B:**

(a) July, 2022 vis- a -vis June, 2022

Daily MCP (Rs/kWh)	IEX			PXIL			HPX		
	July, 2022	June, 2022	% Change	July, 2022	June, 2022	% Change	July, 2022	June, 2022	% Change
Minimum	3.00	3.54	-15.25	3.49	3.66	-4.64	5.65	-	NA
Maximum	7.41	10.14	-26.92	6.58	10.20	-35.49	12.00	-	NA
Average	5.50	6.49	-15.25	5.01	6.61	-24.21	8.83	-	NA

I/24558/2022

Table: 1A

(b) July, 2022 vis- a –vis July, 2021

Daily MCP (Rs/kWh)	IEX			PXIL		
	July, 2022	July, 2021	% Change	July, 2022	July, 2021	% Change
Minimum	3.00	1.79	67.60	3.49	2.32	50.43
Maximum	7.41	5.08	45.87	6.58	3.72	76.88
Average	5.50	2.95	86.44	5.01	3.02	65.89

Table: 1B

2.2. The maximum Area Clearing Price (ACP) of Rs 12.00/kWh in IEX was observed in all 13 regions during 343 time blocks on 6th to 9th, 11th to 16th, 18th to 23rd & 26th to 30th July, 2022. As there was no congestion in transmission system, the MCP for these time blocks was also Rs 12.00/kWh. Whereas, in PXIL, the maximum ACP of Rs 12.00/kWh was observed in all 13 regions during 146 time blocks on 8th, 9th, 13th, 18th, 19th, 21st, 22nd, 24th, 27th, 28th & 30th July, 2022. As there was no congestion in transmission system, the MCP for these time blocks was also Rs 12.00/kWh.

2.3. The minimum ACP of Rs 1.50/kWh in IEX was observed in all 13 regions during the time block 13:00-13:15 Hrs on 10th July, 2022. As there was no congestion in transmission system, the MCP for these time-block was also Rs 1.50/kWh. Whereas, in PXIL, the minimum ACP of Rs 2.00/kWh was observed in all 13 regions during 30 time blocks on 11th & 17th July, 2022. As there was no congestion in transmission system, the MCP for these time blocks were also Rs 2.0 kWh.

2.4. A comparison of the Minimum and Maximum Area Clearing Price (ACP) during the months of July, 2022 with that of June, 2022 and July, 2021 is given in Table-2A&2B:

(a) July, 2022 vis- a -vis June, 2022

ACP (Rs/kWh)	IEX			PXIL			HPX		
	July, 2022	June, 2022	% Change	July, 2022	June, 2022	% Change	July, 2022	June, 2022	% Change
Minimum	1.50	1.00	50.00	2.00	1.99	0.50	4.50	-	NA
Maximum	12.00	12.00	0.00	12.00	12.00	0.00	12.00	-	NA

Table: 2A

(b) July, 2022 vis- a- vis July, 2021

ACP (Rs/kWh)	IEX			PXIL		
	July, 2022	July, 2021	% Change	July, 2022	July, 2021	% Change
Minimum	1.50	1.00	50.00	2.00	2.32	-13.79
Maximum	12.00	10.90	10.09	12.00	6.99	71.67

Table: 2B

I/24558/2022

2.5. A comparison of the Minimum, Maximum and Average of Final Scheduled Volume (FSV) of electricity transactions happened on IEX, PXIL and HPX for a day during the months of July, 2022 with that of June, 2022 and July, 2021 is given in Table-2C & 2D:

(a) July, 2022 vis- a- vis June, 2022

Final Scheduled Volume (MU)	IEX			PXIL			HPX		
	July, 2022	June, 2022	% Change	July, 2022	June, 2022	% Change	July, 2022	June, 2022	% Change
Minimum	84.42	101.28	-16.65	0.39	1.39	-71.94	0.10	-	NA
Maximum	159.86	166.38	-3.92	2.06	8.88	-76.80	1.33	-	NA
Average	113.44	136.17	-16.69	1.03	3.87	-73.39	0.71	-	NA

Table: 2C

(b) July, 2022 vis- a- vis July, 2021

Final Scheduled Volume (MU)	IEX			PXIL		
	July, 2022	July, 2021	% Change	July, 2022	July, 2021	% Change
Minimum	84.42	103.00	-18.04	0.39	0.05	680.00
Maximum	159.86	176.31	-9.33	2.06	0.73	182.19
Average	113.44	136.72	-17.03	1.03	0.25	312.00

Table: 2D

3. REAL TIME MARKET (RTM)

The total volume of electricity transacted on both the power exchanges in Real Time Market in July, 2022 was **2,141.71 MU**, out of which, **2,130.98 MU** (99.50 %) was transacted in IEX and **10.73 MU** (0.50 %) was transacted in in PXIL. The Final Scheduled Volume (FSV), Daily Market Clearing Prices (MCP) and Area Clearing Prices (ACP) in Real Time Market during the month of July, 2022 as compared with June, 2022 and July, 2021 are as given in table 3A, 3B & 3C:

(i) **Final Scheduled Volume:**

Exchange	Period	Final Scheduled Volume (MU)			
		Total	Minimum	Maximum	Average
IEX	July, 2022	2,130.98	53.64	89.17	68.74
	June, 2022	2,214.24	57.36	96.43	73.81
	Change % (Month over Month)	-3.76	-6.49	-7.53	-687
	July, 2021	1,596.00	33.33	81.61	51.48
	Change % (Year over Year)	33.52	60.94	9.26	33.53
PXIL	July, 2022	10.73	0.40	2.69	1.53
	June, 2022	1.03	0.08	0.45	0.26
	Change % (Month over Month)	941.75	400.00	497.78	488.46
	July, 2021	-	-	-	-
	Change %	NA	NA	NA	NA

I/24558/2022

	(Year over Year)				
HPX	July, 2022	-	-	-	-

-: No transaction happened

NA: Not Applicable

Table-3A

(ii) Daily Market Clearing Price (MCP):

Exchange	Period	Daily MCP (Rs/kWh)		
		Minimum	Maximum	Average
IEX	July, 2022	2.87	7.11	4.88
	June, 2022	2.96	10.40	6.56
	Change % (Month over Month)	-3.04	-31.63	-25.61
	July, 2021	1.62	6.47	2.77
	Change % (Year over Year)	77.16	9.89	76.17
PXIL	July, 2022	11.90	12.00	11.99
	June, 2022	4.92	12.00	8.49
	Change % (Month over Month)	141.87	0.00	41.22
	July, 2021	-	-	-
	Change % (Year over Year)	NA	NA	NA
HPX	July, 2022	-	-	-

-: No transaction happened

NA: Not Applicable

Table-3B

(iii) Area Clearing Price (ACP):

Exchange	Period	ACP (Rs/kWh)	
		Minimum	Maximum
IEX	July, 2022	0.55	12.00
	June, 2022	0.50	12.00
	Change % (Month over Month)	10.00	0.00
	July, 2021	0.20	16.85
	Change % (Year over Year)	175.00	-28.78
PXIL	July, 2022	11.90	12.00
	June, 2022	2.82	12.00
	Change % (Month over Month)	321.99	0.00
	July, 2021	-	-
	Change % (Year over Year)	NA	NA
HPX	July, 2022	-	-

-: No transaction happened

NA: Not Applicable

Table -3C

4. GREEN DAY AHEAD MARKET (GDAM):

The transaction of electricity in Green Day Ahead Market (GDAM) has been started in IEX from 27th October, 2021 with the approval of the CERC. The total volume of electricity transacted in GDAM in the month of July, 2022 was **446.59 MU** at an average price MCP of **Rs 4.63/kWh**. The Final Scheduled Volume (FSV), Daily Market Clearing Prices (MCP), Area Clearing Prices (ACP), Real Time Curtailment and details of Transmission Congestion under these 3 segments in Green Day Ahead Market during the month of July, 2022 are given below:

i) Final Scheduled Volume in IEX:

Exchange	Segment	Period	Final Scheduled Volume (MU)			
			Total	Minimum	Maximum	Average

I/24558/2022

MMC Report for July, 2022

IEX	Solar	July, 2022	251.00	3.69	18.11	8.10
		June, 2022	240.78	4.42	17.27	8.03
		% Change (Month over Month)	4.24	-16.52	4.86	0.87
	Non Solar	July, 2022	195.43	2.95	16.62	6.30
		June, 2022	121.46	0.82	8.74	4.05
		% Change (Month over Month)	60.90	259.76	90.16	55.56
	Hydro	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		% Change (Month over Month)	NA	NA	NA	NA
PXIL	Solar + Non Solar	July, 2022	0.16	0.01	0.14	0.05
		June, 2022	-	-	-	-
		% Change (Month over Month)	NA	NA	NA	NA
	Hydro	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		% Change (Month over Month)	NA	NA	NA	NA

-: No transaction happened

NA: Not Applicable

Table-4A

ii) Daily Market Clearing Price (MCP) and Area Clearing Price (ACP):

Exchange	Segment	Period	Prices (Rs/kWh)				
			Daily MCP (Rs/kWh)			ACP (Rs/kWh)	
			Minimum	Maximum	Average	Minimum	Maximum
IEX	Solar and Non Solar	July, 2022	3.76	7.61	4.63	2.80	12.00
		June, 2022	5.04	12.00	7.60	2.97	12.00
		% Change (Month over Month)	-25.40	-36.58	-39.08	-0.06	0.00
PXIL	Solar and Non Solar	July, 2022	3.96	4.50	4.23	4.19	4.90
		June, 2022	-	-	-	-	-
		% Change (Month over Month)	NA	NA	NA	NA	NA

-: No transaction happened

NA: Not Applicable

Table-4B

- 4.1. There was transmission congestion of **0.69 MU** in IEX in Green Day Ahead Market during the month of July, 2022 and no transmission congestion in June, 2022.
- 4.2. There was no real time curtailment in IEX in Green Day Ahead Market during the month of July, 2022 and June, 2022, respectively.
- 4.3. The **top 10 sellers** on the power exchanges in Green Day Ahead Market (GDAM) in the month of July, 2022 were **Andhra Pradesh, Adani Hybrid Energy Jaisalmer Four Limited (Solar), Madhya Pradesh, Adani Wind Energy Kutchh Five Limited, Karnataka, Adani Hybrid Energy Jaisalmer Two Limited (Solar), Adani Hybrid**

I/24558/2022

Energy Jaisalmer Three Limited (Solar), J&K, Kerala and Maharashtra, which constituted **94.43 %** of the market volume.

4.4. The **top 10 purchasers** on the power exchanges in **Green Day Ahead Market (GDAM)** in the month of July, 2022 were **Maharashtra, Gujarat, Delhi, DVC, Punjab, Daman & Diu Dadra & Nagar Haveli, Assam, Odisha, Jharkhand and Karnataka**, which constituted **80.73%** of the market volume.

5. TERM AHEAD MARKET (TAM)

Term Ahead Market (TAM) (on Trade Date Basis)

5.1. The total volume of electricity transacted on the three power exchanges in Term Ahead Market in July, 2022 on trade date basis was **1,355.66 MU**, out of which, **512.00 MU** (37.77 %) was transacted on IEX, **530.95 MU** (39.17 %) was transacted on PXIL and **312.71 MU** (23.06 %) was transacted on HPX.

5.2. The total volume of electricity transacted on both the power exchanges in Term Ahead Market in June, 2022 on trade date basis was **1,450.58 MU**, out of which, **722.69 MU** (49.82 %) was transacted on IEX and **727.89 MU** (50.18 %) was transacted on PXIL.

5.3. Similarly, total volume of electricity transacted on both the power exchanges in Term Ahead Market in July, 2021 on trade date basis was **1,099.54 MU**, out of which, **832.44 MU** (75.71 %) was transacted on IEX and **267.10 MU** (24.29 %) was transacted on PXIL.

5.4. With respect to the total energy supplied during month of July, 2022 in the country, the volume of electricity traded on power exchanges in TAM on trade date basis represents **1.04 %** of the total energy supplied. The same was **1.09 %** in June, 2022 and **0.89 %** in July, 2021.

5.5. In the month of July, 2022, there was no transmission congestion in the three power exchanges i.e. IEX, PXIL and HPX.

5.6. The comparison of total volume of electricity transacted and Average MCP on both the power exchanges in Term Ahead Market (TAM) during July, 2022 with June, 2022 and July, 2021 is given in Table- 5A & 5B:

(a) July, 2022 vis- a- vis June, 2022 and July, 2021 (on trade Date Basis)

Exchange	Period	Final Scheduled Volume (MU)				
		Intra Day	Day Ahead Contingency	Daily or Any Day	Weekly	Total
IEX	July, 2022	1.47	409.73	-	100.80	512.00
	June, 2022	3.67	620.37	98.65	-	722.69
	%Change (Month over Month)	-59.95	-33.95	NA	NA	-29.15
	July, 2021	12.88	249.01	570.55	-	832.44
	%Change Year over Year)	-88.59	64.54	NA	NA	-38.49
PXIL	July, 2022	4.75	526.20	-	-	530.95
	June, 2022	3.78	724.11	-	-	727.89

I/24558/2022

HPX	%Change (Month over Month)	25.66	-27.33	NA	NA	-27.06
	July, 2021	109.93	-	157.17	-	267.10
	%Change (Year over Year)	-95.68	NA	NA	NA	112.26
	July, 2022	-	312.71	-	-	312.71

-: No transaction happened

NA: Not Applicable

Table: 5A**(b) Average MCP, July, 2022 vis- a- vis June, 2022 and July, 2021 (on trade Date Basis)**

Exchange	Period	Average MCP (Rs/kWh)			
		Intra Day	Day Ahead Contingency	Daily or Any Day	Weekly
IEX	July, 2022	11.93	5.26	NA	5.25
	June, 2022	10.59	6.21	5.40	-
	%Change (Month over Month)	12.65	-15.30	NA	NA
	July, 2021	5.86	3.16	302	-
	%Change (Year over Year)	103.58	66.46	NA	NA
PXIL	July, 2022	11.65	6.01	-	-
	June, 2022	11.14	6.82	-	-
	%Change (Month over Month)	4.58	-11.88	NA	NA
	July, 2021	3.45	-	3.31	-
	%Change (Year over Year)	237.68	NA	NA	NA
HPX	July, 2022	-	6.02	-	-

- : No Transaction happened

NA: Not Applicable

Table: 5B**Term Ahead Market (TAM) (on delivery Date Basis)**

- 5.7.** The total volume of electricity transacted on both the power exchanges in Term Ahead Market in July, 2022 on delivery date basis was **1,284.41 MU**, out of which, **439.81 MU** (34.24%) was transacted on IEX, **531.89 MU** (41.41%) was transacted on PXIL and **312.71 MU** (24.35%) was transacted on PXIL.
- 5.8.** The total volume of electricity transacted on both the power exchanges in Term Ahead Market in June, 2022 on delivery date basis was **1,518.61 MU**, out of which, **759.03 MU** (49.98 %) was transacted on IEX and **759.58 MU** (50.02%) was transacted on PXIL.
- 5.9.** Similarly, The total volume of electricity transacted on both the power exchanges in Term Ahead Market in July, 2021 on delivery date basis was **1,093.98 MU**, out of which, **761.26 MU** (69.59%) was transacted on IEX and **332.72 MU** (30.41%) was transacted on PXIL.
- 5.10.** With respect to the total energy supplied during the month of July, 2022 in the country, the volume of electricity traded on the power exchanges in TAM on delivery date basis represents **1.14 %** of the total energy supplied. The same was **1.00 %** in June, 2022 and **0.88 %** in July, 2021.

