



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 May, 2022-reg.

In the month of May, 2022 a total of 135,156 MU of electricity was transacted in the country out of which 63,292 MU was transacted through ISTS, and the remaining through state controlled generating stations.

A total of 21,606 MU was transacted under Short Term Market, out of which 8,883 MU was transacted through Power Exchanges and remaining happened as bilateral transactions & deviations. Thus, the total short term trade in May, 2022 was 16.00 % of total volume of electricity traded in May, 2022 and 6.57 % was through Power Exchanges.

If we compare these transactions with respect to the electricity supplied through ISTS, the short term transactions constitutes about 34.14 % of ISTS transactions, out of which transaction through the power exchanges constitutes 14.04 %.

CERC vide its order no. 5/SM/2022 dated 6th May, 2022 has directed the Power Exchanges, to redesign their software in such a way that members can quote price in the range of Rs.0/ kWh to Rs.12/ kWh in DAM (including Green DAM), RTM, Intra-day, Day Ahead Contingency and Term-Ahead (including GTAM) Contracts.

The monthly market monitoring report for the month of May, 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



सत्यमेव जयते

मई, 2022 मासिक मार्केट मॉनिटरिंग रिपोर्ट

Monthly Market Monitoring Report May, 2022



भारत सरकार/ Government of India

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MARKET MONITORING REPORT
FOR THE MONTH OF MAY, 2022

SUMMARY

SUMMARY FOR MONTH: MAY, 2022

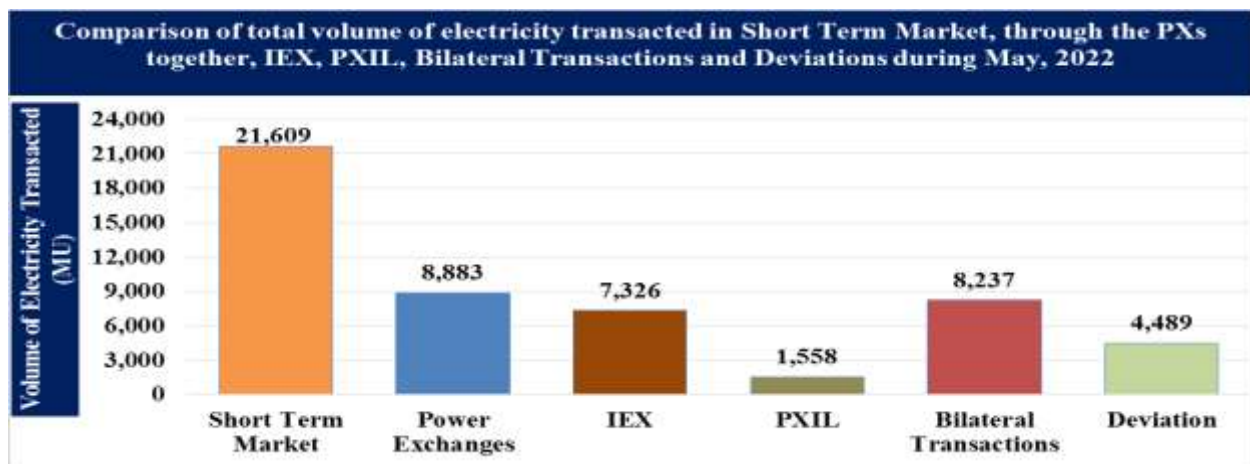
SUMMARY OF ELECTRICITY TRANSACTIONS ON POWER EXCHANGES IN INDIA

- A total volume of **8,883 MU** electricity was transacted in both the power exchanges i.e. IEX & PXIL, during the month of May, 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	3,185	6.80	0.00	0.00
GDAM	493	5.91	0.00	0.00
RTM	2,319	6.11	1.29	0.00
TAM	2,346	8.91	3.60	74.09
GTAM	540	7.86	0.29	0.00
Total in PXs	8,883	7.19*	5.18	74.09

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

- Under the Bilateral trade a total of **8,237 MU** of electricity was transacted and **4,489 MU** was transferred as deviation. Thus a total of **21,609 MU** of electricity was transacted as short term trade. In the month of May, 2022 a total of **135,156 MU** of electricity was supplied in the country, thus the share of short term market in the total volume of electricity traded in May, 2022 was **16.00%**.



- The total volume of congestion that happened during the month of May, 2022 was **5.18 MU** which is only 0.06 % of the total volume of electricity transacted in the power exchanges and 0.004 % of total energy supplied during the month of May, 2022. There was no congestion observed in DAM and GDAM in May, 2022, whereas there was congestion in RTM for only 3 time blocks, in 2 days i.e. on 3rd and 27th of May, 2022. Congestion was also observed in TAM for only 1 day (5th May, 2022) and in GTAM only for 2 days (1st and 4th May, 2022). The total volume of real time curtailment reported in the month of May, 2022 was only **74.09 MU**. The total volume of electricity scheduled at ISTS during the month of May, 2022 was **63,292 MU**. **The total volume of electricity transacted in the short term market was 34.14 % of total volume schedule at ISTS in the month of May, 2022.**
- The variation of Purchase and Sell bids, Final Scheduled Volume and Daily MCP in DAM and RTM during the month of May, 2022 are shown in following figures:

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 May, 2022 was **3,185.52 MU**. The total energy supplied in the country during the month of May, 2022 was 135,156 MU. Thus, the volume of electricity transacted on both the power exchanges in DAM during May, 2022 was 2.37 % of the total energy supplied in the country. Comparing with the total volume of electricity transacted in DAM during the past month .i.e. April, 2022, it was **4,113.65 MU** which was 3.12 % of the total energy supplied [132,028 MU] in the country during April, 2022. Similarly, the total volume of electricity transacted in DAM during previous year .i.e. May, 2021, it was **4,367.20 MU** which was 4.01 % of the total energy supplied [108,809 MU] in the country during May, 2021.
- 1.2.** The volume of electricity transacted on IEX and PXIL during May, 2022 was **3,172.50 MU and 13.02 MU**, respectively, which means that the total volume transacted on IEX was **99.59 %** of the total volume on power exchanges. The volume of electricity transacted on IEX during April, 2022 was **4113.65 MU**, whereas no transaction of electricity happened in PXIL during April, 2022, which means that the total volume transacted on IEX was 100 % of the total volume on power exchanges. Also, the volume of electricity transacted on IEX and PXIL during May, 2021, were **4,363.88 MU and 3.32 MU** respectively.
- 1.3.** The DAM Volume for May, 2022 in IEX is inclusive of Cross Border Transactions of Electricity happened with Nepal.
- 1.4.** The Average Market Clearing Price (MCP) on IEX during the month of May, 2022 was **Rs 6.81/kWh**, which shows a decrease of **32.31 %** & an increase of **138.87 %** when compared with average MCP's for the month of April, 2022 and May, 2021, which were **Rs 10.06/kWh and Rs 2.83/kWh**, respectively. On PXIL, the average MCP during the month of May, 2022 was **Rs 2.96/kWh**, which shows a decrease of 7.52 % when compared with average MCP for the month of May, 2021 (i.e. **Rs 3.06/kWh**), whereas no transaction of electricity happened in April, 2022 in PXIL.

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 May, 2022 with that of April, 2022 and May, 2021 is given in Table-1A & 1B:**

(a) May, 2022 vis- a -vis April, 2022

Daily MCP (Rs/kWh)	IEX			PXIL		
	May, 2022	April, 2022	% Change	May, 2022	April, 2022	% Change
Minimum	2.89	4.50	-35.78	1.56	-	NA
Maximum	12.00	13.76	-12.79	8.00	-	NA
Average	6.80	10.06	-32.41	4.30	-	NA

Table: 1A

(b) May, 2022 vis- a –vis May, 2021

Daily MCP (Rs/kWh)	IEX			PXIL		
	May, 2022	May, 2021	% Change	May, 2022	May, 2021	% Change
Minimum	2.89	2.26	27.88	1.56	2.53	-38.34
Maximum	12.00	3.29	264.74	8.00	3.63	120.39
Average	6.80	2.83	140.82	4.30	3.06	40.52

Table: 1B

2.2. The maximum Area Clearing Price (ACP) of **Rs 12.00/kWh** in IEX was observed in all 13 regions during the multiple time blocks on 1st to 9th, 20th to 21th, 27th, 28th, 30th & 31st May, 2022 [time block wise details are given at **Annexure XIII**]. As there was no congestion in transmission system, the MCP for these time blocks was also **Rs 12.00/kWh**. The details of Daily MCP in IEX on 1st to 9th, 20th, 21th, 27th, 28th, 30th & 31st May, 2022 are also given at **Annexure XIII**. Whereas, in PXIL, the maximum ACP of **Rs 12.00/kWh** was observed in all 13 regions during the multiple time blocks on 5th & 6th May, 2022 [time block wise details are given at **Annexure XIII**]. As there was no congestion in transmission system, the MCP for these time blocks was also **Rs 12.00/kWh**. The details of Daily MCP in PXIL on 5th & 6th May, 2022 are also given at **Annexure XIII**.

2.3. The minimum ACP of **Rs 1.00/kWh** in IEX was observed in all 13 regions during the time block **11:30-11:45 Hrs** on 22nd May, 2022. As there was no congestion in transmission system, the MCP for this time-block was also **Rs 1.00/kWh**. However, the Daily MCP in IEX on pan India basis on 22nd May, 2022 was **Rs 2.87/kWh**. Whereas, in PXIL, the minimum ACP of **Rs 3.36/kWh** was observed in all 13 regions during the multiple time blocks on 30th May, 2022 [time block wise details are given at **Annexure XIII**]. As there was no congestion in transmission system, the MCP for these time blocks was also **Rs 3.36/kWh**. However, the Daily MCP in PXIL on pan India basis on 22nd May, 2022 was also **Rs 3.36/kWh**.

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

(a) May, 2022 vis- a -vis April, 2022

ACP (Rs/kWh)	IEX			PXIL		
	May, 2022	April, 2022	% Change	May, 2022	April, 2022	% Change
Minimum	1.00	2.70	-62.96	3.36	-	NA
Maximum	12.00	20.00	-40.00	12.00	-	NA

Table: 2A**(b) May, 2022 vis- a -vis May, 2021**

ACP (Rs/kWh)	IEX			PXIL		
	May, 2022	May, 2021	% Change	May, 2022	May, 2021	% Change
Minimum	1.00	1.50	-33.33	3.36	2.53	32.81

Maximum	12.00	7.10	69.01	12.00	4.41	172.11
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Table: 2B

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

(a) May, 2022 vis- a- vis April, 2022

Final Scheduled Volume (MU)	IEX			PXIL		
	May, 2022	April, 2022	% Change	May, 2022	April, 2022	% Change
Minimum	70.12	45.33	54.69	0.25	-	NA
Maximum	140.29	196.81	-28.72	6.13	-	NA
Average	102.34	137.12	-25.36	2.60	-	NA

Table: 2C

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

Final Scheduled Volume (MU)	IEX			PXIL		
	May, 2022	May, 2021	% Change	May, 2022	May, 2021	% Change
Minimum	70.12	102.60	-31.66	0.25	0.01	2400.00
Maximum	140.29	167.32	-16.15	6.13	0.79	675.95
Average	102.34	140.77	-27.30	2.60	0.28	828.57

Table: 2D

3. REAL TIME MARKET (RTM)

The transaction of Electricity in Real Time Market was started from 1st June, 2020 with the approval of the CERC in both the power exchanges - IEX and PXIL. The total volume of electricity transacted on both the power exchanges in Real Time Market in May, 2022 was **2,318.75 MU**, out of which, **2,318.75 MU** (100 %) was transacted in IEX, whereas no transaction happened 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 May, 2022 as compared with April, 2022 and May, 2021 are as given in table 3A, 3B & 3C:

(i) **Final Scheduled Volume:**

Exchange	Period	Final Scheduled Volume (MU)			
		Total	Minimum	Maximum	Average
IEX	May, 2022	2,318.75	42.02	104.40	74.80
	April, 2022	1,704.28	23.92	98.97	56.81
	Change % (Month over Month)	36.05	75.67	5.49	31.67
	May, 2021	1,436.28	26.62	74.33	46.33
	Change % (Year over Year)	61.44	57.85	40.45	61.45
PXIL	May, 2022	-	-	-	-
	April, 2022	0.10	0.001	0.08	0.03
	Change % (Month over Month)	NA	NA	NA	NA
	May, 2021	-	-	-	-

	Change % (Year over Year)	NA	NA	NA	NA
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-: No transaction happened

NA: Not Applicable

Table-3A**(ii) Daily Market Clearing Price (MCP):**

Exchange	Period	Daily MCP (Rs/kWh)		
		Minimum	Maximum	Average
IEX	May, 2022	2.68	9.49	6.11
	April, 2022	5.23	12.00	9.55
	Change % (Month over Month)	-48.76	-20.92	-36.02
	May, 2021	1.71	3.56	2.53
	Change % (Year over Year)	56.73	166.57	141.50
PXIL	May, 2022	-	-	-
	April, 2022	7.00	12.00	10.33
	Change % (Month over Month)	NA	NA	NA
	May, 2021	-	-	-
	Change % (Year over Year)	NA	NA	NA

-: No transaction happened

NA: Not Applicable

Table-3B**(iii) Area Clearing Price (ACP):**

Exchange	Period	ACP (Rs/kWh)	
		Minimum	Maximum
IEX	May, 2022	0.20	12.00
	April, 2022	0.60	16.74
	Change % (Month over Month)	-66.67	-28.32
	May, 2021	0.50	6.01
	Change % (Year over Year)	-60.00	99.67
PXIL	May, 2022	-	-
	April, 2022	7.00	12.00
	Change % (Month over Month)	NA	NA
	May, 2021	-	-
	Change % (Year over Year)	NA	NA

-: 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 May, 2022 was **493.17 MU** at an average price MCP of **Rs 5.91/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 May, 2022 are given below:

i) Final Scheduled Volume in IEX:

Segment	Period	Final Scheduled Volume (MU)			
		Total	Minimum	Maximum	Average
Solar	May, 2022	276.46	1.19	21.25	8.92
	April, 2022	89.13	0.40	4.79	2.97
	% Change (Month over Month)	210.18	197.50	343.63	200.34
Non Solar	May, 2022	216.71	1.48	24.50	6.99

	April, 2022	125.60	2.45	6.05	4.19
	% Change (Month over Month)	72.54	-39.59	304.96	66.83
Hydro	May, 2022	-	-	-	-
	April, 2022	-	-	-	-

-: No transaction happened

NA: Not Applicable

Table-4A

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

Exchange	Period	Prices (Rs/kWh)				
		Daily MCP (Rs/kWh)			ACP (Rs/kWh)	
		Minimum	Maximum	Average	Minimum	Maximum
Solar and Non Solar	May, 2022	3.63	12.00	5.91	3.00	12.00
	April, 2022	4.59	16.26	10.21	3.65	20.00
	% Change (Month over Month)	-20.92	-26.20	-42.12	-17.81	-40.00

-: No transaction happened

NA: Not Applicable

Table-4B

- 4.1.** In the month of May, 2022, there was no transmission congestion in IEX in Green Day Ahead Market, hence one nation one price was observed for all **31 days** during the month. Similarly, in the month of April, 2022, there was no transmission congestion in IEX in GDAM, hence one nation one price was observed for all **30 days** during the month.
- 4.2.** There was **no** real time curtailment in IEX in Green Day Ahead Market during the month of May, 2022 and April, 2022, respectively.
- 4.3.** The **top 10 sellers** on the power exchanges in **Green Day Ahead Market (GDAM)** in the month of May, 2022 were **Andhra Pradesh, Karnataka, Adani Hybrid Energy Jaisalmer Four Limited (Solar), Adani Hybrid Energy Jaisalmer Three Limited (Solar), Adani Green Solar Jaisalmer, Adani Hybrid Energy Jaisalmer Two Limited (Solar), Madhya Pradesh, Telangana, Maharashtra and Adani Green Energy Nineteen Limited**, which constituted **94.67 %** of the market volume.
- 4.4.** The **top 10 purchasers** on the power exchanges in **Green Day Ahead Market (GDAM)** in the month of May, 2022 were **Punjab, Maharashtra, Gujarat, Uttar Pradesh, Jharkhand, Karnataka, West Bengal, Delhi, Railways and Dadra & Nagar Haveli**, which constituted **87.64 %** 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 both the power exchanges in Term Ahead Market in May, 2022 on trade date basis was **1639.84 MU**, out of which, **901.76 MU** (54.99 %) was transacted on IEX and **738.08 MU** (45.01 %) was transacted on PXIL.
- 5.2.** The total volume of electricity transacted on both the power exchanges in Term Ahead Market in April, 2022 on trade date basis was **3,234.74 MU**, out of which, **1,166.80 MU** (36.07 %) was transacted on IEX and **2,067.94 MU** (63.93 %) was transacted on PXIL.

- 5.3. Similarly, total volume of electricity transacted on both the power exchanges in Term Ahead Market in May, 2021 on trade date basis was **769.66 MU**, out of which, **425.63 MU** (55.30 %) was transacted on IEX and **344.03 MU** (44.70 %) was transacted on PXIL
- 5.4. With respect to the total energy supplied during month of May, 2022 in the country, the volume of electricity traded on power exchanges in TAM on trade date basis represents **1.21 %** of the total energy supplied. The same was **2.45 %** in April, 2022 and **0.71 %** in May, 2021.
- 5.5. In the month of May, 2022, there was transmission congestion of **3.60 MU** in Daily contract in IEX in TAM. Whereas, In PXIL there was no transmission congestion TAM in the month of May, 2022.
- 5.6. **The comparison of total volume of electricity transacted and Average MCP on both the power exchanges in Term Ahead Market (TAM) during May, 2022 with April, 2022 and May, 2021 is given in Table- 5A, 5B & 5C:**

(a) May, 2022 vis- a- vis April, 2022 (on trade Date Basis)

Contract Type	IEX			PXIL		
	May, 2022	April, 2022	% Change	May, 2022	April, 2022	% Change
Intra Day (MU)	6.95	18.23	-61.88	13.26	16.89	-21.49
Day Ahead Contingency(MU)	455.84	515.33	-11.55	343.49	762.74	-54.97
Daily/ AnyDay (MU)	438.99	597.72	-26.56	381.34	1288.31	-70.40
Weekly (MU)	-	35.52	NA	-	0.00	NA

- : No Transaction happened

NA: Not Applicable

Table: 5A

(b) May, 2022 vis- a- vis May, 2021 (on trade Date Basis)