I/24558/2022

5.11. In the month of July, 2022, there was real time curtailment of **1.58 MU** in TAM under Day Ahead Contingency contract of IEX and there was no real time curtailment in PXIL.

5.12. The comparison of total volume of electricity transacted and Average MCP in both the power exchanges in Term Ahead Market (TAM) on delivery date basis during July, 2022 with June, 2022 and July, 2021 is given in Table – 5C & 5D:

(a) July, 2022 vis- a- vis June, 2022 (on Delivery Date Basis)

Exchange	Period	Final Scheduled Volume (MU)				
		Intra Day	Day Ahead Contingency	Daily or Any Day	Weekly	Total
IEX	July, 2022	1.47	399.94	4.80	33.60	439.81
	June, 2022	3.67	624.11	131.25	-	759.03
	%Change (Month over Month)	-59.95	-35.92	-96.34	NA	-42.06
	July, 2021	12.88	263.75	484.63	-	761.26
	%Change (Year over Year)	-88.59	51.64	-99.01	NA	-42.23
PXIL	July, 2022	4.75	527.14	-	-	531.89
	June, 2022	3.78	724.60	31.20	-	759.58
	%Change (Month over Month)	25.66	-27.25	NA	NA	-29.98
	July, 2021	119.10	-	213.62	-	332.72
	%Change (Year over Year)	3,050.79	NA	584.68	NA	-56.20
HPX	July, 2022	-	312.71	-	-	312.71

- : No transaction happened

NA: Not Applicable

Table: 5C

(b) Average MCP, July, 2022 vis- a- vis June, 2022 and July, 2021 (on Delivery Date Basis)

Exchange	Period	Average MCP (Rs/kWh)			
		Intra Day	Day Ahead Contingency	Daily or Any Day	Weekly
IEX	July, 2022	11.93	5.20	4.00	4.00
	June, 2022	10.59	6.31	5.10	-
	%Change (Month over Month)	12.65	-17.59	-21.57	NA
	July, 2021	5.86	3.22	3.17	-
	%Change (Year over Year)	103.58	61.49	26.18	NA
PXIL	July, 2022	11.65	5.98	-	-
	June, 2022	11.14	6.90	5.87	-
	%Change (Month over Month)	4.58	-13.33	NA	NA
	July, 2021	3.47	-	3.27	-
	%Change (Year over Year)	253.73	NA	NA	NA

I/24558/2022

HPX	July, 2022	NA	6.02	NA	NA
-----	------------	----	------	----	----

-: No transaction happened

NA: Not Applicable

Table: 5D

6. GREEN TERM AHEAD MARKET (GTAM):

The total volume of electricity transacted in both the power exchanges in GTAM on trade date basis was **194.50 MU** (**36.56 MU** in Solar, **90.84 MU** in Non Solar and **67.10 MU** in Hydro), whereas, the same on delivery date basis was **193.88 MU** (**36.56 MU** in Solar, **89.51 MU** in Non Solar and **67.81 MU** in Hydro), respectively. The total volume of electricity transacted in in GTAM in Day Ahead Contingency, Intraday, Daily/ Anyday and Weekly contracts during July, 2022 on trade date basis and delivery date basis has basis been shown in Tables 6A to 6L.

6.1. Solar Energy Segment in GTAM (On Trade date basis)

The Final Scheduled Volume and the Price of electricity transacted in GTAM in IEX & PXIL during July, 2022 and its comparison with June, 2022 and July, 2021 has been shown in Table 6A & 6B below.

(i) Final Scheduled Volume:

Exchange	Solar Energy Contract	Period	Final Scheduled Volume (MU)				
			Total	Minimum	Maximum	Average	
IEX	Day Ahead Contingency	July, 2022	24.65	0.88	4.24	2.46	
		June, 2022	10.93	0.02	2.35	0.73	
		%Change (Month over Month)	125.53	4,300.00	80.43	236.99	
		July, 2021	174.26	0.77	10.55	5.62	
		%Change (Year over Year)	-85.85	14.29	-59.81	-56.23	
		July, 2022	-	-	-	-	
	Intraday	June, 2022	-	-	-	-	
		%Change (Month over Month)	NA	NA	NA	NA	
		July, 2021	0.45	0.05	0.18	0.09	
		%Change (Year over Year)	NA	NA	NA	NA	
		July, 2022	-	-	-	-	
		June, 2022	2.40	2.40	2.40	2.40	
	Daily/ Anyday	%Change (Month over Month)	NA	NA	NA	NA	
		July, 2021	15.46	0.21	2.10	0.64	
		%Change (Year over Year)	NA	NA	NA	NA	
		July, 2022	-	-	-	-	
		June, 2022	-	-	-	-	
		%Change (Month over Month)	NA	NA	NA	NA	
	Weekly	July, 2021	2.10	2.10	2.10	2.10	
		%Change (Year over Year)	NA	NA	NA	NA	
PXIL		Day Ahead	July, 2022	11.91	0.29	3.25	1.19
June, 2022			22.40	0.32	3.51	2.49	

I/24558/2022

MMC Report for July, 2022

	Contingency	%Change (Month over Month)	-46.83	-9.38	-7.41	-52.21
		July, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Intraday	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		July, 2022	-	-	-	-
	Daily/Anyday	June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		July, 2022	-	-	-	-
	Weekly	June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
July, 2022		-	-	-	-	

-: No transaction happened

NA: Not Applicable

Table-6A

(ii) Daily Market Clearing Price (MCP):

Exchange	Solar Energy Contract	Period	Prices(Rs/kWh)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	July, 2022	1.69	4.11	3.34
		June, 2022	3.20	4.60	3.66
		%Change (Month over Month)	-47.19	-10.65	-8.74
		July, 2021	2.63	3.40	3.05
		%Change (Year over Year)	-35.74	20.88	9351
	Intraday	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	3.00	3.60	3.21
		%Change (Year over Year)	NA	NA	NA
	Daily/Anyday	July, 2022	-	-	-
		June, 2022	4.60	4.60	4.60
		%Change (Month over Month)	NA	NA	NA
		July, 2021	3.00	3.90	3.35
		%Change (Year over Year)	NA	NA	NA
	Weekly	July, 2022	-	-	-

I/24558/2022

		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	4.00	4.00	4.00
		%Change (Year over Year)	NA	NA	NA
PXIL	Day Ahead Contingency	July, 2022	1.94	4.37	3.55
		June, 2022	3.99	5.62	4.87
		%Change (Month over Month)	-51.38	-22.24	-27.10
		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Intraday	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Daily/ Anyday	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Weekly	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA

-: No transaction happened

NA: Not Applicable

Table-6B

6.2. Solar Energy Segment in GTAM (On Delivery date basis)

The Final Scheduled Volume and the Price of electricity transacted in GTAM in IEX & PXIL during July, 2022 and its comparison with June, 2022 and July, 2021 has been shown in Table 6C & 6D below.

(i) Final Scheduled Volume:

Exchange	Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum	Maximum	Average
	Day Ahead Contingency	July, 2022	24.65	0.88	4.24	2.46
		June, 2022	10.93	0.02	2.35	0.73
		%Change Month over Month)	125.53	4300.00	80.43	236.99
		July, 2021	176.54	2.41	10.55	5.69
		%Change (Year over Year)	-86.04	-63.49	-59.81	-56.77
	Intraday	July, 2022	-	-	-	-

I/24558/2022

IEX		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	0.45	0.05	0.18	0.09
		%Change (Year over Year)	NA	NA	NA	NA
		July, 2022	-	-	-	-
	Daily/Anyday	June, 2022	2.40	0.24	0.24	0.24
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	18.88	0.21	1.20	0.61
		%Change (Year over Year)	NA	NA	NA	NA
		July, 2022	-	-	-	-
	Weekly	June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	3.25	0.29	0.30	0.30
		%Change (Year over Year)	NA	NA	NA	NA
		July, 2022	-	-	-	-
PXIL	Day Ahead Contingency	July, 2022	11.91	0.29	3.25	1.19
		June, 2022	25.07	0.32	3.51	2.51
		%Change (Month over Month)	-52.49	-9.38	-7.41	-52.59
		July, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Intraday	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Daily/Anyday	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
Weekly	July, 2022	-	-	-	-	
	June, 2022	-	-	-	-	
	%Change (Month over Month)	NA	NA	NA	NA	
	July, 2021	-	-	-	-	
	%Change (Year over Year)	NA	NA	NA	NA	

-: No transaction happened

NA: Not Applicable

Table-6C

(ii) Daily Market Clearing Price (MCP):

Exchange	Solar Energy	Period	Prices(Rs/kWh)
----------	--------------	--------	----------------

I/24558/2022

Contract		Minimum	Maximum	Average	
IEX	Day Ahead Contingency	July, 2022	1.69	4.11	3.34
		June, 2022	3.20	4.60	3.66
		%Change (Month over Month)	-47.19	-10.65	-8.74
		July, 2021	2.66	3.40	3.07
		%Change (Year over Year)	-36.47	20.88	8.79
	Intraday	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	3.00	3.60	3.21
		%Change (Year over Year)	NA	NA	NA
	Daily/Anyday	July, 2022	-	-	-
		June, 2022	4.60	4.60	4.60
		%Change (Month over Month)	NA	NA	NA
		July, 2021	3.20	3.78	3.47
		%Change (Year over Year)	NA	NA	NA
	Weekly	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	3.80	4.00	3.93
		%Change (Year over Year)	NA	NA	NA
PXIL	Day Ahead Contingency	July, 2022	1.94	4.37	3.55
		June, 2022	3.99	5.62	4.89
		%Change (Month over Month)	-51.38	-22.24	-27.40
		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Intraday	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Daily/Anyday	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
Weekly	July, 2022	-	-	-	
	June, 2022	-	-	-	
	%Change (Month over Month)	NA	NA	NA	

I/24558/2022

		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA

-: No transaction happened

NA: Not Applicable

Table-6D

- In July, 2022, there was no transmission congestion in GTAM (Solar) in both IEX and PXIL.
- In July, 2022, there was no real time curtailment in GTAM (Solar) in both IEX & PXIL.

6.3. Non-Solar Energy Segment in GTAM (On Trade date basis)

The total volume of electricity transacted on both the power exchanges in non-Solar Energy Segment in GTAM in Day Ahead Contingency, Intraday, Daily/ Anyday and Weekly contracts during July, 2022 on trade date basis and delivery date basis has been shown in Tables 6E to 6H.

The Final Scheduled Volume and the Price of electricity transacted in Non-Solar GTAM in IEX & PXIL during July, 2022 on trade date basis and its comparison with June, 2022 and July, 2021 has been shown in Table 6E & 6F below.

(i) Final Scheduled Volume:

Exchange	Non- Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum	Maximum	Average
IEX	Day Ahead Contingency	July, 2022	48.60	0.12	4.02	1.57
		June, 2022	112.39	0.18	9.98	4.16
		%Change (Month over Month)	-56.76	-33.33	-59.72	-62.26
		July, 2021	272.32	3.02	20.73	8.78
		%Change (Year over Year)	-82.15	-96.03	-80.61	-82.12
	Intraday	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	8.46	0.12	5.10	1.06
		%Change (Year over Year)	NA	NA	NA	NA
	Daily/ Anyday	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	231.33	0.43	127.94	33.05
		%Change (Year over Year)	NA	NA	NA	NA
	Weekly	July, 2022	1.36	0.40	0.97	0.68
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
July, 2021		21.00	0.34	7.22	5.25	
%Change (Year over Year)		-93.52	17.65	-86.57	-87.05	
PXIL	Day Ahead Contingency	July, 2022	40.88	0.08	3.22	1.32
		June, 2022	34.01	0.03	8.30	1.17

I/24558/2022

		%Change (Month over Month)	20.20	166.67	-61.20	12.82
		July, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Intraday	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		July, 2022	-	-	-	-
	Daily/ Anyday	June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	16.24	0.03	0.98	0.56
		%Change (Year over Year)	NA	NA	NA	NA
		July, 2022	-	-	-	-
	Weekly	June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		July, 2022	-	-	-	-

-: No transaction happened

NA: Not Applicable

Table-6E

(ii) Daily Market Clearing Price (MCP):

Exchange	Non- Solar Energy Contract	Period	Prices(Rs/kWh)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	July, 2022	3.16	8.98	6.03
		June, 2022	4.04	10.95	7.47
		%Change (Month over Month)	-21.78	-17.99	-19.28
		July, 2021	3.13	5.70	3.88
		%Change (Year over Year)	0.96	57.54	55.41
		July, 2022	-	-	-
	Intraday	June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	3.50	5.13	4.25
		%Change (Year over Year)	NA	NA	NA
		July, 2022	-	-	-
	Daily/Anyday	June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	3.70	4.50	4.07
		%Change (Year over Year)	NA	NA	NA
		July, 2022	5.80	5.80	5.80
	Weekly	June, 2022	-	-	-

I/24558/2022

		%Change (Month over Month)	NA	NA	NA
		July, 2021	3.65	4.20	3.94
		%Change (Year over Year)	58.90	38.10	47.21
PXIL	Day Ahead Contingency	July, 2022	3.55	11.83	6.65
		June, 2022	5.15	12.00	8.48
		% Change (Month over Month)	-31.07	-1.42	-21.58
		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
		July, 2022	-	-	-
	Intraday	June, 2022	-	-	-
		% Change (Month over Month)	NA	NA	NA
		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
		July, 2022	-	-	-
		June, 2022	-	-	-
	Daily/ Anyday	% Change (Month over Month)	NA	NA	NA
		July, 2021	3.38	4.32	3.76
		%Change (Year over Year)	NA	NA	NA
		July, 2022	-	-	-
		June, 2022	-	-	-
		Weekly	%Change (Month over Month)	NA	NA
July, 2021	-		-	-	
%Change (Year over Year)	NA		NA	NA	
July, 2022	-		-	-	
June, 2022	-		-	-	
%Change (Year over Year)	NA		NA	NA	

-: No transaction happened

NA: Not Applicable

Table-6F

6.4. Non-Solar Energy Segment in GTAM (On Delivery date basis)

The Final Scheduled Volume and the Price of electricity transacted in GTAM in IEX & PXIL during July, 2022 and its comparison with June, 2022 has been shown in Table 6G & 6H below.