Contract Type	IEX			PXIL		
	May, 2022	May, 2021	% Change	May, 2022	May, 2021	% Change
Intra Day (MU)	6.95	2.65	162.26	13.26	68.68	-80.69
Day Ahead Contingency(MU)	455.84	129.41	252.22	343.49	-	NA
Daily/ AnyDay (MU)	438.99	293.57	49.54	381.34	275.35	38.49
Weekly (MU)	-	-	NA	-	-	NA

- : No Transaction happened

NA: Not Applicable

Table: 5B

(c) Average MCP, May, 2022 vis- a- vis April, 2022 and May, 2021 (on trade Date Basis)

Exchange	Period	Average MCP (Rs/kWh)			
		Intra Day	Day Ahead Contingency	Daily or Any Day	Weekly
IEX	May, 2022	11.44	8.66	8.10	-
	April, 2022	13.19	11.02	11.03	13.50
	%Change (Month over Month)	-13.27	-21.42	-26.56	NA
	May, 2021	4.57	3.10	2.84	-
	%Change	150.33	179.35	185.21	NA

	(Year over Year)				
PXIL	May, 2022	10.53	7.06	8.58	-
	April, 2022	13.57	11.07	11.62	-
	%Change (Month over Month)	-22.40	-36.22	-26.16	NA
	May, 2021	3.24	-	3.01	-
	%Change (Year over Year)	225.00	NA	185.05	NA

-: No transaction happened

NA: Not Applicable

Table: 5C

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 May, 2022 on delivery date basis was **2,346.37 MU**, out of which, **1188.60 MU** (50.66 %) was transacted on IEX and **1157.77 MU** (49.34%) was transacted on PXIL.
- 5.8. The volume of electricity transacted on both the power exchanges in Term Ahead Market in April, 2022 on delivery date basis was **2918.36 MU**, out of which, **1171.50 MU** (40.14 %) was transacted on IEX and **1746.86 MU** (59.86%) was transacted on PXIL.
- 5.9. Similarly, The total volume of electricity transacted on both the power exchanges in Term Ahead Market in May, 2021 on delivery date basis was **801.98 MU**, out of which, **382.62 MU** (47.71%) was transacted on IEX and **419.36 MU** (52.29%) was transacted on PXIL..
- 5.10. With respect to the total energy supplied during the month of May, 2022 in the country, the volume of electricity traded on the power exchanges in TAM on delivery date basis represents **1.74 %** of the total energy supplied. The same was **2.21 %** in April, 2022 and **0.74 %** in May, 2021.
- 5.11. In the month of May, 2022, there was real time curtailment of **12.97 MU** in TAM in IEX (**11.48 MU** under Daily contract and **1.49 MU** Weekly contract). Whereas, there was real time curtailment of **61.13 MU** in TAM in PXIL (**1.09 MU** under DAC contract and **60.04 MU** under Daily contract) during the month of May, 2022.
- 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 May, 2022 with April, 2022 and May, 2021 is given in Table – 5D, 5E & 5F:

(a) May, 2022 vis- a- vis April, 2022 (on Delivery Date Basis)

Contract Type	IEX			PXIL		
	May, 2022	April, 2022	% Change	May, 2022	April, 2022	% Change
Intra Day (MU)	6.95	18.23	-61.88	13.26	16.92	-21.63
Day Ahead Contingency(MU)	449.53	533.50	-15.74	334.56	772.30	-56.68
Daily/Any Day (MU)	713.69	601.05	18.74	809.95	957.64	-15.42
Weekly (MU)	18.43	18.72	-1.55	-	-	NA

- : No transaction happened

NA: Not Applicable

Table: 5D

(b) May, 2022 vis- a- vis May, 2021 (on Delivery Date Basis)

Contract Type	IEX			PXIL		
	May, 2022	May, 2021	% Change	May, 2022	May, 2021	% Change
Intra Day (MU)	6.95	2.65	162.26	13.26	69.18	-80.83
Day Ahead Contingency MU)	449.53	122.90	265.77	334.56	-	NA
Daily/ Any Day (MU)	713.69	257.07	177.62	809.95	350.18	131.30
Weekly (MU)	18.43	-	NA	-	-	NA

-: No transaction happened

NA: Not Applicable

Table: 5E**(c) Average MCP, May, 2022 vis- a- vis April, 2022 and May, 2021 (on Delivery Date Basis)**

Exchange	Period	Average MCP (Rs/kWh)			
		Intra Day	Day Ahead Contingency	Daily or Any Day	Weekly
IEX	May, 2022	11.44	8.92	9.12	14.63
	April, 2022	13.21	11.03	9.57	12.00
	%Change (Month over Month)	-13.40	-19.13	-4.70	21.92
	May, 2021	4.57	3.10	3.02	-
	%Change (Year over Year)	150.33	187.74	201.99	NA
PXIL	May, 2022	10.53	7.31	9.20	-
	April, 2022	13.57	11.09	10.20	-
	%Change (Month over Month)	-22.40	-34.08	-9.80	NA
	May, 2021	3.27	-	2.99	-
	%Change (Year over Year)	222.02	NA	207.69	NA

-: No transaction happened

NA: Not Applicable

Table: 5F**6. GREEN TERM AHEAD MARKET (GTAM):**

The transaction of electricity in Green Term Ahead Market was started in IEX w.e.f. 21st August, 2020 onwards, whereas, in PXIL, GTAM (Non-Solar) was started w.e.f. 24th April, 2021 and GTAM (Solar) w.e.f. June, 2021 onwards. The total volume of electricity transacted in both the power exchanges in GTAM on trade date basis was **539.15 MU (148.08 MU in Solar and 381.07 MU in non-Solar)**, whereas, the same on delivery date basis was **539.68 MU (152.69 MU in Solar and 389.99 MU in Non-Solar)**, respectively. The total volume of electricity transacted in Solar Energy Segment in GTAM in Day Ahead Contingency, Intraday, Daily/ Anyday and Weekly contracts during April, 2022 on trade date basis and delivery date basis has been shown in Tables 6A to 6H.

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 May, 2022 and its comparison with April, 2022 and May, 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	May, 2022	27.30	0.16	4.48	1.82
		April, 2022	19.08	0.17	2.65	1.12
		%Change (Month over Month)	43.08	-5.88	69.06	62.50
		May, 2021	160.75	2.09	8.99	5.19
		%Change (Year over Year)	-83.02	-92.34	-50.17	-64.93
	Intraday	May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	2.18	0.01	1.65	0.27
		%Change (Year over Year)	NA	NA	NA	NA
	Daily/ Anyday	May, 2022	6.00	2.40	3.60	3.00
		April, 2022	15.99	0.54	5.75	2.66
		%Change (Month over Month)	-62.48	344.44	-37.39	12.78
		May, 2021	10.70	0.42	7.00	2.68
		%Change (Year over Year)	-43.93	471.43	-48.57	11.94
	Weekly	May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	19.97	2.05	4.20	3.33
		%Change (Year over Year)	NA	NA	NA	NA
PXIL	Day Ahead Contingency	May, 2022	87.50	0.64	7.12	2.92
		April, 2022	168.50	3.92	7.70	5.62
		%Change (Month over Month)	-48.07	-83.67	-7.53	-48.04
	Intraday	May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Daily/ Anyday	May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		May, 2022	15.48	1.38	12.00	5.16
		April, 2022	1.43	0.50	0.93	0.72
		%Change (Month over Month)	982.52	176.00	1190.32	616.67
	Weekly	May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		May, 2022	-	-	-	-
		April, 2022	-	-	-	-

		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA

-: 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	May, 2022	3.50	12.66	6.04
		April, 2022	3.50	12.04	8.01
		%Change (Month over Month)	0.00	5.15	-24.59
		May, 2021	3.05	3.50	3.24
		%Change (Year over Year)	14.75	261.71	86.42
	Intraday	May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 2021	3.00	3.70	3.43
		%Change (Year over Year)	NA	NA	NA
	Daily/Anyday	May, 2022	4.85	12.00	8.43
		April, 2022	4.95	11.86	7.65
		%Change (Month over Month)	-2.02	1.18	10.20
		May, 2021	3.12	3.40	3.28
		%Change (Year over Year)	55.45	252.94	157.01
	Weekly	May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 2021	3.20	3.65	3.34
		%Change (Year over Year)	NA	NA	NA
PXIL	Day Ahead Contingency	May, 2022	1.79	13.61	5.67
		April, 2022	3.24	11.99	8.11
		%Change (Month over Month)	-44.75	13.51	-30.09
	Intraday	May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
		May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Daily/ Anyday	May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA

		May, 2022	4.70	12.08	9.59
		April, 2022	12.85	14.00	13.43
		%Change (Month over Month)	-63.42	-13.71	-28.59
	Weekly	May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
		May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 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 May, 2022 and its comparison with April, 2022 and May, 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
IEX	Day Ahead Contingency	May, 2022	28.11	0.16	4.48	1.76
		April, 2022	20.12	0.17	2.65	1.18
		%Change (Month over Month)	39.71	-5.88	69.06	49.15
		May, 2021	155.78	1.12	8.99	5.03
		%Change (Year over Year)	-81.96	-85.71	-50.17	-65.01
	Intraday	May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	2.18	0.01	1.65	0.27
		%Change (Year over Year)	NA	NA	NA	NA
	Daily/Anyday	May, 2022	6.00	0.40	0.60	0.50
		April, 2022	17.48	0.10	1.63	0.58
		%Change (Month over Month)	-65.68	300.00	-63.19	-13.79
		May, 2021	10.82	0.06	1.40	0.68
		%Change (Year over Year)	-44.55	566.67	-57.14	-26.47
	Weekly	May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	15.74	0.24	1.00	0.54
		%Change (Year over Year)	NA	NA	NA	NA
PXIL		May, 2022	92.37	0.64	7.54	3.08