(i) Final Scheduled Volume:

Exchange	Non- Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum	Maximum	Average
	Day Ahead Contingency	July, 2022	49.41	0.12	4.02	4.59
		June, 2022	112.56	0.18	9.98	4.17
		%Change (Month over Month)	-56.10	-33.33	-59.72	10.07
		July, 2021	269.29	3.02	20.73	8.69
		%Change (Year over Year)	-81.65	-96.03	-80.61	-47.18
		July, 2022	-	-	-	-
	Intraday	June, 2022	-	-	-	-
		%Change	NA	NA	NA	NA

I/24558/2022

IEX		(Month over Month)					
		July, 2021	8.46	0.12	5.10	1.06	
		%Change (Year over Year)	NA	NA	NA	NA	
	Daily/Anyday		July, 2022	-	-	-	-
			June, 2022	-	-	-	-
			%Change (Month over Month)	NA	NA	NA	NA
		July, 2021	July, 2021	188.95	0.05	16.87	7.87
			%Change (Year over Year)	NA	NA	NA	NA
	Weekly		July, 2022	0.40	0.06	0.06	0.06
			June, 2022	-	-	-	-
			%Change (Month over Month)	NA	NA	NA	NA
July, 2021		July, 2021	13.58	0.05	1.03	0.68	
		%Change (Year over Year)	-97.05	20.00	-94.17	-91.18	
PXIL	Day Ahead Contingency	July, 2022	39.70	0.07	3.22	1.28	
		June, 2022	35.66	0.03	8.30	1.23	
		%Change (Month over Month)	11.33	133.33	-61.20	4.07	
		July, 2021	-	-	-	-	
		%Change (Year over Year)	NA	NA	NA	NA	
	Intraday	July, 2022	-	-	-	-	
		June, 2022	-	-	-	-	
		%Change (Month over Month)	NA	NA	NA	NA	
		July, 2021	-	-	-	-	
		%Change (Year over Year)	NA	NA	NA	NA	
	Daily/Anyday	July, 2022	-	-	-	-	
		June, 2022	-	-	-	-	
		%Change (Month over Month)	NA	NA	NA	NA	
		July, 2021	16.77	0.03	0.98	0.58	
		%Change (Year over Year)	NA	NA	NA	NA	
	Weekly	July, 2022	-	-	-	-	
		June, 2022	-	-	-	-	
		%Change (Month over Month)	NA	NA	NA	NA	
		July, 2021	-	-	-	-	
		%Change (Year over Year)	NA	NA	NA	NA	

-: No transaction happened

NA: Not Applicable

Table-6G

(ii) Daily Market Clearing Price (MCP):

Exchange	Non- Solar Energy Contract	Period	Prices(Rs/kW)		
			Minimum	Maximum	Average
	Day Ahead Contingency	July, 2022	3.16	8.98	5.89
		June, 2022	4.04	10.95	7.65
		%Change (Month over Month)	-21.78	-17.99	-23.01

I/24558/2022

IEX		July, 2021	3.13	5.70	3.92
		%Change (Year over Year)	0.96	57.54	50.26
	Intraday	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	3.50	5.13	4.25
	Daily/Anyday	%Change (Year over Year)	NA	NA	NA
		July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Weekly	July, 2021	3.88	4.50	4.22
		%Change (Year over Year)	NA	NA	NA
		July, 2022	5.80	5.80	5.80
		June, 2022	-	-	-
	PXIL	Day Ahead Contingency	%Change (Month over Month)	NA	NA
July, 2021			3.80	4.20	4.05
%Change (Year over Year)			52.63	38.10	43.21
July, 2022			3.55	11.83	6.64
Intraday		June, 2022	5.21	12.00	8.56
		%Change (Month over Month)	-31.86	-1.42	-22.43
		July, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
Daily/Anyday		July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		July, 2021	-	-	-
Weekly		%Change (Year over Year)	NA	NA	NA
		July, 2022	3.38	4.40	3.79
		June, 2022	-	-	-
	%Change (Month over Month)	NA	NA	NA	
Weekly	July, 2021	-	-	-	
	June, 2022	-	-	-	
	%Change (Month over Month)	NA	NA	NA	
	July, 2021	-	-	-	
Weekly	%Change (Year over Year)	NA	NA	NA	
	July, 2022	-	-	-	
	June, 2022	-	-	-	
	%Change (Month over Month)	NA	NA	NA	

-: No transaction happened

NA: Not Applicable

Table-6H

I/24558/2022

- In July, 2022, there was no transmission congestion in GTAM (Non Solar) in both IEX and PXIL.
- In July, 2022, there was no real time curtailment in GTAM (Non Solar) in both IEX & PXIL.

6.5. Hydro Energy Segment in GTAM- In the Hydro Energy Segment in GTAM, in Day Ahead Contingency, Intraday, Daily/ Anyday and Weekly contracts during July, 2022 on trade date basis and delivery date has basis been shown in Tables 6I, 6J, 6K & 6L.

Hydro Energy Contract in GTAM (On Trade Date Basis)

(i) Final Scheduled Volume (On Trade date basis):

Exchange	Hydro Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum	Maximum	Average
IEX	Day Ahead Contingency	July, 2022	65.35	0.18	3.23	2.18
		June, 2022	47.57	0.10	3.21	1.59
		%Change (Month over Month)	37.38	80.00	0.62	37.11
	Intraday	July, 2022	1.75	0.16	0.74	0.44
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Daily/Anyday	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Weekly	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA

-: No transaction happened

NA: Not Applicable

Table: 6I

(ii) Daily Market Clearing Price (MCP) (On Trade date basis):

Exchange	Hydro Energy Contract	Period	Prices(Rs/kW)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	July, 2022	2.99	7.29	5.15
		June, 2022	3.63	11.26	7.28
		%Change (Month over Month)	-17.63	-35.26	-29.26
	Intraday	July, 2022	8.49	12.00	10.77
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Daily/Anyday	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Weekly	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA

I/24558/2022

-: No transaction happened

NA: Not Applicable

Table - 6J

Hydro Energy Contract in GTAM (On Delivery Date Basis)**(i) Final Scheduled Volume (On Trade date basis):**

Exchange	Hydro Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum	Maximum	Average
IEX	Day Ahead Contingency	July, 2022	66.06	0.18	3.23	2.20
		June, 2022	45.27	0.10	3.21	1.51
		%Change (Month over Month)	45.92	80.00	0.62	45.70
	Intraday	July, 2022	1.75	0.16	0.74	0.44
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Daily/Anyday	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Weekly	July, 2022	-	-	-	-
		June, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA

-: No transaction happened

NA: Not Applicable

Table: 6K

(ii) Daily Market Clearing Price (MCP) (On Trade date basis):

Exchange	Hydro Energy Contract	Period	Prices(Rs/kW)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	July, 2022	2.99	7.23	5.11
		June, 2022	3.63	11.26	7.45
		%Change (Month over Month)	-17.63	-35.79	-31.41
	Intraday	July, 2022	8.49	12.00	10.77
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Daily/Anyday	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Weekly	July, 2022	-	-	-
		June, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA

-: No transaction happened

NA: Not Applicable

Table – 6L

- In July, 2022, there was no transmission congestion in GTAM (Hydro) in IEX.
- In July, 2022, there was no real time curtailment in GTAM (Hydro) in IEX.

7. BILATERAL TRANSACTIONS:

I/24558/2022

The total volume of electricity transacted through **Bilateral transactions** in the month of July, 2022 was **7,946.10 MU**. The total buy volume of electricity transacted in bilateral market through direct transactions and traders in the month of July, 2022 were **2,735.36 MU** and **5,210.74 MU** respectively. The details of Bilateral transactions of Electricity happened during July, 2022 have been shown in Table Below:

July, 2022	Direct	Traders	Total Bilateral Transaction (MU)
Total	2735.36	5210.74	7946.10
Minimum	0.03	0.01	-
Maximum	0.93	1.32	-

Table -7A

The region-wise maximum/ minimum volume of electricity transaction happened bilaterally during July, 2022 are given in table below:

(i) Region-wise Volume:

Region-wise Volume (MU)	ER		WR		NR		SR		NER	
	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader
Total	253.05	960.22	507.59	1085.62	1921.08	3088.21	53.63	51.40	0.00	25.30
Minimum	0.96	22.03	7.78	4.42	10.26	1.10	0.03	0.01	0.00	2.68
Maximum	0.18	0.45	0.36	0.49	0.93	1.32	0.03	0.02	0.00	0.02

Table-7B

- 7.1.** The **top 5 buyers** on bilateral transaction through direct transactions in the month of July, 2022 were **Punjab, Maharashtra, Uttar Pradesh, Haryana and Delhi**, which constituted **79.64 %** of the market volume. Whereas **top 5 buyers** on bilateral transaction through traders in the month of July, 2022 were **Punjab, Delhi, Gujarat, Odisha and Uttar Pradesh**, which constituted **70.04 %** of the market volume. [Annexure III]
- 7.2.** The **top 5 sellers** on bilateral transaction through direct transactions in the month of July, 2022 were **Madhya Pradesh, Maharashtra, DVC, JK & Ladakh and Telangana**, which constituted **62.17 %** of the market volume. Whereas **top 5 sellers** on bilateral transaction through traders in the month of July, 2022 were **Himachal, TEESTA III TUL, RPREL, Tamil Nadu and REGL**, which constituted **44.26 %** of the market volume. [Annexure III]
- 7.3. Deviation Volume** - The volume of Deviation observed in the month of July, 2022 in import and export were **2,735.35 MU** and **2,842.36 MU** respectively. The total volume of Deviation observed in the month of July, 2022 can be taken as **2,788.86 MU**.
- 7.4.** A comparison of volume of electricity transacted through both the Power Exchanges together in DAM, TAM, RTM, GTAM, GDAM (on delivery date basis) with Bilateral transactions and Deviation in the month of July, 2022 is shown in **Figure 1:**

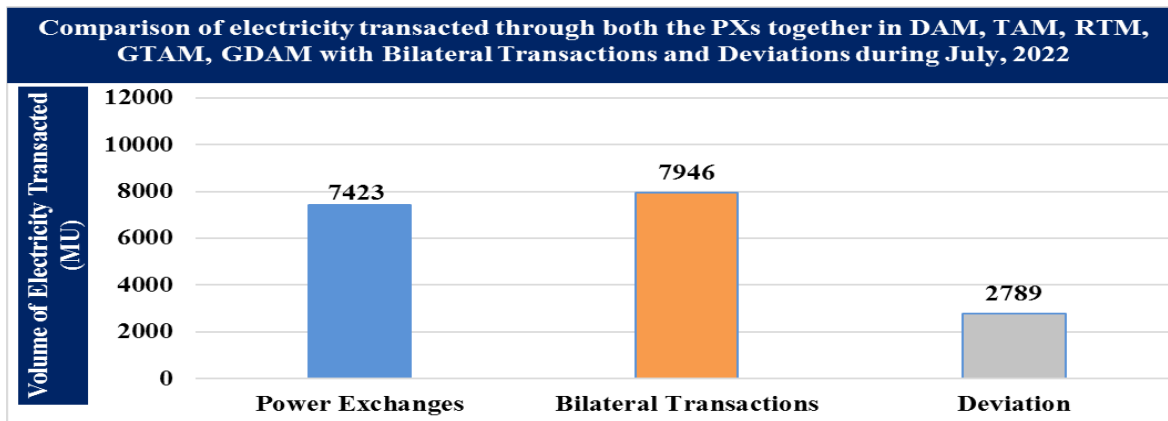
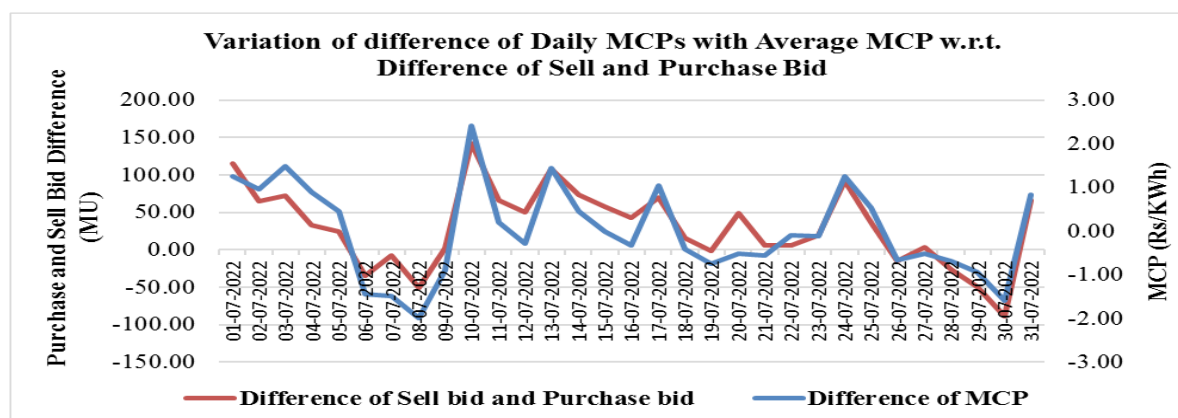