	Day Ahead Contingency	April, 2022	163.52	2.61	7.70	5.45
		%Change (Month over Month)	-43.51	-75.48	-2.08	-43.49
	Intraday	May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Daily/Anyday	May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		May, 2022	15.98	0.35	1.73	0.94
		April, 2022	0.93	0.93	0.93	0.93
		%Change (Month over Month)	1618.28	-62.37	86.02	1.08
	Weekly	May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		May, 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 Contract	Period	Prices(Rs/kWh)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	May, 2022	3.50	12.66	6.41
		April, 2022	3.50	12.04	7.98
		%Change (Month over Month)	0.00	5.15	-19.67
		May, 2021	3.05	3.50	3.24
		%Change (Year over Year)	14.75	261.71	97.84
	Intraday	May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 2021	3.00	3.70	3.43
		%Change (Year over Year)	NA	NA	NA
	Daily/Anyday	May, 2022	4.85	12.00	8.43
		April, 2022	4.95	9.81	5.93
		%Change (Month over Month)	-2.02	22.32	42.16
		May, 2021	3.21	4.35	3.44
		%Change (Year over Year)	51.09	175.86	145.06
	Weekly	May, 2022	-	-	-

		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 2021	3.20	4.00	3.53
		%Change (Year over Year)	NA	NA	NA
PXIL	Day Ahead Contingency	May, 2022	1.79	13.61	5.90
		April, 2022	3.24	11.77	8.09
		%Change (Month over Month)	-44.75	15.63	-27.07
	Intraday	May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
		May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Daily/Anyday	May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
		May, 2022	4.70	12.85	7.79
		April, 2022	14.00	14.00	14.00
		%Change (Month over Month)	-66.43	-8.21	-44.36
	Weekly	May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
		May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA

:- No transaction happened

NA: Not Applicable

Table-6D

- In May, 2022, there was no transmission congestion in GTAM (Solar) in both IEX and PXIL.
- In May, 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 May, 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 May, 2022 on trade date basis and its comparison with April, 2022 and May, 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
		May, 2022	58.76	0.08	5.78	1.90

IEX	Day Ahead Contingency	April, 2022	68.32	0.42	3.21	2.36
		%Change (Month over Month)	-13.99	-80.95	80.06	-19.49
		May, 2021	147.89	1.01	12.42	4.77
		%Change (Year over Year)	-60.27	-92.08	-53.46	-60.17
	Intraday	May, 2022	-	-	-	-
		April, 2022	0.20	0.20	0.20	0.20
		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	9.92	0.16	4.16	1.42
		%Change (Year over Year)	NA	NA	NA	NA
	Daily/ Anyday	May, 2022	52.12	0.38	33.84	5.79
		April, 2022	16.54	0.60	9.07	2.76
		%Change (Month over Month)	215.11	-36.67	273.10	109.78
		May, 2021	4.22	0.96	3.26	2.11
		%Change (Year over Year)	1135.07	-60.42	938.04	174.41
	Weekly	May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	1.51	0.67	0.84	0.76
		%Change (Year over Year)	NA	NA	NA	NA
PXIL	Day Ahead Contingency	May, 2022	162.71	0.31	10.84	5.25
		April, 2022	45.52	0.60	3.38	1.52
		%Change (Month over Month)	257.45	-48.33	220.71	245.39
	Intraday	May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		May, 2022	1.35	1.35	1.35	1.35
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Daily/ Anyday	May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		May, 2022	114.03	1.20	38.72	11.40
		April, 2022	0.32	0.32	0.32	0.32
		%Change (Month over Month)	35534.38	275.00	12000.00	3462.50
	Weekly	May, 2021	0.60	0.07	0.12	0.09
		%Change (Year over Year)	18905.00	1614.29	32166.67	12566.67
		May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	-	-	-	-

		%Change (Year over Year)	NA	NA	NA	NA
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-: No transaction happened

NA: Not Applicable

Table-6E

(i) Daily Market Clearing Price (MCP):

Exchange	Non- Solar Energy Contract	Period	Prices(Rs/kWh)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	May, 2022	4.24	13.11	7.99
		April, 2022	4.75	14.84	10.53
		%Change (Month over Month)	-10.74	-11.66	-24.12
		May, 2021	3.42	4.50	3.88
		%Change (Year over Year)	23.98	191.33	105.93
	Intraday	May, 2022	-	-	-
		April, 2022	12.00	12.00	12.00
		%Change (Month over Month)	NA	NA	NA
		May, 2021	3.83	5.04	4.44
		%Change (Year over Year)	NA	NA	NA
	Daily/Anyday	May, 2022	5.75	12.75	8.14
		April, 2022	6.00	13.10	11.21
		%Change (Month over Month)	-4.17	-2.67	-27.39
		May, 2021	3.70	4.00	3.85
		%Change (Year over Year)	55.41	218.75	111.43
	Weekly	May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 2021	3.40	3.45	3.43
		%Change (Year over Year)	NA	NA	NA
PXIL	Day Ahead Contingency	May, 2022	3.65	14.70	7.63
		April, 2022	4.67	13.66	10.40
		% Change (Month over Month)	-21.84	7.61	-26.63
		May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Intraday	May, 2022	6.41	6.41	6.41
		April, 2022	-	-	-
		% Change (Month over Month)	NA	NA	NA
		May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Daily/ Anyday	May, 2022	6.30	13.97	9.79
		April, 2022	13.40	13.40	13.40
		% Change (Month over Month)	-52.99	4.25	-26.94
		May, 2021	3.00	4.00	3.47

		%Change (Year over Year)	110.00	249.25	182.13
	Weekly	May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 2021	-	-	-
		%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 May, 2022 and its comparison with April, 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
IEX	Day Ahead Contingency	May, 2022	60.24	0.08	5.78	1.94
		April, 2022	68.55	0.42	3.45	2.36
		%Change (Month over Month)	-12.12	-80.95	67.54	-17.80
		May, 2021	148.76	1.01	12.42	4.80
		%Change (Year over Year)	-59.51	-92.08	-53.46	-59.58
	Intraday	May, 2022	-	-	-	-
		April, 2022	0.20	0.20	0.20	0.20
		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	9.92	0.16	4.16	1.42
		%Change (Year over Year)	NA	NA	NA	NA
	Daily/ Anyday	May, 2022	54.80	0.08	4.06	1.96
		April, 2022	14.42	0.10	1.75	0.60
		%Change (Month over Month)	280.03	-20.00	132.00	226.67
		May, 2021	0.26	0.26	0.26	0.26
		%Change (Year over Year)	20976.92	-69.23	1461.54	653.85
	Weekly	May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	99.94	0.24	13.31	3.33
		%Change (Year over Year)	NA	NA	NA	NA
PXIL	Day Ahead Contingency	May, 2022	163.26	0.31	10.84	5.27
		April, 2022	43.90	0.59	3.38	1.46
		%Change (Month over Month)	271.89	-47.46	220.71	260.96
		May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA

	Intraday	May, 2022	1.35	1.35	1.35	1.35
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		May, 2021	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Daily/Anyday	May, 2022	114.03	1.20	8.21	3.80
		April, 2022	0.32	0.32	0.32	0.32
		%Change (Month over Month)	35534.38	275.00	2465.63	1087.50
		May, 2021	0.60	0.07	0.12	0.09
		%Change (Year over Year)	18905.00	1614.29	6741.67	4122.22
	Weekly	May, 2022	-	-	-	-
		April, 2022	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		May, 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
IEX	Day Ahead Contingency	May, 2022	4.24	14.84	8.17
		April, 2022	4.75	14.01	10.50
		%Change (Month over Month)	-10.74	5.92	-22.19
		May, 2021	3.42	4.54	3.88
		%Change (Year over Year)	23.98	226.87	110.57
	Intraday	May, 2022	-	-	-
		April, 2022	12.00	12.00	12.00
		%Change (Month over Month)	NA	NA	NA
		May, 2021	3.83	5.04	4.44
		%Change (Year over Year)	NA	NA	NA
	Daily/Anyday	May, 2022	5.88	12.67	8.35
		April, 2022	6.00	12.15	8.24
		%Change (Month over Month)	-2.00	4.28	1.33
		May, 2021	3.70	3.70	3.70
		%Change (Year over Year)	58.92	242.43	125.68
	Weekly	May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 2021	3.40	3.45	3.43
		%Change (Year over Year)	NA	NA	NA
PXIL	Day Ahead Contingency	May, 2022	3.65	14.70	7.83
		April, 2022	4.67	13.92	10.41

		%Change (Month over Month)	-21.84	5.60	-24.78
		May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Intraday	May, 2022	6.41	6.41	6.41
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Daily/Anyday	May, 2022	6.36	13.94	9.44
		April, 2022	13.40	13.40	13.40
		%Change (Month over Month)	-52.54	4.03	-29.55
		May, 2021	3.00	4.00	3.47
		%Change (Year over Year)	112.00	248.50	172.05
	Weekly	May, 2022	-	-	-
		April, 2022	-	-	-
		%Change (Month over Month)	NA	NA	NA
		May, 2021	-	-	-
		%Change (Year over Year)	NA	NA	NA

-: No transaction happened

NA: Not Applicable

Table-6H

- In May, 2022, there was transmission congestion **0.29 MU** in GTAM (Non Solar) in IEX. Whereas, there was no transmission congestion in GTAM (Non Solar) in PXIL.
- In May, 2022, there was no real time curtailment in GTAM (Non Solar) in both IEX & PXIL.