Figure -1

8. ANALYSIS OF MOVEMENT OF PRICES OBSERVED IN DAM DURING JULY, 2022

A regression analysis has been carried out on the Day Ahead Market data taken from IEX website. Also, data was plotted in various graphs to observe patterns for each day of the July, 2022 month. The observations made are as under:

- 8.1. In order to find out the determinants which are responsible for the Daily MCP, a regression analysis has been carried out where the Daily MCP is the dependent variable and the independent variables are peak demand, total purchase bid, total sell bid, coal generation, hydro generation, wind generation and solar generation.
- 8.2. A double log function was used so that elasticity of Daily MCP could be read off from the coefficients of independent variables. The regression analysis revealed that the only significant variable were the total sell bid and total purchase bid, whereas all the other variables were found to be insignificant. Further, the regression analysis revealed that the elasticity of the Daily MCP with respect to total purchase bid was **0.57**, which signifies that there is high multicollinearity among the predictor variables/ independent variables used in regression analysis.
- 8.3. The variation of difference of Daily MCPs with Average MCP w.r.t Difference of Sell and Purchase bid is Shown below:



I/24558/2022

8.4. The same relationship is visible from the analysis carried out from the plot in **Figure 2**.

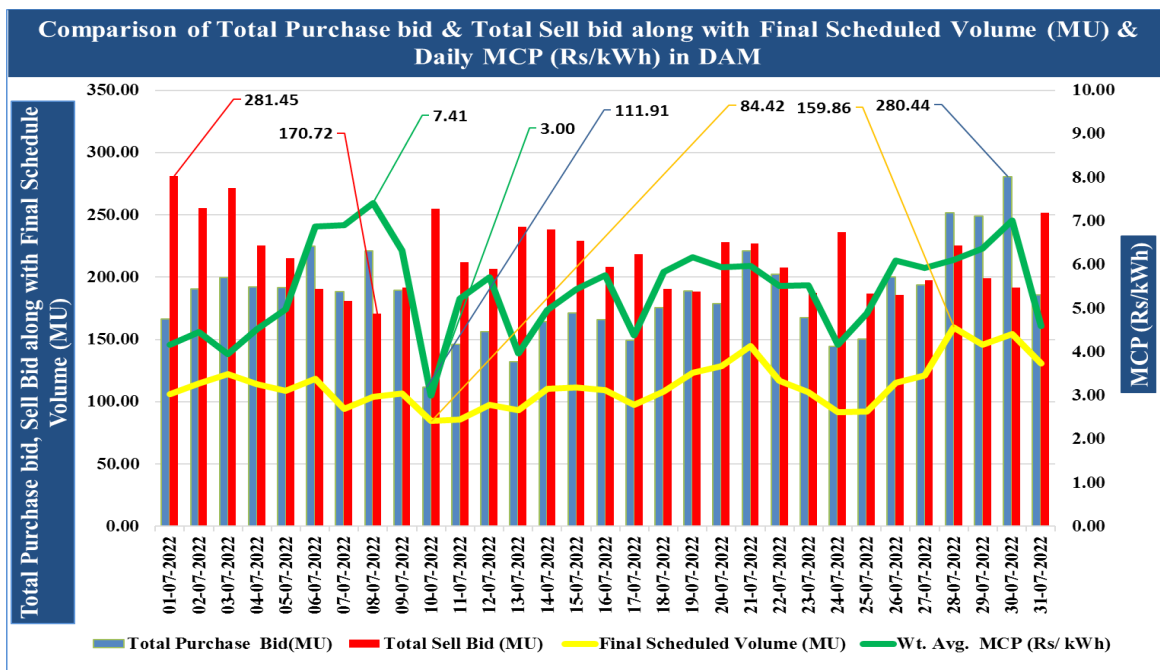


Figure -2

8.5. Invariably, the Final Scheduled Volume (MU) and the Daily MCP (Rs/kWh) showed decreasing trend on Sundays and increasing trend on Mondays as the demand of electricity in the country was less on Sundays as compared to other days of week.

8.6. A comparison of maximum, minimum, daily, evening time MCP is shown in **Figure -3**. The same are also tabulated in **Annexure-I**

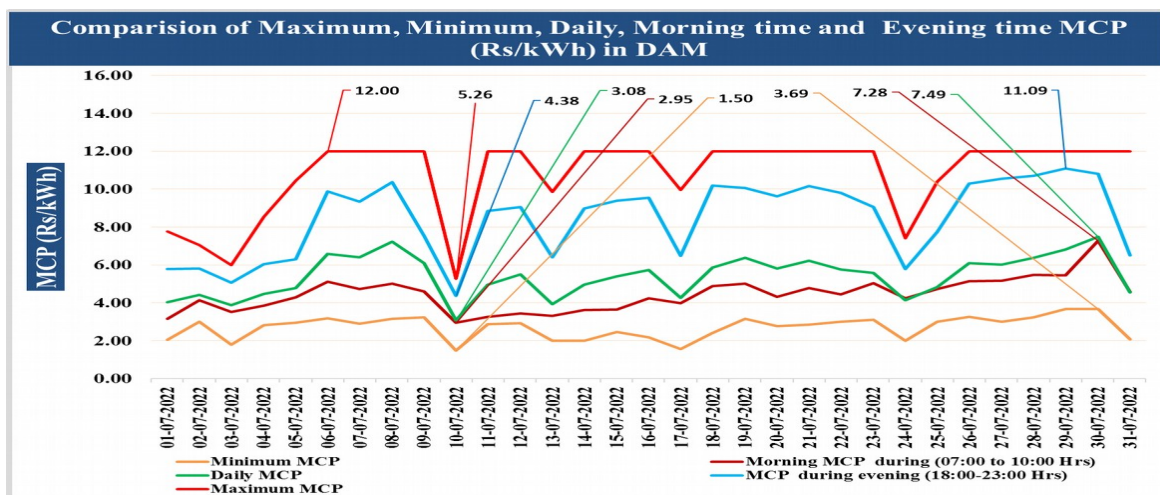


Figure -3

8.7. The Market Clearing Price duration curves for time block wise MCP for the month of July, 2022 is shown in **Figure 4**, whereas the time block wise MCP duration curve for the period 1st April, 2022 to 31st July, 2022 is shown in **Figure 5**.

I/24558/2022

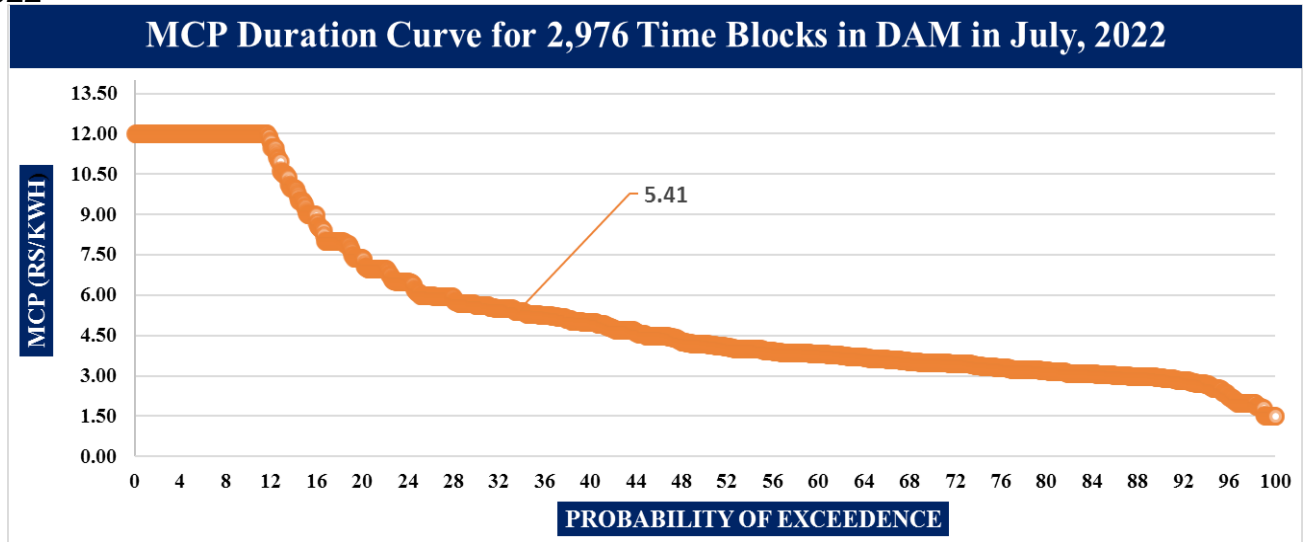


Figure-4

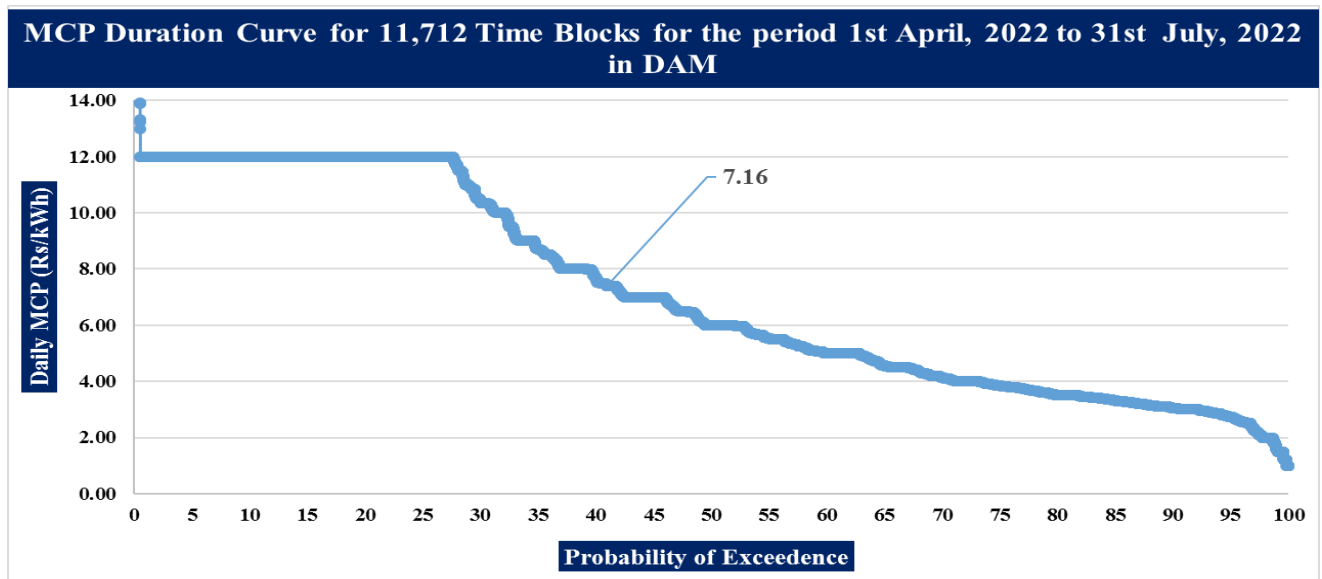


Figure-5

8.8. It can be seen in figure 4 above that in the MCP duration curve of July, 2022, for 33.67 % of the time MCP was above average MCP of the month (i.e. **Rs. 5.41/kWh**) and almost 54.77 % of the time MCP was below the average MCP of the month. Similarly, it can be seen in the MCP duration curve from 1st April, 2022 to 31st July, 2022 (figure-5), that for 45.23 % of the time the MCP was above the average MCP for the period (i.e. **Rs. 7.16/kWh**) and for 54.77 % of the time the daily MCP was below the average MCP for the period.

8.9. The Purchase Bids and the MCP discovered in each of the 15-minute time block during the month almost followed the same trend [Annexure V]. This is also corroborated with the outcome of regression analysis mentioned at **para 8.1 and 8.2** above.

8.10. In July, 2022, the maximum FSV occurred mostly during the **time period 19-20 Hrs** (on 20 no. of days). Whereas, the maximum MCP occurred mostly during the **time period 18-19 Hrs** (on 10 no. of days). Similarly, the minimum FSV occurred mostly during the **time period 2-4 Hrs** (on 11 no. of days). Whereas, the minimum MCP occurred mostly during the **time period 13-14 Hrs** (on 25 no. of days). [Annexure VI]

I/24558/2022

- 8.11.** In the month of July, 2022, there was congestion of 4.45 MU in the transmission system in IEX, whereas there was no congestion in PXIL. Further, in the month of June, 2022, there was no congestion in transmission system in IEX and PXIL, respectively. In the month of July, 2021 also, there was no transmission congestion in IEX and PXIL, respectively.
- 8.12.** In the month of July, 2022, there was **no** real time curtailment in IEX and PXIL, respectively. Further, in the month of June, 2022 also, there was no real time curtailment both IEX and PXIL. In the month of July, 2021 also, there was no real time curtailment in both IEX and PXIL.
- 8.13.** The **top 10 sellers** on the power exchanges in **Day Ahead Market (DAM)** in the month of July, 2022 were, **Madhya Pradesh, Rajasthan, Karnataka, NVVN (SNA)-NEA, Delhi, Chhattisgarh, Kerala, Uttar Pradesh, Himachal Pradesh and Bihar**, which constituted **59.79 %** of the market volume. [Annexure VII].
- 8.14.** The **top 10 purchasers** on the power exchanges in **Day Ahead Market (DAM)** in the month of July, 2022 were **Gujarat, West Bengal, Maharashtra, Uttar Pradesh, Telangana, Andhra Pradesh, Tamil Nadu, Arcelore Mittal Nippon Steel (ESIL), Assam and Odisha**, which constituted **83.72 %** of the market volume. [Annexure VII]
- 8.15.** The total volume of electricity purchased by Discoms/Licensees in DAM in the month of July, 2022 was **3,297.57 MU**, which constituted **92.89%** of total volume of electricity purchased on both the power exchanges.
- 8.16.** Similarly, the total volume of electricity sold by Discoms/Licensees in DAM in the month of July, 2022 was **2,360.75 MU**, which constituted **66.50%** of total volume of electricity sold on both the power exchanges.

9. ANALYSIS OF MOVEMENT OF PRICES OBSERVED IN REAL TIME MARKET (RTM) TRANSACTIONS IN JULY, 2022

- 9.1.** Similar to the regression analysis carried out for Day Ahead Market, the regression analysis for Real Time Market was also done. The regression analysis revealed that the significant variables was the total purchase bid, whereas all the other variables were found to be insignificant. Further, the regression analysis revealed that the elasticity of the Daily MCP with respect to total Purchase Bid was **0.81**, which signifies that there is high multicollinearity among the predictor variables/ independent variables used in regression analysis.
- 9.2.** The Purchase Bids and the MCP discovered in each of the 15-minute time block during the month almost followed the same trend [Annexure IX]. This is also corroborated with the outcome of regression analysis mentioned at **para 9.1 above**.
- 9.3.** The Total Purchase Bid, Total Sell Bid, Daily MCP and FSV are shown in Figure-6 below:

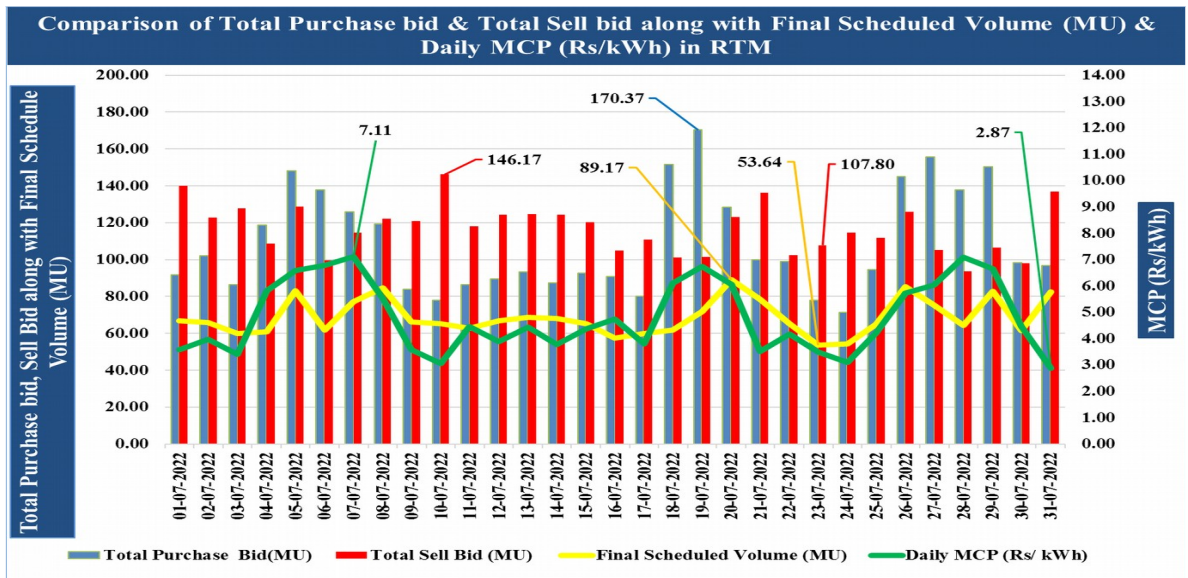


Figure-6

9.4. A comparison of maximum, minimum, daily, evening time MCP is shown in Figure-7. The same are also tabulated in Annexure-VIII.

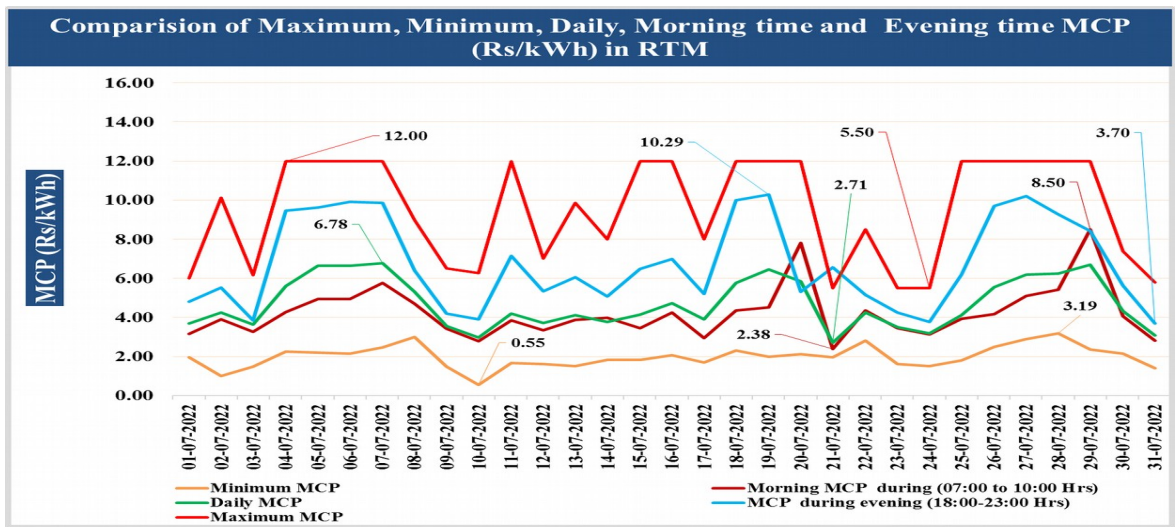


Figure-7

9.5. The Market Clearing Price duration curves for time block wise MCP for the month of July, 2022 is shown in Figure 8, whereas the day wise MCP duration curve for the period 1st July, 2022 to 31st July, 2022 is shown in Figure 9.

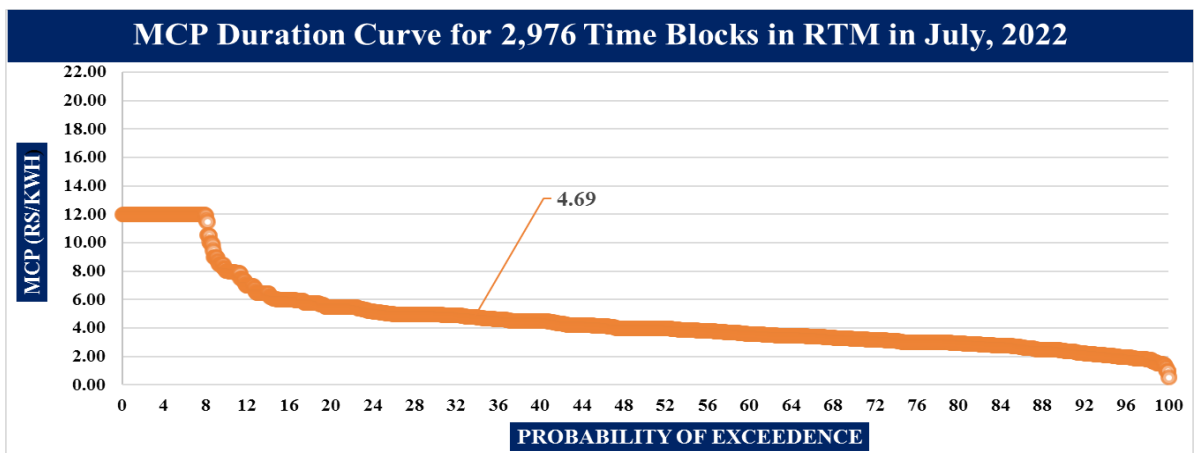


Figure-8

I/24558/2022

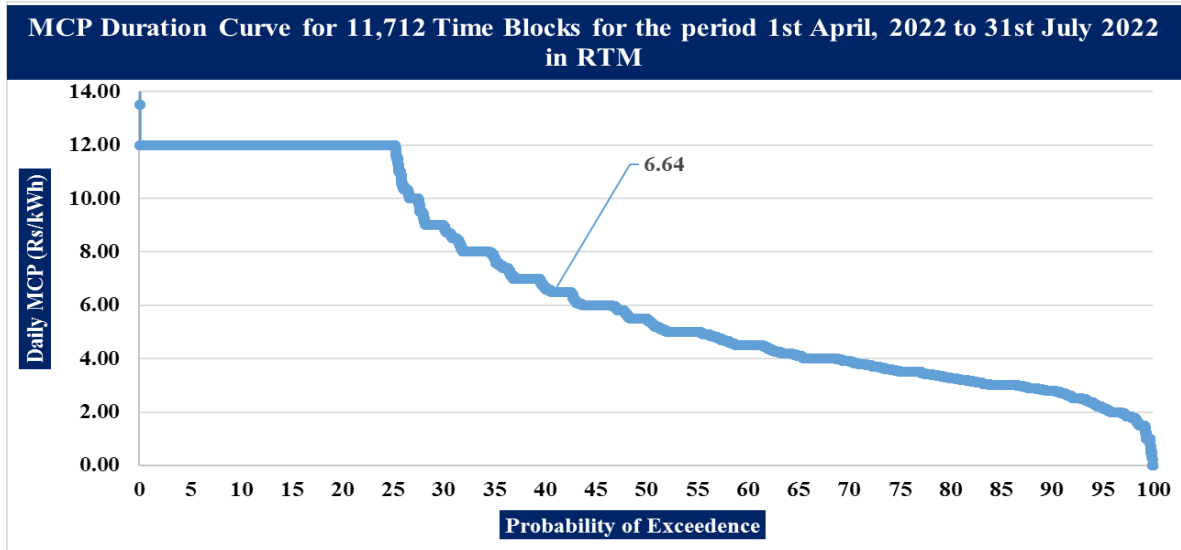


Figure-9

- 9.6. It can be seen in figure 8 above that in the MCP duration curve of July, 2022, for 34.63 % of the time the MCP was above the average MCP of the month (i.e. **Rs. 4.69/kWh**) and for 65.37 % of the time the MCP was below the average MCP of the month. Similarly, it can be seen in the cumulative MCP duration curve from 1st April, 2022 to 31st July, 2022 (figure 9) that, for 40.04 % of the time the daily MCP was above the average MCP for the period (i.e. **Rs. 6.64/kWh**) and for 59.96 % of the time the daily MCP was below the average MCP for the period.
- 9.7. In July, 2022, the maximum FSV occurred mostly during the **time period 11-13 Hrs** (on 6 no. of days). Whereas, the maximum MCP also occurred mostly during the **time period 18-20 Hrs** (on 11 no. of days). Similarly, the minimum FSV occurred mostly during the **time period 6-8 Hrs** (on 10 no. of days). Whereas, the minimum MCP occurred mostly during the **time period 13-14 Hrs** (on 17 no. of days). [Annexure X]
- 9.8. There was **no** real time curtailment in IEX in Real Time Market (RTM) during July, 2022 and June, 2022, whereas, **no** real time curtailment in PXIL during July, 2022 and no transaction of electricity happened in PXIL during June, 2022. Similarly, in July, 2021, there was no real time curtailment in IEX, whereas, no transaction of electricity happened in PXIL during July, 2021 in Real Time Market (RTM).
- 9.9. In the month of July, 2022, there was congestion of **0.04 MU** in the transmission system in IEX on 1 day (09th July, 2022), whereas, in PXIL, there was no congestion in July, 2022. Further, In the month of June, 2022, there was no congestion in the transmission system in both IEX and PXIL. In the month of July, 2021, there was congestion of **26.01 MU** in transmission system in IEX in Real Time Market for 27 days (1st to 19th July, 21st to 27th July and 31st July, 2021), whereas, in PXIL, no transaction of electricity happened in July, 2021 in Real Time Market.
- 9.10. The **top 10 sellers** on the power exchanges in **Real Time Market (RTM)** in the month of July, 2022 were **Madhya Pradesh, Rajasthan, Bihar, Karnataka, Andhra Pradesh,**

I/24558/2022

Delhi, Chhattisgarh, Himachal Pradesh and Odisha, which constituted **72.03 %** of the market volume. [Annexure XI]

9.11. The **top 10 buyers** on the power exchanges in **Real Time Market (RTM)** in the month of July, 2022 were **Maharashtra, Telangana, Uttar Pradesh, West Bengal, Tamil Nadu, Andhra Pradesh, Haryana, Odisha, Punjab, and Gujarat**, which constituted **80.80%** of the market volume. [Annexure XI]

9.12. The total volume of electricity purchased by Discoms/Licensees in RTM in the month of July, 2022 was **2,060.20 MU**, which constituted **96.19 %** of total volume of electricity purchased on both the power exchanges.

9.13. Similarly, the total volume of electricity sold by Discoms/Licensees in RTM in the month of July, 2022 was **1,836.13 MU**, which constituted **85.73 %** of total volume of electricity sold on both the power exchanges.