7. BILATRAL TRANSACTIONS:

The total volume of electricity transacted through **Bilateral transactions** in the month of May, 2022 was **8,237.02 MU**. The total buy volume of electricity transacted in bilateral market through direct transactions and traders in the month of May, 2022 were **1,820.14 MU** and **6,416.88 MU** respectively. The details of Bilateral transactions of Electricity happened during May, 2022 have been shown in Table Below:

May, 2022	Direct	Traders	Total Bilateral Transaction (MU)
Total	1,820.14	6,416.88	8237.02
Minimum	0.95	0.23	-
Maximum	355.84	1,081.29	-

Table -7A

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

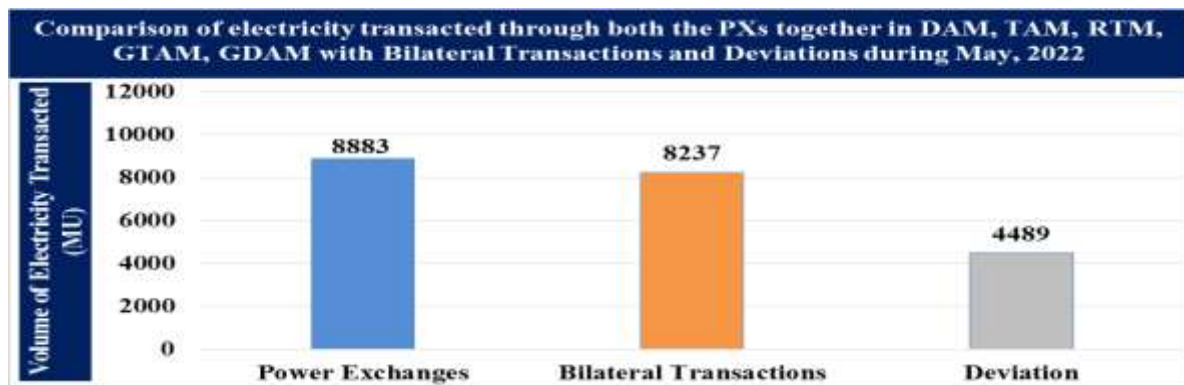
(i) Region-wise Volume:

Region-wise Volume (MU)	ER		WR		NR		SR		NER	
	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader

Total	310.12	998.83	878.56	2159.27	538.42	1676.34	93.03	1582.21	0.00	0.23
Minimum	0.95	10.75	4.08	0.40	4.31	0.60	2.75	6.25	0.00	0.23
Maximum	170.57	515.10	355.84	1081.29	273.79	643.02	55.20	841.62	0.00	0.23

Table-7B

- 7.1. The **top 5 buyers** on bilateral transaction through direct transactions in the month of May, 2022 were **Chhattisgarh, Uttar Pradesh, Maharashtra, Jharkhand and Haryana**, which constituted **64.91 %** of the market volume. Whereas **top 5 buyers** on bilateral transaction through traders in the month of May, 2022 were **Gujarat, Tamil Nadu, Delhi, Maharashtra and Odisha**, which constituted **56.53 %** of the market volume. [Annexure III]
- 7.2. The **top 5 sellers** on bilateral transaction through direct transactions in the month of May, 2022 were **MP, DVC, DBPL, Rajasthan and J&K and Ladakh**, which constituted **55.02 %** of the market volume. Whereas **top 5 sellers** on bilateral transaction through traders in the month of May, 2022 were **Karnataka, SEILP2, RPREL, JPL-2 and JPNIGRIES_JNSTPP**, which constituted **37.17 %** of the market volume. [Annexure III]
- 7.3. **Deviation Volume** - The volume of Deviation observed in the month of May, 2022 in import and export were **4,130.47 MU** and **4,847.20 MU** respectively. The total volume of Deviation observed in the month of May, 2022 can be taken as **4,488.84 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 May, 2022 is shown in **Figure 1**:

**Figure -1**

8. ANALYSIS OF MOVEMENT OF PRICES OBSERVED IN DAM DURING MAY, 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 May, 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 purchase bid, Coal Generation and Wind Generation, 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 **0.39**, which signifies that there is high multicollinearity among the predictor variables/independent variables used in regression analysis.
- 8.3. The same relationship is visible from the analysis carried out from the plot in **Figure 2**.

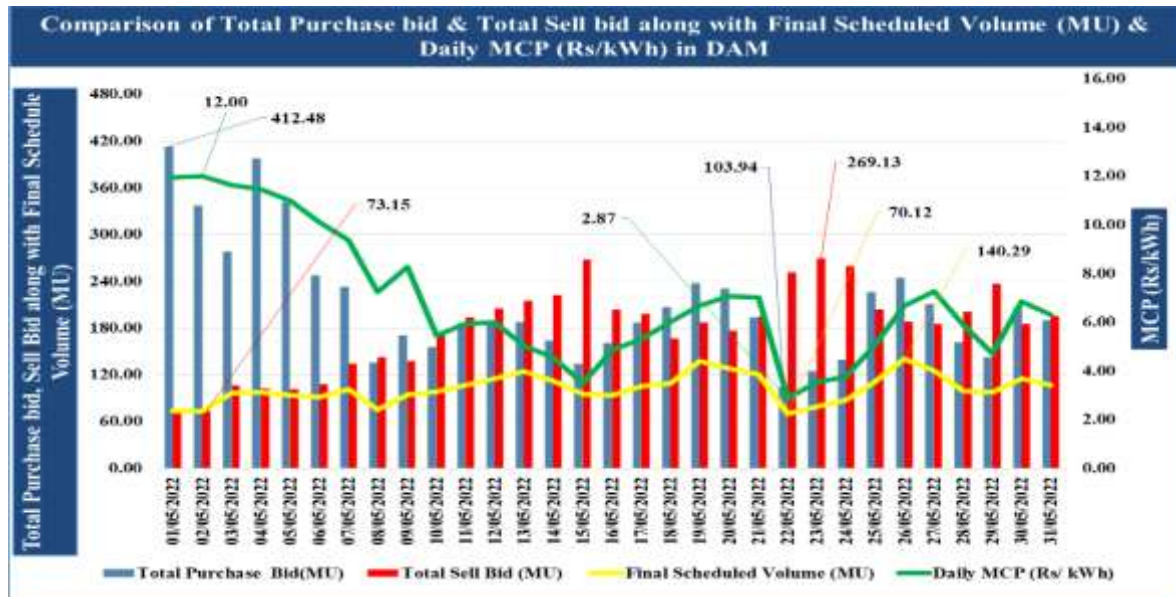


Figure -2

- 8.4. 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. On 16th May, 2022 (Monday) the FSV showed decreasing trend in comparison to Sunday (15th May, 2022) because there was nation-wide holiday on occasion of Budha Purnima.
- 8.5. A Comparison of maximum, minimum, daily, evening time MCP is shown in **Figure -3**. The same are also tabulated in **Annexure-IV**.

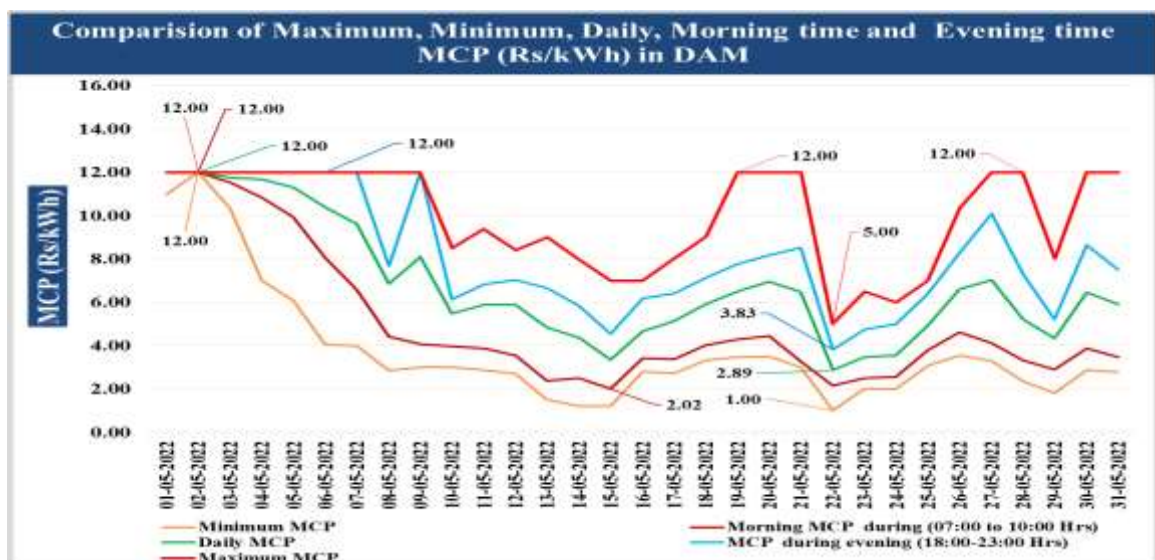


Figure -3

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

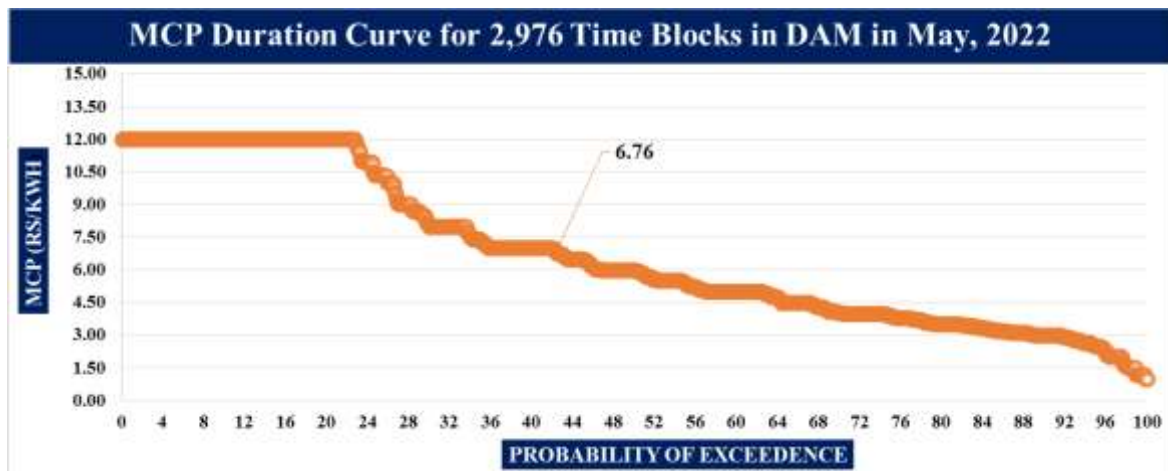


Figure-4

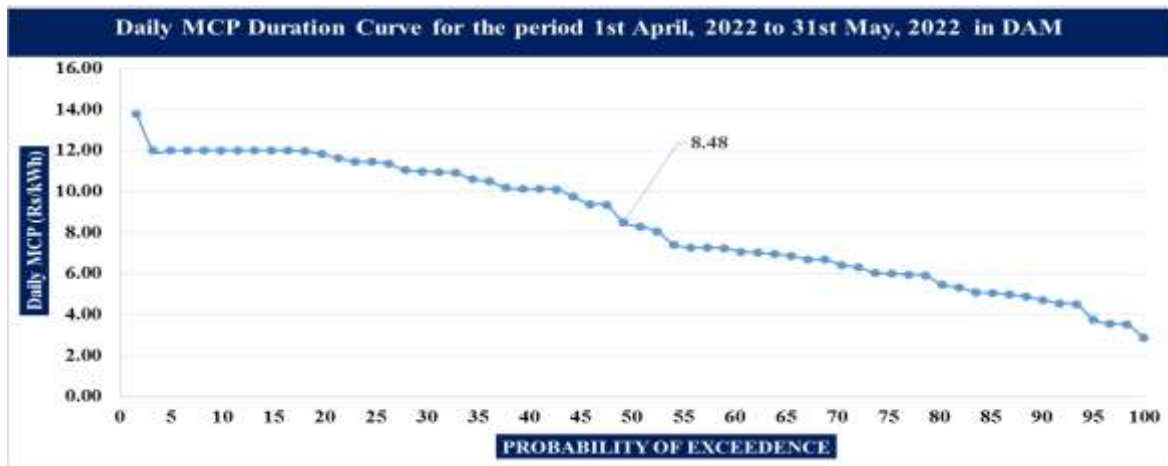


Figure-5

- 8.7. It can be seen in figure 4 above that in the MCP duration curve of May, 2022, for 42.54 % of the time MCP was above average MCP of the month (i.e. **Rs. 6.76/kWh**) and almost 57.46 % of the time 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 May, 2022 (figure-5), that for 49.18 % of the time the daily MCP was above the average MCP for the period (i.e. **Rs. 8.48/kWh**) and for 50.82 % of the time the daily MCP was below the average MCP for the period.
- 8.8. 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**.
- 8.9. In May, 2022, the maximum FSV occurred mostly during the **time period 10-11 Hrs & 23-24 Hrs** (on 10 no. of days). Whereas, the maximum MCP occurred mostly during the **time period 0-1 Hrs & 22-23 Hrs** (on 23 no. of days). Similarly, the minimum FSV occurred mostly during the **time period 8-10 Hrs & 17-18 Hrs** (on 13 no. of days). Whereas, the minimum MCP occurred mostly during the **time period 8-10 Hrs** (on 22 no. of days). **[Annexure VI]**

- 8.10.** In the month of May, 2022, there was **no** congestion in the transmission system in IEX, hence one nation one price was observed for **all 31 days** in IEX during May, 2022, whereas, in PXIL, there was **no** congestion in transmission system during May, 2022, so one nation one price was observed on all **5 days** during which transaction of electricity happened (i.e. 05th, 06th, 10th, 30th, 31st May, 2022). Further, in the month of April, 2022, there was congestion of **0.69 MU** in the transmission system in IEX on 3 days (8th to 10th & 13th April, 2022), hence one nation one price was observed for **27 days** in IEX during April, 2022, whereas, in PXIL, no transaction of electricity happened in April, 2022. In the month of May, 2021, One nation One Price was observed in IEX for **all 31 days** during the month, as there was no transmission congestion. Whereas, in PXIL, there was no congestion in transmission system during May, 2021, so one nation one price was observed on all **12 days** during which transaction of electricity happened (i.e. 04th to 07th, 11th, 14th to 15th, 17th, 24th, 28th, 30th to 31st May, 2021).
- 8.11.** In the month of May, 2022, there was no real time curtailment in IEX and PXIL in May, 2022. Further, in the month of April, 2022 also, there was real time curtailment of **8.86 MU** in IEX, whereas no transaction happened in PXIL in April, 2022. In the month of May, 2021, there was no real time curtailment in IEX and PXIL, respectively.
- 8.12.** The **top 10 sellers** on the power exchanges in **Day Ahead Market (DAM)** in the month of May, 2022 were, **Karnataka, Himachal Pradesh, JITPL, Raipur Energen, Essar Power MP Ltd, Telangana, Teesta-3, Chhattisgarh, Assam and Madhya Pradesh**, which constituted **51.23 %** of the market volume. [Annexure VII].
- 8.13.** The **top 10 purchasers** on the power exchanges in **Day Ahead Market (DAM)** in the month of May, 2022 were **Punjab, Haryana, Gujarat, Tamil Nadu, Uttar Pradesh, Rajasthan, West Bengal, Andhra Pradesh, Maharashtra and Assam**, which constituted **78.18 %** of the market volume. [Annexure VII]
- 8.14.** The total volume of electricity purchased by Discoms/Licensees in DAM in the month of May, 2022 was **3,001.69 MU**, which constituted **94.23 %** of total volume of electricity purchased on both the power exchanges.
- 8.15.** Similarly, the total volume of electricity sold by Discoms/Licensees in DAM in the month of May, 2022 was **1,781.46 MU**, which constituted **55.92 %** 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 MAY, 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 were the total purchase bid, Wind Generation and Solar Generation, 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 **0.73**, 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:

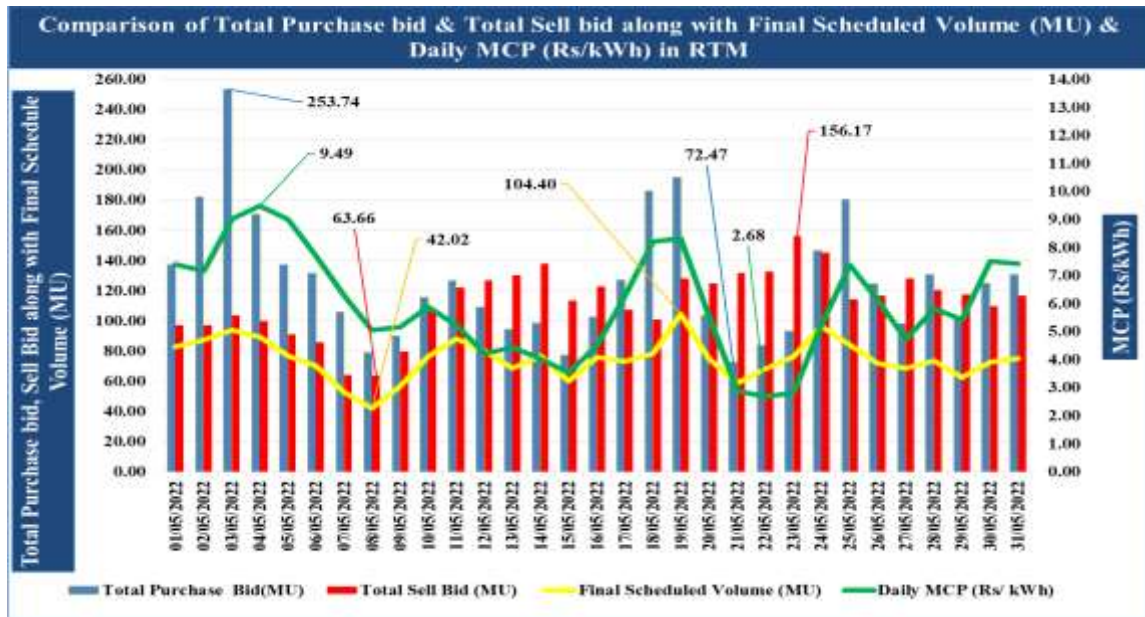


Figure-6

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

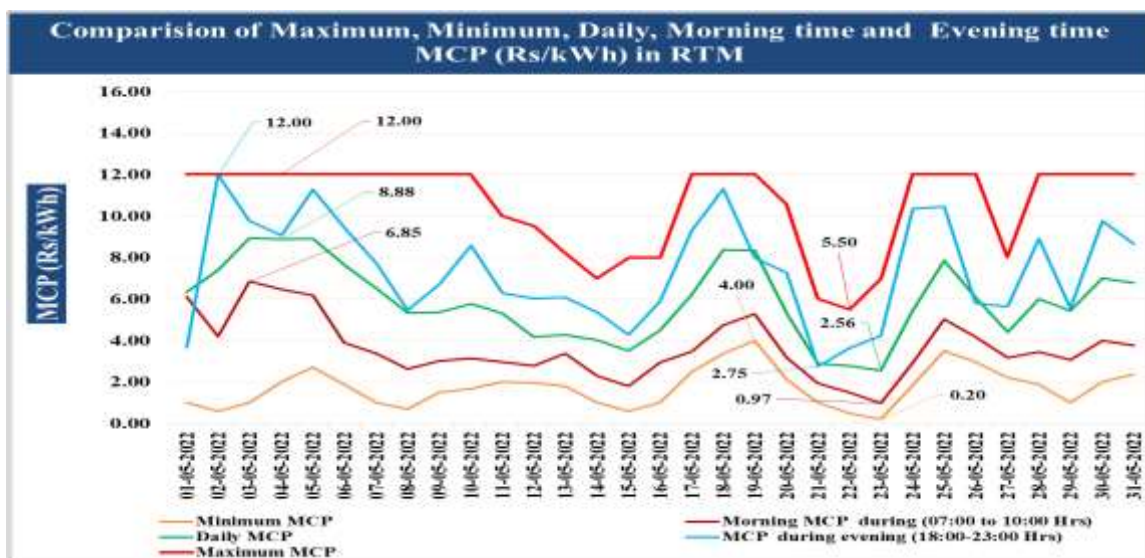


Figure-7

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

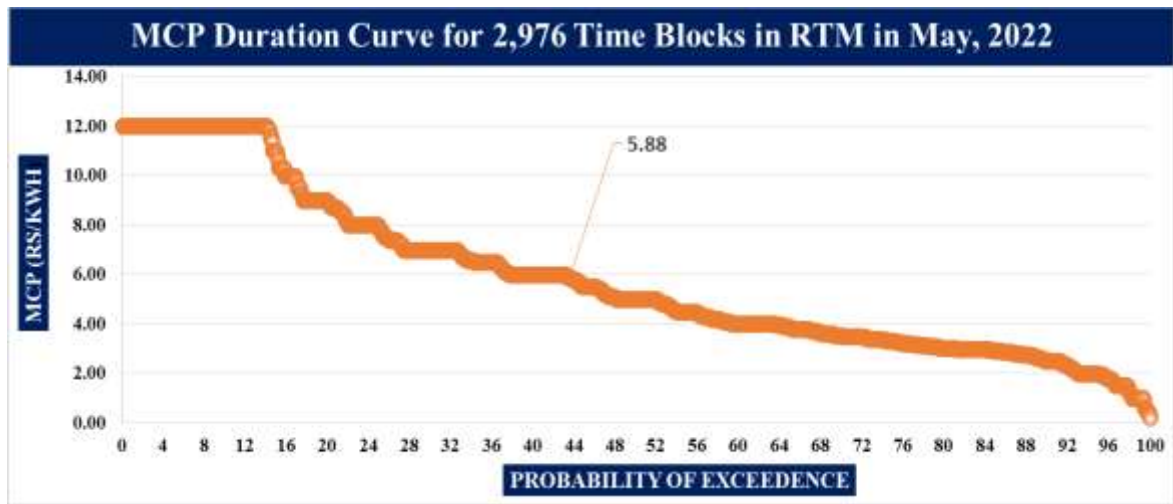


Figure-8

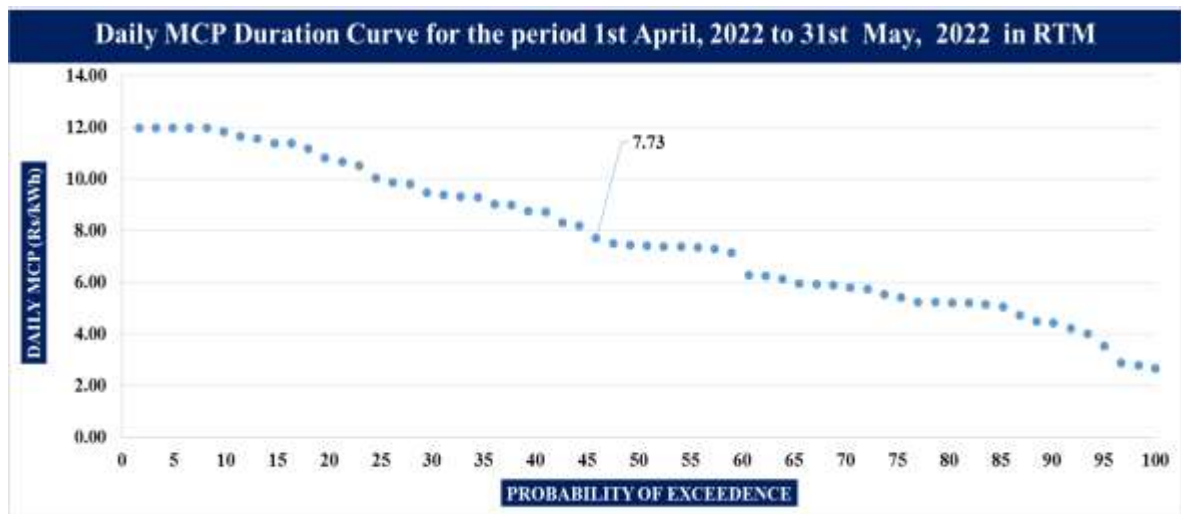


Figure-9

- 9.6. It can be seen in figure 8 above that in the MCP duration curve of May, 2022, for 43.44 % of the time the MCP was above the average MCP of the month (i.e. **Rs. 5.88/kWh**) and for 56.56 % 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 May, 2022 (figure 9) that, for 45.90 % of the time the daily MCP was above the average MCP for the period (i.e. **Rs. 7.73/kWh**) and for 54.10 % of the time the daily MCP was below the average MCP for the period
- 9.7. In May, 2022, the maximum FSV occurred mostly during the **time period 22-24 Hrs** (on 8 no. of days). Whereas, the maximum MCP occurred mostly during the **time period 0-1 Hrs** (on 17 no. of days). Similarly, the minimum FSV occurred mostly during the **time period 18-19 Hrs** (on 7 no. of days). Whereas, the minimum MCP occurred mostly during the **time period 7-9 Hrs** (on 17 no. of days). [Annexure X]
- 9.8. There was **no** real time curtailment in IEX in Real Time Market (RTM) during May, 2022, whereas, no transaction of electricity happened in PXIL during May, 2022. In April, 2022, there was **no** real time curtailment in IEX and PXIL in Real Time Market (RTM). Similarly, in May, 2021, there was no real time curtailment in IEX, whereas, no transaction of electricity happened in PXIL during May, 2021 in Real Time Market (RTM).

- 9.9.** In the month of May, 2022, there was congestion of **1.29 MU** in the transmission system in IEX on 03th & 27th May, 2022, hence one nation one price was observed for **29 days** in IEX, whereas, in PXIL, no transaction of electricity happened in May, 2022. Further, In the month of April, 2022, there was congestion of **0.56 MU** in the transmission system in IEX on 7 days (03.04.2022 to 04.04.2022, 06.04.2022 to 08.04.2022 & 11.04.2022 to 12.04.2022), hence one nation one price was observed for **23 days** in IEX, whereas, in PXIL, there was no congestion in April, 2022, hence one nation one price was observed for **30 days** in PXIL. In the month of May, 2021, there was no transmission congestion in IEX in Real Time Market, hence, one nation one price was observed for all **31 days** in IEX. Whereas, in PXIL, no transaction of electricity happened in May, 2021 in Real Time Market.
- 9.10.** The **top 10 sellers** on the power exchanges in **Real Time Market (RTM)** in the month of May, 2022 were **Bihar, Delhi, West Bengal, Karnataka, Rajasthan, Assam, Kerala, Telangana, Himachal Pradesh, Chhattisgarh**, which constituted **66.41%** 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 May, 2022 were **Telangana, Maharashtra, Tamil Nadu, Haryana, West Bengal, Punjab, Andhra Pradesh, Rajasthan, Gujarat, Uttar Pradesh**, which constituted **79.94%** of the market volume. [Annexure XI]
- 9.12.** The total volume of electricity purchased by Discoms/Licensees in RTM in the month of May, 2022 was **2,266.61 MU**, which constituted **97.75 %** 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 May, 2022 was **1,975.16 MU**, which constituted **85.18 %** of total volume of electricity sold on both the power exchanges.