-
- Source DAM, GDAM, TAM, GTAM and RTM data: IEX, PXIL and HPX
 - Source Entity wise sale and purchase on PXs data: NLDC
 - Source Total Energy supplied: CEA
 - Source Generation & other data for Regression: NLDC and IEX

Final Scheduled Volume, Average MCP and Real-Time Curtailment in Day Ahead Market (DAM) for the months of April, 2022 to March, 2023 of IEX and PXIL

Quarter	Months	Final Scheduled Volume (MU)		Market Clearing Price (Rs/kWh)		Real Time Curtailment (MU)	
		IEX	PXIL	IEX	PXIL	IEX	PXIL
Quarter -I	April, 2022	4,113.65	0	10.06	0	8.86	0
	May, 2022	3,172.50	13.02	6.80	4.30	0	0
	June, 2022	4,084.99	116.20	6.49	6.61	0	0
Total Quarter -I	April - June, 2022	11,371.14	129.22	7.87	6.38	8.86	0
Quarter -II	July, 2022	3,516.65	31.78	5.50	5.01	0	0
	August, 2022						
	September, 2022						
Total Quarter -II	July - September, 2022	3,516.65	31.78	5.50	5.01	0	0
Total April, 2022 - July, 2022		14,887.79	161.00	7.31	6.11	8.86	0

I/24558/2022

Annexure-II**March, 2023 of IEX, PXIL and HPX (Trade and Delivery date basis)**

Quarter	Months	Final Scheduled Volume (MU) on Trade Date Basis			
		IEX	PXIL	HPX	Total
Quarter -I	April, 2022	1,166.81	2,067.94	-	3,234.75
	May, 2022	901.76	738.08	-	1,639.84
	June, 2022	722.69	727.89	-	1,450.58
Total Quarter -I	April - June, 2022	2,791.26	3,533.91	-	6,325.17
Quarter-II	July, 2022	512.00	530.95	312.71	1,355.66
	August, 2022				
	September, 2022				
Total Quarter -II	July-September, 2022	512.00	530.95	312.71	1,355.66
Total	April, 2022 - March, 2023	3,303.26	4,064.86	312.71	7,680.83

Quarter	Months	Final Scheduled Volume (MU) on Delivery Date Basis			
		IEX	PXIL	HPX	Total
Quarter -I	April, 2022	1,171.50	1,746.85	-	2,918.35
	May, 2022	1,188.60	1,157.77	-	2,346.37
	June, 2022	759.03	759.58	-	1,518.61
Total Quarter -I	April - June, 2022	3,119.13	3,664.20	-	6,783.33
Quarter-II	July, 2022	439.81	531.89	312.71	1,284.41
	August, 2022				
	September, 2022				
Total Quarter -II	July-September, 2022	439.81	531.89	312.71	1,284.41
Total	April, 2022 - March, 2023	3,558.94	4,196.09	312.71	8,067.74

Top Five Entities (Buyers and Sellers) in Bilateral transactions in the month of July, 2022

(i) Top five Buyers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
PUNJAB_STATE	932.33	34.08%	PUNJAB_STATE	1322.61	25.38%
MAHARASHTRA	359.47	13.14%	DELHI_UT	971.59	18.65%
UTTARPRADESH_STAT	322.90	11.80%	Gujarat	494.62	9.49%
HARYANA_STATE	315.52	11.53%	Odisha	448.95	8.62%
DELHI_UT	248.32	9.08%	UTTARPRADESH_STAT	411.77	7.90%
Total Volume	2,178.54	79.64%	Total Volume	3,649.55	70.04%
Total Volume in Bilateral	2,735.36		Total Volume in Bilateral	5,210.74	

(ii) Top five Sellers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
MP	949.90	35.79%	HIMACHAL_STATE	873.40	16.51%
MAHARASHTRA	281.53	10.61%	TEESTA III TUL	616.76	11.66%
DVC	199.24	7.51%	RPREL	325.50	6.15%
JK & LADAKH_UT	111.60	4.21%	TAMILNADU_State	275.04	5.20%
TELANGANA_State	107.44	4.05%	REGL	251.14	4.75%
Total Volume	1,649.71	62.17%	Total Volume	2,341.84	44.26%
Total Volume in Bilateral	2,653.73		Total Volume in Bilateral	5,291.43	

I/24558/2022

Annexure-IV**Evening, Day, Night, Morning, Maximum, Minimum, Average MCP (Rs/kWh) and Final Scheduled Volume (MU) in DAM**

Date	Morning MCP (07:00-10:00)	Day MCP (11:00-17:00)	Evening MCP (18:00- 23:00)	Night MCP (01:00- 06:00, 23:00-24:00)	Maximum MCP	Minimum MCP	Average MCP	Final Scheduled Volume (MU)
01-07-2022	3.17	2.71	5.77	4.37	7.77	2.06	4.04	105.82
02-07-2022	4.14	3.35	5.82	4.47	7.04	3.00	4.42	114.89
03-07-2022	3.53	2.35	5.06	4.64	6.00	1.80	3.89	122.22
04-07-2022	3.84	3.09	6.03	4.87	8.55	2.83	4.47	114.14
05-07-2022	4.30	3.26	6.31	5.32	10.45	2.95	4.79	108.67
06-07-2022	5.13	3.91	9.88	7.29	12.00	3.19	6.59	118.57
07-07-2022	4.73	3.32	9.34	7.94	12.00	2.90	6.41	94.18
08-07-2022	5.01	3.81	10.38	9.18	12.00	3.15	7.22	104.06
09-07-2022	4.60	3.61	7.54	8.23	12.00	3.23	6.11	106.34
10-07-2022	2.95	1.51	4.38	3.61	5.26	1.50	3.08	84.42
11-07-2022	3.27	3.16	8.84	4.43	12.00	2.89	4.97	85.83
12-07-2022	3.44	3.38	9.07	5.74	12.00	2.92	5.50	97.39
13-07-2022	3.32	2.48	6.41	3.60	9.85	2.00	3.93	93.38
14-07-2022	3.63	2.74	8.97	4.48	12.00	2.00	4.95	110.21
15-07-2022	3.65	3.06	9.40	5.34	12.00	2.47	5.41	111.46
16-07-2022	4.25	2.90	9.56	6.14	12.00	2.19	5.73	109.37
17-07-2022	4.00	1.96	6.48	4.82	9.95	1.56	4.26	97.38
18-07-2022	4.90	3.03	10.18	5.56	12.00	2.41	5.87	108.03
19-07-2022	5.01	3.42	10.06	6.93	12.00	3.15	6.37	122.97
20-07-2022	4.32	3.05	9.61	6.16	12.00	2.77	5.81	128.42
21-07-2022	4.79	3.23	10.16	6.66	12.00	2.84	6.22	144.49
22-07-2022	4.44	3.36	9.80	5.47	12.00	3.00	5.76	116.75
23-07-2022	5.04	3.61	9.05	4.89	12.00	3.11	5.58	107.51
24-07-2022	4.24	2.44	5.79	4.39	7.40	1.99	4.15	91.78
25-07-2022	4.72	3.51	7.73	3.76	10.40	3.00	4.84	91.91
26-07-2022	5.14	4.36	10.30	4.77	12.00	3.25	6.09	115.02
27-07-2022	5.18	3.65	10.55	4.94	12.00	3.00	6.01	121.00
28-07-2022	5.48	3.88	10.69	5.71	12.00	3.25	6.38	159.86
29-07-2022	5.45	4.35	11.09	6.39	12.00	3.69	6.81	145.62
30-07-2022	7.28	4.47	10.82	7.77	12.00	3.69	7.49	154.29
31-07-2022	4.57	2.78	6.52	4.62	12.00	2.07	4.55	130.69
Maximum	7.28	4.47	11.09	9.18	12.00	3.69	7.49	159.86
Minimum	2.95	1.51	4.38	3.60	5.26	1.50	3.08	84.42
Average	4.44	3.22	8.44	5.56	10.80	2.70	5.41	113.44

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

Comparison of MCP w.r.t. Purchase Bid for 2,976 Time Blocks during the month of July, 2022 in DAM



Time Blocks during the Month [96 time blocks in a day x 31 days = 2,976]

Maximum Final Schedule Volume (FSV), Minimum FSV, Maximum Market Clearing Price (MCP) and Minimum MCP in DAM

Date	Max. FSV (MU)		Max. MCP (Rs/kWh)		Min FSV (MU)		Min. MCP (Rs/kWh)	
	Time Block	Value	Time Block	Value	Time Block	Value	Time Block	Value
01-07-2022	07:15 - 07:30	2.01	19:30 - 19:45	7.77	03:15 - 03:30	0.73	08:45 - 09:00	2.06
02-07-2022	07:15 - 07:30	2.03	21:15 - 21:30	7.04	00:15 - 00:30	0.86	13:30 - 13:45	3.00
03-07-2022	07:00 - 07:15	2.06	22:30 - 22:45	6.00	02:30 - 02:45	0.98	13:00 - 13:15	1.80
04-07-2022	06:45 - 07:00	1.86	22:30 - 22:45	8.55	02:45 - 03:00	0.84	13:30 - 13:45	2.83
05-07-2022	07:15 - 07:30	1.65	22:30 - 22:45	10.45	03:15 - 03:30	0.72	14:00 - 14:15	2.95
06-07-2022	07:15 - 07:30	1.69	00:00 - 00:15	12.00	03:45 - 04:00	0.79	13:30 - 13:45	3.19
07-07-2022	07:15 - 07:30	1.34	00:00 - 00:15	12.00	17:15 - 17:30	0.60	13:00 - 13:15	2.90
08-07-2022	06:30 - 06:45	1.46	00:00 - 00:15	12.00	14:00 - 14:15	0.76	13:00 - 13:15	3.15
09-07-2022	05:45 - 06:00	1.51	00:00 - 00:15	12.00	16:45 - 17:00	0.76	13:00 - 13:15	3.23
10-07-2022	14:45 - 15:00	1.07	22:30 - 22:45	5.26	01:45 - 02:00	0.67	13:00 - 13:15	1.50
11-07-2022	23:45 - 24:00	1.21	19:30 - 19:45	12.00	05:45 - 06:00	0.67	13:00 - 13:15	2.89
12-07-2022	23:45 - 24:00	1.37	19:45 - 20:00	12.00	06:30 - 06:45	0.69	10:30 - 10:45	2.92
13-07-2022	22:45 - 23:00	1.19	20:00 - 20:15	9.85	03:45 - 04:00	0.70	13:00 - 13:15	2.00
14-07-2022	00:15 - 00:30	1.54	19:30 - 19:45	12.00	05:00 - 05:15	0.91	13:30 - 13:45	2.00
15-07-2022	00:15 - 00:30	1.58	19:30 - 19:45	12.00	06:45 - 07:00	0.89	13:15 - 13:30	2.47
16-07-2022	00:00 - 00:15	1.44	19:15 - 19:30	12.00	17:30 - 17:45	0.92	13:30 - 13:45	2.19
17-07-2022	07:15 - 07:30	1.41	21:15 - 21:30	9.95	18:30 - 18:45	0.70	13:45 - 14:00	1.56
18-07-2022	07:15 - 07:30	1.83	18:45 - 19:00	12.00	02:15 - 02:30	0.75	13:30 - 13:45	2.41
19-07-2022	07:15 - 07:30	1.76	18:45 - 19:00	12.00	20:15 - 20:30	0.96	13:00 - 13:15	3.15
20-07-2022	07:30 - 07:45	1.90	19:00 - 19:15	12.00	03:15 - 03:30	0.82	13:30 - 13:45	2.77
21-07-2022	07:30 - 07:45	2.17	18:30 - 18:45	12.00	02:45 - 03:00	1.09	13:00 - 13:15	2.84
22-07-2022	07:00 - 07:15	2.04	18:45 - 19:00	12.00	19:45 - 20:00	0.87	13:15 - 13:30	3.00
23-07-2022	07:30 - 07:45	1.88	18:45 - 19:00	12.00	01:15 - 01:30	0.72	13:00 - 13:15	3.11
24-07-2022	07:15 - 07:30	1.54	22:15 - 22:30	7.40	23:45 - 24:00	0.70	13:00 - 13:15	1.99
25-07-2022	07:30 - 07:45	1.68	19:00 - 19:15	10.40	02:00 - 02:15	0.50	04:45 - 05:00	3.00
26-07-2022	07:30 - 07:45	1.97	18:30 - 18:45	12.00	01:45 - 02:00	0.62	04:30 - 04:45	3.25
27-07-2022	07:15 - 07:30	2.31	18:30 - 18:45	12.00	03:00 - 03:15	0.69	13:00 - 13:15	3.00
28-07-2022	07:30 - 07:45	2.76	18:30 - 18:45	12.00	20:45 - 21:00	1.04	14:15 - 14:30	3.25
29-07-2022	07:30 - 07:45	2.36	18:15 - 18:30	12.00	20:15 - 20:30	0.85	13:00 - 13:15	3.69
30-07-2022	15:45 - 16:00	2.20	18:00 - 18:15	12.00	20:00 - 20:15	0.82	13:00 - 13:15	3.69
31-07-2022	07:30 - 07:45	2.04	20:00 - 20:15	12.00	23:45 - 24:00	0.94	13:15 - 13:30	2.07

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

I/24558/2022

Annexure-VII

Sellers and Buyers in Day Ahead Market (DAM) in the month of July, 2022

S. No	Entity Name	Sell		Entity Name	Purchase	
		(MU)	Perce nt (%)		(MU)	Perce nt (%)
1.	Madhya Pradesh	334.25	9.42%	Gujarat	500.25	14.09%
2.	Rajasthan	309.39	8.72%	West Bengal	403.15	11.36%
3.	Karnataka	249.85	7.04%	Maharashtra	369.79	10.42%
4.	NVVN (SNA) - NEA	235.59	6.64%	Uttar Pradesh	348.39	9.81%
5.	Delhi	187.28	5.28%	Telangana	309.11	8.71%
6.	Chhattisgarh	180.85	5.09%	Andhra Pradesh	292.70	8.25%
7.	Kerala	174.04	4.90%	Tamilnadu	235.38	6.63%
8.	Uttar Pradesh	154.87	4.36%	ArcelorMittal Nippon	229.76	6.47%
9.	Himachal Pradesh	151.05	4.26%	Assam	150.13	4.23%
10.	Bihar	145.35	4.09%	Orissa	133.15	3.75%
11.	Kameng HEP	130.80	3.68%	Madhya Pradesh	110.75	3.12%
12.	Teesta -3	91.98	2.59%	Daman & Diu - Dadra	96.43	2.72%
13.	Raipur Energen	77.85	2.19%	Haryana	89.23	2.51%
14.	Andhra Pradesh	74.19	2.09%	Punjab	39.44	1.11%
15.	Punjab	72.23	2.03%	Delhi	37.77	1.06%
16.	DB Power	71.87	2.02%	Jharkhand	36.79	1.04%
17.	Jaypee Nigrie	69.14	1.95%	Karnataka	34.52	0.97%
18.	MB Power	55.46	1.56%	Uttarakhand	23.16	0.65%
19.	Jindal Power	54.47	1.53%	NEA-NR	19.39	0.55%
20.	Tamilnadu	51.36	1.45%	Rajasthan	17.96	0.51%
21.	Jindal Power Ltd. Stg-II	46.77	1.32%	Railways	16.21	0.46%
22.	Telangana	43.83	1.23%	Bihar	15.91	0.45%
23.	ACBIL	37.04	1.04%	Kerala	13.08	0.37%
24.	JITPL	31.46	0.89%	Tripura	6.49	0.18%
25.	Jharkhand	30.82	0.87%	Manipur	6.05	0.17%
26.	Raigarh Energy Ltd.	30.72	0.87%	Meghalaya	4.18	0.12%
27.	Haryana	29.80	0.84%	BALCO 2	3.13	0.09%
28.	Goa WR	29.24	0.82%	Goa SR	3.12	0.09%
29.	Arunachal Pradesh	27.11	0.76%	Goa WR	2.99	0.08%
30.	Mizoram	26.16	0.74%	Chandigarh	1.31	0.04%
31.	Sainj HEP	23.73	0.67%	Himachal Pradesh	0.12	0.00%
32.	Coastal Gujrat Power Limited	23.61	0.67%			
33.	Assam	22.46	0.63%			
34.	AD Hydro	20.49	0.58%			
35.	RKM Power	18.00	0.51%			
36.	Maharashtra	17.40	0.49%			
37.	Karcham Wangtoo	17.38	0.49%			
38.	Sembcorp Energy India Ltd.	16.96	0.48%			
39.	Maruti Clean Coal Power	15.26	0.43%			
40.	Chandigarh	15.24	0.43%			
41.	Uttarakhand	13.12	0.37%			
42.	Adhunik Power	12.34	0.35%			
43.	Orissa	11.66	0.33%			

I/24558/2022

44.	West Bengal	11.62	0.33%			
45.	DVC	10.37	0.29%			
46.	Chuzachen	10.14	0.29%			
47.	Nagaland	9.22	0.26%			
48.	Palatana	8.99	0.25%			
49.	Gujarat	8.73	0.25%			
50.	Essar Power MP Ltd	7.44	0.21%			
51.	SKS Power	7.13	0.20%			
52.	Lanco Budhil	6.62	0.19%			
53.	J&K	6.56	0.18%			
54.	Sikkim	6.55	0.18%			
55.	NLC TPS-II	5.83	0.16%			
56.	IGSTPS JHAJJAR	5.52	0.16%			
57.	Renew Surya Ravi Private	1.87	0.05%			
58.	Adani Hybrid Energy	1.15	0.03%			
59.	Adani Green Energy Nineteen	1.12	0.03%			
60.	Adani Hybrid Energy	1.06	0.03%			
61.	IL&FS	0.92	0.03%			
62.	Dikchu	0.86	0.02%			
63.	GMR Kamalanga	0.76	0.02%			
64.	Adani Hybrid Energy	0.76	0.02%			
65.	Adani Wind Energy Kutchh	0.66	0.02%			
66.	Tashiding HEP	0.66	0.02%			
67.	Jorethang	0.60	0.02%			
68.	GMR Warora	0.54	0.02%			
69.	Singoli Bhagwati	0.49	0.01%			
70.	NLC TPS-II Stg-2	0.48	0.01%			
71.	Adani Power STG3	0.36	0.01%			
72.	Dhariwal	0.22	0.01%			
73.	Darlipalli	0.14	0.00%			
74.	Ostro Energy Private Limited	0.04	0.00%			
75.	Sorang HEP, (Himachal Sorang)	0.01	0.00%			
Total Volume of top 10		2,122.5	59.79	Total Volume of top	2,971.8	83.72
Total Volume in PXs		3,549.8		Total Volume in PXs	3,549.8	

I/24558/2022

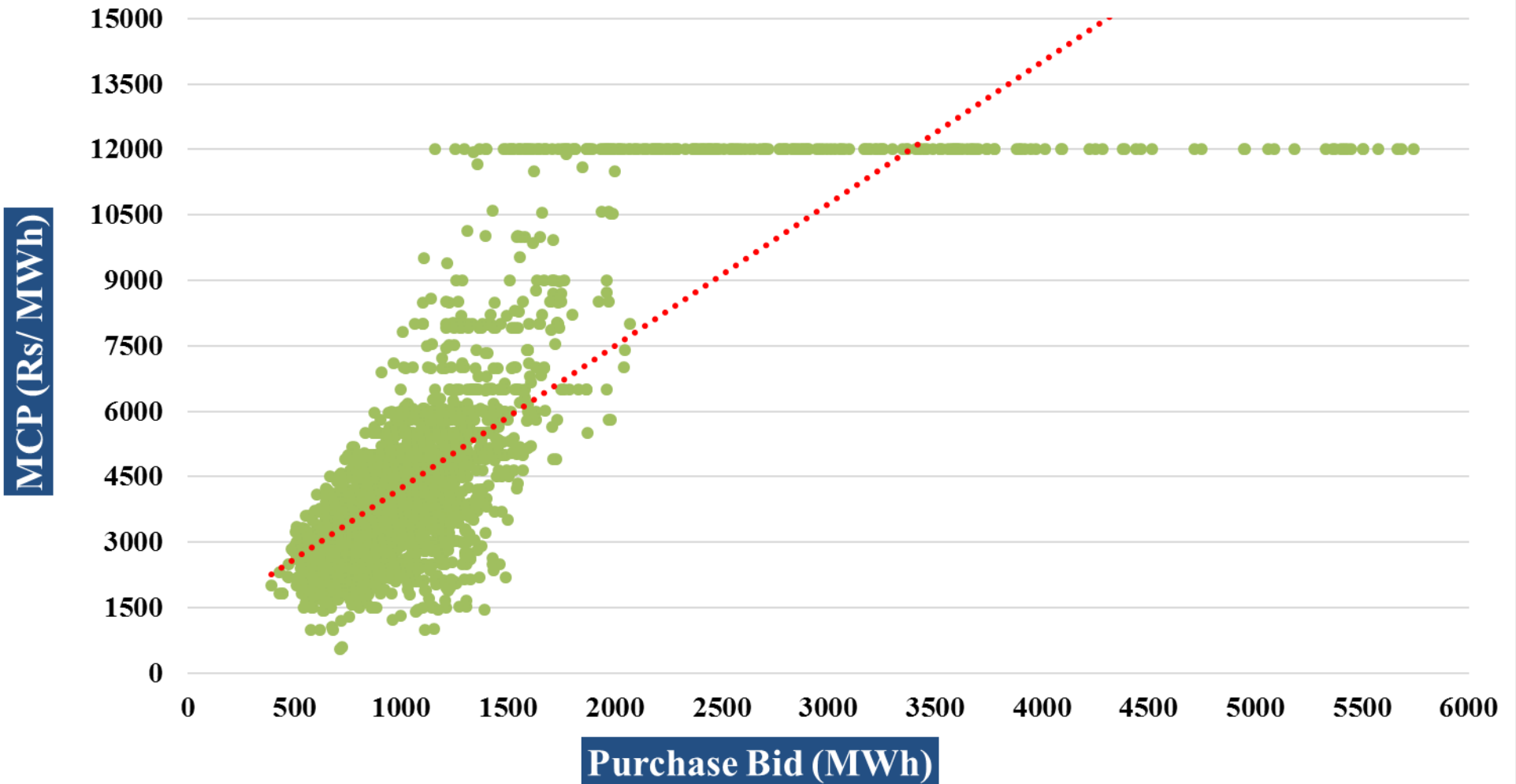
Annexure-VIII**Evening, Day, Night, Morning, Maximum, Minimum, Average MCP (Rs/kWh) and Final Scheduled Volume (MU) in RTM**

Date	Morning MCP (07:00-10:00)	Day MCP (11:00-17:00)	Evening MCP (18:00- 23:00)	Night MCP (01:00-06:00, 23:00-24:00)	Maximum MCP	Minimum MCP	Average MCP	Final Scheduled Volume (MU)
01-07-2022	3.17	2.89	4.82	3.79	6.00	1.96	3.68	66.75
02-07-2022	3.89	2.86	5.53	4.72	10.13	1.00	4.24	65.87
03-07-2022	3.26	2.58	3.85	4.74	6.17	1.49	3.64	59.81
04-07-2022	4.27	3.64	9.45	5.03	12.00	2.25	5.60	61.00
05-07-2022	4.94	3.94	9.63	7.79	12.00	2.21	6.65	83.19
06-07-2022	4.95	3.75	9.90	7.67	12.00	2.15	6.63	61.79
07-07-2022	5.77	4.01	9.86	7.51	12.00	2.47	6.78	77.10
08-07-2022	4.69	3.98	6.41	6.10	8.99	3.00	5.32	84.61
09-07-2022	3.43	2.59	4.18	4.04	6.50	1.49	3.55	66.07
10-07-2022	2.78	1.55	3.92	3.69	6.27	0.55	2.97	65.37
11-07-2022	3.86	3.16	7.15	2.91	12.00	1.66	4.20	62.71
12-07-2022	3.36	2.40	5.35	3.87	7.00	1.62	3.72	66.92
13-07-2022	3.87	2.76	6.06	3.94	9.85	1.50	4.11	68.58
14-07-2022	3.98	2.36	5.07	3.91	8.00	1.83	3.76	68.06
15-07-2022	3.46	3.17	6.49	3.53	12.00	1.83	4.15	65.30
16-07-2022	4.24	3.23	7.00	4.52	12.00	2.06	4.72	57.32
17-07-2022	2.95	2.69	5.20	4.57	8.01	1.68	3.91	59.78
18-07-2022	4.36	3.51	10.00	5.15	12.00	2.30	5.75	61.84
19-07-2022	4.51	3.92	10.29	6.86	12.00	2.00	6.47	71.85
20-07-2022	7.81	3.12	5.32	7.92	12.00	2.13	5.85	89.17
21-07-2022	2.38	2.80	6.56	3.20	5.50	1.96	2.71	78.28
22-07-2022	4.35	3.53	5.15	4.11	8.50	2.80	4.24	65.27
23-07-2022	3.45	2.90	4.25	3.45	5.50	1.61	3.49	53.64
24-07-2022	3.12	2.32	3.76	3.63	5.50	1.50	3.20	54.12
25-07-2022	3.94	3.23	6.18	3.32	12.00	1.80	4.11	64.98
26-07-2022	4.16	3.63	9.70	4.68	12.00	2.50	5.54	85.29
27-07-2022	5.11	4.38	10.21	5.18	12.00	2.90	6.19	75.41
28-07-2022	5.41	4.44	9.28	5.90	12.00	3.19	6.24	64.26
29-07-2022	8.50	4.65	8.44	6.19	12.00	2.37	6.69	82.83
30-07-2022	4.07	3.24	5.62	4.41	7.40	2.16	4.32	61.35
31-07-2022	2.82	2.00	3.70	3.80	5.80	1.40	3.09	82.45
Maximum	8.50	4.65	10.29	7.92	12.00	3.19	6.78	89.17
Minimum	2.38	1.55	3.70	2.91	5.50	0.55	2.71	53.64
Average	4.22	3.20	6.72	4.84	9.52	1.98	4.69	68.74

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

Comparison of MCP w.r.t. Purchase Bid for 2,976 Time Blocks during the month of July, 2022 in RTM



Time Blocks during the Month [96 time blocks in a day x 31 days = 2,976]

I/24558/2022

Annexure-X**Maximum Final Schedule Volume (FSV), Minimum FSV, Maximum Market Clearing Price (MCP) and Minimum MCP in RTM**

Date	Max. FSV (MU)		Max. MCP (Rs/kWh)		Min FSV (MU)		Min. MCP (Rs/kWh)	
	Time Block	Value	Time Block	Value	Time Block	Value	Time Block	Value
01-07-2022	14:45 - 15:00	1.05	22:15 - 22:30	6.00	01:15 - 01:30	0.39	03:15 - 03:30	1.96
02-07-2022	13:30 - 13:45	1.15	22:15 - 22:30	10.13	04:45 - 05:00	0.38	13:45 - 14:00	1.00
03-07-2022	17:00 - 17:15	1.09	00:00 - 00:15	6.17	03:15 - 03:30	0.39	18:00 - 18:15	1.49
04-07-2022	13:45 - 14:00	1.08	19:30 - 19:45	12.00	05:45 - 06:00	0.25	13:30 - 13:45	2.25
05-07-2022	15:45 - 16:00	1.23	00:00 - 00:15	12.00	06:45 - 07:00	0.58	13:30 - 13:45	2.21
06-07-2022	01:15 - 01:30	1.11	00:00 - 00:15	12.00	07:00 - 07:15	0.40	13:00 - 13:15	2.15
07-07-2022	23:30 - 23:45	1.55	00:00 - 00:15	12.00	19:15 - 19:30	0.43	13:15 - 13:30	2.47
08-07-2022	22:45 - 23:00	1.62	00:00 - 00:15	8.99	06:45 - 07:00	0.42	13:00 - 13:15	3.00
09-07-2022	00:00 - 00:15	1.25	00:15 - 00:30	6.50	07:00 - 07:15	0.39	17:00 - 17:15	1.49
10-07-2022	00:30 - 00:45	0.90	21:00 - 21:15	6.27	06:45 - 07:00	0.33	12:45 - 13:00	0.55
11-07-2022	23:30 - 23:45	1.20	19:30 - 19:45	12.00	07:00 - 07:15	0.38	18:00 - 18:15	1.66
12-07-2022	21:30 - 21:45	1.09	21:15 - 21:30	7.00	07:00 - 07:15	0.34	13:00 - 13:15	1.62
13-07-2022	22:15 - 22:30	1.23	20:15 - 20:30	9.85	07:15 - 07:30	0.35	13:00 - 13:15	1.50
14-07-2022	20:45 - 21:00	0.90	19:15 - 19:30	8.00	08:45 - 09:00	0.41	14:00 - 14:15	1.83
15-07-2022	21:45 - 22:00	1.02	21:00 - 21:15	12.00	05:45 - 06:00	0.39	10:00 - 10:15	1.83
16-07-2022	14:15 - 14:30	0.84	21:30 - 21:45	12.00	18:30 - 18:45	0.34	13:30 - 13:45	2.06
17-07-2022	11:15 - 11:30	0.87	22:30 - 22:45	8.01	02:30 - 02:45	0.35	10:00 - 10:15	1.68
18-07-2022	23:45 - 24:00	1.27	18:45 - 19:00	12.00	05:45 - 06:00	0.33	13:30 - 13:45	2.30
19-07-2022	00:45 - 01:00	1.38	00:00 - 00:15	12.00	07:15 - 07:30	0.40	13:00 - 13:15	2.00
20-07-2022	03:00 - 03:15	1.48	00:00 - 00:15	12.00	18:30 - 18:45	0.43	13:30 - 13:45	2.13
21-07-2022	12:15 - 12:30	1.25	16:15 - 16:30	5.50	17:30 - 17:45	0.46	06:00 - 06:15	1.96
22-07-2022	12:15 - 12:30	1.10	19:15 - 19:30	8.50	16:45 - 17:00	0.34	17:15 - 17:30	2.80
23-07-2022	12:45 - 13:00	0.75	19:45 - 20:00	5.50	23:45 - 24:00	0.33	13:30 - 13:45	1.61
24-07-2022	09:30 - 09:45	0.83	23:15 - 23:30	5.50	01:15 - 01:30	0.23	14:00 - 14:15	1.50
25-07-2022	12:45 - 13:00	1.07	19:30 - 19:45	12.00	02:15 - 02:30	0.33	13:00 - 13:15	1.80
26-07-2022	23:30 - 23:45	1.46	19:00 - 19:15	12.00	02:45 - 03:00	0.47	13:00 - 13:15	2.50
27-07-2022	12:45 - 13:00	1.09	18:30 - 18:45	12.00	16:15 - 16:30	0.44	03:15 - 03:30	2.90
28-07-2022	19:00 - 19:15	1.17	19:15 - 19:30	12.00	02:15 - 02:30	0.31	13:00 - 13:15	3.19
29-07-2022	21:30 - 21:45	1.25	00:00 - 00:15	12.00	06:30 - 06:45	0.58	17:30 - 17:45	2.37
30-07-2022	21:00 - 21:15	0.98	19:15 - 19:30	7.40	10:00 - 10:15	0.40	12:00 - 12:15	2.16
31-07-2022	17:00 - 17:15	1.40	21:00 - 21:15	5.80	00:45 - 01:00	0.42	13:00 - 13:15	1.40

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

I/24558/2022

Annexure-XI

Sellers and Buyers in Real Time Market (RTM) in the month of July, 2022						
	Entity Name	(MWh)	Percent (%)	Entity Name	(MWh)	Percent (%)
1.	Madhya Pradesh	407.84	19.04%	Maharashtra	310.42	14.49%
2.	Rajasthan	194.23	9.07%	Telangana	308.72	14.41%
3.	Bihar	169.54	7.92%	Uttar Pradesh	214.35	10.01%
4.	Karnataka	140.30	6.55%	West Bengal	192.72	9.00%
5.	Andhra Pradesh	130.04	6.07%	Tamilnadu	154.45	7.21%
6.	Delhi	118.15	5.52%	Andhra Pradesh	133.53	6.23%
7.	Chhattisgarh	106.32	4.96%	Haryana	119.56	5.58%
8.	Himachal Pradesh	105.95	4.95%	Orissa	117.45	5.48%
9.	Kameng HEP	89.00	4.16%	Punjab	95.95	4.48%
10.	Orissa	81.39	3.80%	Gujarat	83.39	3.89%
11.	Telangana	57.50	2.68%	Rajasthan	77.47	3.62%
12.	Kerala	53.00	2.47%	Delhi	72.22	3.37%
13.	Punjab	50.95	2.38%	ArcelorMittal Nippon	45.98	2.15%
14.	Uttar Pradesh	43.25	2.02%	Assam	31.25	1.46%
15.	Sasan UMPP	36.58	1.71%	BALCO 2	28.07	1.31%
16.	Assam	36.50	1.70%	Daman & Diu - Dadra &	28.03	1.31%
17.	Haryana	30.11	1.41%	Madhya Pradesh	23.06	1.08%
18.	MB Power	22.19	1.04%	Karnataka	19.27	0.90%
19.	Tamilnadu	20.07	0.94%	Bihar	16.95	0.79%
20.	West Bengal	14.84	0.69%	Himachal Pradesh	13.87	0.65%
21.	Coastal Gujrat Power	14.82	0.69%	Jharkhand	10.50	0.49%
22.	Neyveli New Thermal	14.34	0.67%	Tripura	9.55	0.45%
23.	DVC	13.39	0.63%	Kerala	7.44	0.35%
24.	Maharashtra	12.53	0.58%	Railways	6.27	0.29%
25.	JITPL	11.76	0.55%	Manipur	4.98	0.23%
26.	NLC	10.54	0.49%	Uttarakhand	4.24	0.20%
27.	Palatana	10.10	0.47%	Meghalaya	4.05	0.19%
28.	Sorang HEP, (Himachal	9.25	0.43%	DVC	2.74	0.13%
29.	Jharkhand	8.45	0.39%	Goa WR	1.43	0.07%
30.	Raipur Energen	7.81	0.36%	Chhattisgarh	1.35	0.06%
31.	AD Hydro	7.46	0.35%	ACBIL	0.74	0.03%
32.	Teesta -3	6.81	0.32%	Goa SR	0.58	0.03%
33.	Nagaland	6.12	0.29%	Chandigarh	0.45	0.02%
34.	Manipur	5.94	0.28%	Sainj HEP	0.29	0.01%
35.	NLC TPS-II Stg-2	5.90	0.28%	Sikkim	0.15	0.01%
36.	Gujarat	5.69	0.27%	Arunachal Pradesh	0.07	0.00%
37.	RKM Power	5.68	0.27%	Karcham Wangtoo	0.07	0.00%
38.	Meghalaya	5.23	0.24%	Jindal Power Ltd. Stg-II	0.07	0.00%
39.	TRN Energy	4.87	0.23%	Singoli Bhagwati	0.02	0.00%
40.	SKS Power	4.87	0.23%			
41.	Jindal Power Ltd. Stg-II	4.70	0.22%			
42.	DB Power	4.68	0.22%			
43.	Goa WR	4.65	0.22%			

I/24558/2022

44.	Sikkim	4.21	0.20%			
45.	Dikchu	4.00	0.19%			
46.	Tripura	3.84	0.18%			
47.	Raigarh Energy Ltd.	3.67	0.17%			
48.	Jindal Power	3.37	0.16%			
49.	NLC TPS-II Expn	3.16	0.15%			
50.	Sembcorp Energy India	2.93	0.14%			
51.	Chandigarh	2.63	0.12%			
52.	NLC TPS-II	2.60	0.12%			
53.	Adhunik Power	2.57	0.12%			
54.	Essar Power MP Ltd	1.95	0.09%			
55.	Arunachal Pradesh	1.95	0.09%			
56.	Singoli Bhagwati	1.82	0.09%			
57.	ACBIL	1.11	0.05%			
58.	Renew Surya Ravi	1.03	0.05%			
59.	Tashiding HEP	0.99	0.05%			
60.	Ostro Energy Private	0.94	0.04%			
61.	Uttarakhand	0.88	0.04%			
62.	Jorethang	0.83	0.04%			
63.	Sainj HEP	0.70	0.03%			
64.	Daman & Diu - Dadra	0.62	0.03%			
65.	GMR Kamalanga	0.44	0.02%			
66.	Maruti Clean Coal	0.28	0.01%			
67.	AGBPP	0.26	0.01%			
68.	Chuzachen	0.25	0.01%			
69.	IL&FS	0.24	0.01%			
70.	Karcham Wangtoo	0.17	0.01%			
71.	GMR Warora	0.15	0.01%			
72.	Adani Wind Energy	0.14	0.01%			
73.	AGTPP	0.13	0.01%			
74.	J&K	0.13	0.01%			
75.	Adani Power STG3	0.13	0.01%			
76.	Adani Green Energy	0.12	0.01%			
77.	Ramagundam Floating	0.07	0.00%			
78.	Jhabua Power	0.04	0.00%			
79.	Mizoram	0.03	0.00%			
Total Volume of top 10		1,542.76	72.03%		1,730.53	80.80%
Total Volume in PXs		2,141.72		Total Volume in PXs	2,141.72	

Annexure-XII

Cross Border Electricity Transactions in Day Ahead Market (DAM) in IEX with Nepal and Bhutan during the month of July, 2022

I/24558/2022

S. No	Delivery Date	Buy Volume By Nepal (MU)	Sell Volume by Nepal (MU)
1	01-07-2022	-	8.44
2	02-07-2022	0.18	8.46
3	03-07-2022	0.18	8.46
4	04-07-2022	0.93	7.46
5	05-07-2022	0.65	7.46
6	06-07-2022	0.62	7.22
7	07-07-2022	0.89	7.22
8	08-07-2022	0.80	7.22
9	09-07-2022	0.58	8.49
10	10-07-2022	0.85	7.85
11	11-07-2022	1.01	7.31
12	12-07-2022	0.98	7.00
13	13-07-2022	1.10	6.84
14	14-07-2022	0.99	6.71
15	15-07-2022	0.95	6.37
16	16-07-2022	0.64	8.42
17	17-07-2022	-	6.80
18	18-07-2022	1.04	5.88
19	19-07-2022	1.05	6.80
20	20-07-2022	1.08	6.74
21	21-07-2022	0.60	7.20
22	22-07-2022	0.51	7.60
23	23-07-2022	0.32	8.44
24	24-07-2022	0.79	7.60
25	25-07-2022	0.42	7.75
26	26-07-2022	0.87	7.75
27	27-07-2022	0.61	8.01
28	28-07-2022	0.22	8.25
29	29-07-2022	0.19	8.39
30	30-07-2022	-	8.73
31	31-07-2022	0.35	8.73
Total		19.39	235.59
		254.98	

-: No

transaction happened.

Note: Cross Border Transactions of Electricity of 254.98 MU with Nepal happened during July, 2022 in IEX, which is included in DAM Volume of July, 2022 in IEX.

Definitions/ Terminologies used in the Report

1. **Area Clearing Price (ACP)** is price discovered in each time block of concerned bid area. The country has been divided into 13 bid areas for the purpose of calculating prices in Power Exchanges.

13 Bid area are as under:
N1:Jammu and Kashmir, Himachal Pradesh, Chandigarh, Haryana; **N2:** Uttar Pradesh, Uttaranchal, Rajasthan, Delhi; **N3:** Punjab; **E1:** West Bengal, Sikkim, Bihar, Jharkhand; **E2:** Odisha; **W1:** Madhya Pradesh; **W2:** Maharashtra, Gujarat, Daman and Diu, Dadar and Nagar Haveli, North Goa; **W3:** Chhattisgarh; **S1:** Andhra Pradesh, Telangana, Karnataka, Pondicherry (Yanam), South Goa; **S2:** Tamil Nadu, Pondicherry (Puducherry), Pondicherry (Karaikal), Pondicherry (Mahe); **S3:** Kerala; **A1:** Tripura, Manipur, Mizoram, Nagaland; **A2:** Assam, Arunachal Pradesh, Meghalaya.
2. **Average MCP** is the average of daily MCP of the days during the month on which transaction happened.
3. **Bilateral Transaction** means a transaction for exchange of electrical energy (MWh) between a specified buyer and a specified seller, from a specified point of injection to a specified point of drawal for a fixed or varying quantum of power (MW) for any time block during a month.
4. **Daily MCP** is the average of MCP of all 96 Time Blocks of the day during which transaction happened.
5. **Day-Ahead Market (DAM)** on the power exchanges are market for electricity where market participants purchase and sell electricity at financially binding day-ahead prices for the following day.
6. **Elasticity** is percentage of change in MCP with respect to change in independent variable viz. peak demand, average purchase bid, average sell bid, generation from coal based plants, generation from hydro based plants, generation from wind based plants and generation from solar plants.
7. **Energy Supplied** is the total energy (MU) available at the States' periphery.
8. **Final Scheduled Volume** is the total of scheduled volume of all 96 time blocks in a day during the month in which transaction happened.
9. **Green Term Ahead Market (GTAM)** is based on the principles of current Term Ahead Market (TAM) and will offer trade through Intra-Day Contracts, Day ahead contingency Contracts, Daily Contracts and Weekly Contracts for both solar and non-Solar Renewable Energy (RE) generation. GTAM is a market-based mechanism, where RE surplus and RE deficit States can trade RE Power and balance their RPO targets.
10. **Green Day Ahead Market (GDAM)** is based on the principles of current Term Ahead Market (TAM), where market participants purchase and sell electricity generated from renewable sources at financially binding day-ahead prices for the following day.

I/24558/2022

11. **MCP** is the price discovered in each of the 15 Minute Time Block. The day is divided in 96-time blocks of 15 minutes each.
12. **Real Time Market (RTM)** on the power exchanges is the market for electricity where market participants buy/ sell electricity on a half-hourly market and would commence with the end of the right to revision of schedule or declared capability and would end with gate closure. The auction sessions would be conducted every half an hour for the delivery of power for the duration of 30 minutes in two time blocks of 15 minutes each to commence from one hour after the closure of the RTM trading session.
13. **Term Ahead Market (TAM)** on the power exchanges is the market for electricity where market participants buy/sell electricity on a term basis ranging from 3 hours before actual despatch (i.e. intra-day) and up to 11 days in advance. There are 4 types of contracts in TAM, namely; Intra-day, Day Ahead Contingency, Daily and Weekly.