-
- Source DAM, TAM and RTM data: IEX and PXIL
 - 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 May, 2022 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						
Total Quarter -I	April - June, 2022	7,286.15	13.02			8.86	0
Total April, 2022 - May, 2022		7,286.15	13.02			8.86	0

Annexure-II**Final Scheduled Volume in Term Ahead Market (TAM) for the months of April, 2022 to May, 2022 of IEX and PXIL (Trade and Delivery date basis)**

Quarter	Months	Final Scheduled Volume (MU) on Trade Date Basis		
		IEX	PXIL	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			
Total Quarter -I	April - June, 2022	2,068.57	2,806.02	4,874.59
Total	April, 2022 - May, 2022	2,068.57	2,806.02	4,874.59

Quarter	Months	Final Scheduled Volume (MU) on Delivery Date Basis		
		IEX	PXIL	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			
Total Quarter -I	April - June, 2022	2,360.10	2,904.62	5,264.72
Total	April, 2022 - May, 2022	2,360.10	2,904.62	5,264.72

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

(i) Top five Buyers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
Chhattisgarh	355.84	19.55%	Gujarat	1081.29	59.41%
Uttar Pradesh	273.79	15.04%	Tamil Nadu	841.62	46.24%
Maharashtra	232.39	12.77%	Delhi_UT	643.02	35.33%
Jharkhand	170.57	9.37%	Maharashtra	546.51	30.03%
Haryana	148.89	8.18%	Odisha	515.10	28.30%
Total Volume	1,181.47	64.91%	Total Volume	3,627.54	56.53%
Total Volume in Bilateral	1,820.14		Total Volume in Bilateral	6,416.88	

(ii) Top five Sellers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
Madhya Pradesh	479.78	26.36%	Karnataka	861.79	47.35%
DVC	138.35	7.62%	SEILP2	479.33	7.47%
DBPL	136.86	7.54%	RPREL	368.82	5.75%
Rajasthan	132.07	7.28%	JPL-2	338.92	5.28%
JK & Ladakh_UT	111.60	6.15%	JPNIGRIE_JNSTP	336.48	5.24%
Total Volume	998.65	55.02%	Total Volume	2,385.34	37.17%
Total Volume in Bilateral	1,815.15		Total Volume in Bilateral	6,417.74	

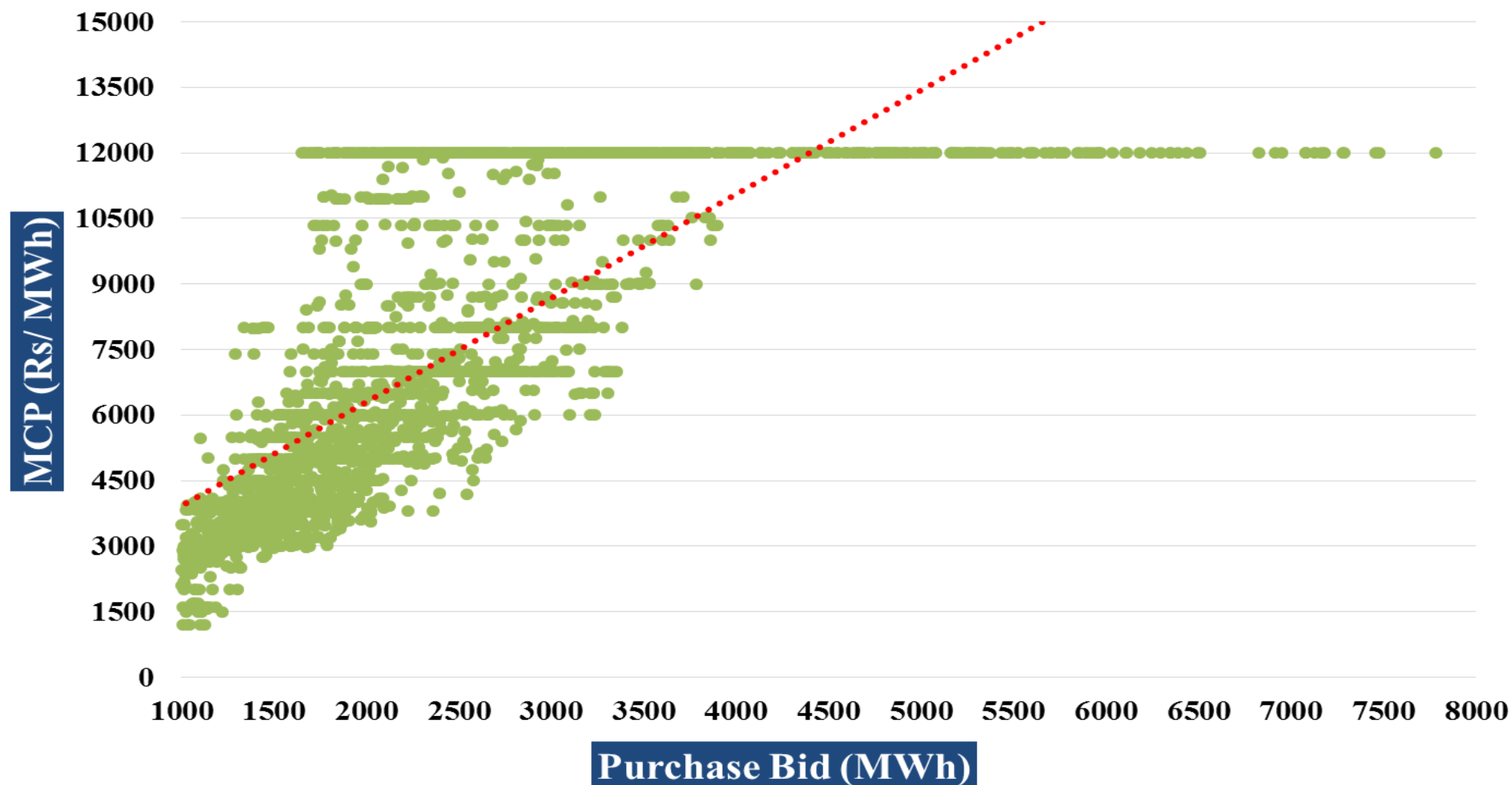
Annexure-IV**Evening, Day, Night, Morning, Maximum, Minimum, Average MCP (Rs/kWh) and Final Scheduled Volume (MU) in DAM**

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)
01-05-2022	12.00	11.89	12.00	12.00	12.00	11.00	11.97	73.42
02-05-2022	12.00	12.00	12.00	12.00	12.00	12.00	12.00	73.15
03-05-2022	11.54	11.39	12.00	12.00	12.00	10.34	11.75	96.56
04-05-2022	10.85	11.53	12.00	12.00	12.00	7.00	11.67	97.36
05-05-2022	9.95	10.79	12.00	12.00	12.00	6.08	11.30	93.33
06-05-2022	8.05	8.70	12.00	12.00	12.00	4.04	10.38	91.35
07-05-2022	6.59	6.94	12.00	12.00	12.00	4.00	9.62	100.98
08-05-2022	4.41	3.39	7.67	10.98	12.00	2.85	6.84	75.15
09-05-2022	4.06	7.35	12.00	7.78	12.00	3.00	8.09	94.08
10-05-2022	3.98	4.68	6.13	6.60	8.50	3.00	5.48	98.27
11-05-2022	3.87	5.32	6.84	6.75	9.39	2.87	5.88	106.85
12-05-2022	3.55	5.68	7.02	6.46	8.40	2.70	5.89	114.91
13-05-2022	2.38	3.89	6.65	5.64	9.00	1.50	4.84	124.01
14-05-2022	2.51	3.22	5.83	5.30	8.00	1.20	4.36	111.96
15-05-2022	2.02	1.90	4.55	4.51	7.00	1.20	3.35	95.36
16-05-2022	3.42	4.02	6.19	4.76	7.00	2.80	4.68	93.71
17-05-2022	3.37	4.34	6.40	5.85	8.00	2.74	5.13	105.00
18-05-2022	4.03	5.00	7.13	6.83	9.02	3.33	5.91	109.09
19-05-2022	4.29	5.26	7.77	7.96	12.00	3.47	6.52	137.09
20-05-2022	4.43	5.96	8.17	8.31	12.00	3.50	6.94	128.32
21-05-2022	3.28	4.17	8.51	8.91	12.00	3.00	6.49	120.73
22-05-2022	2.14	1.46	3.83	3.93	5.00	1.00	2.89	70.12
23-05-2022	2.51	2.72	4.75	3.68	6.49	2.00	3.47	79.18
24-05-2022	2.55	2.67	4.98	3.74	6.00	2.00	3.54	87.93
25-05-2022	3.80	3.78	6.42	5.45	7.00	3.07	4.93	111.50
26-05-2022	4.62	5.19	8.28	7.75	10.34	3.55	6.61	140.29
27-05-2022	4.11	5.46	10.09	7.63	12.00	3.30	7.02	125.05
28-05-2022	3.31	3.86	7.30	5.89	12.00	2.35	5.22	98.66
29-05-2022	2.91	2.69	5.23	6.04	8.00	1.80	4.34	97.13
30-05-2022	3.87	4.55	8.64	7.94	12.00	2.87	6.45	114.92
31-05-2022	3.48	4.88	7.51	6.98	12.00	2.78	5.92	107.05
Maximum	12.00	12.00	12.00	12.00	12.00	12.00	12.00	140.29
Minimum	2.02	1.46	3.83	3.68	5.00	1.00	2.89	70.12
Average	5.01	5.66	8.15	7.76	9.90	3.78	6.79	102.18

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 May, 2022 in DAM



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

Annexure-VI**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
01-05-2022	10:30 - 10:45	1.32	00:00 - 00:15	12.00	00:15 - 00:30	0.42	13:30 - 13:45	11.00
02-05-2022	10:00 - 10:15	1.35	00:00 - 00:15	12.00	23:30 - 23:45	0.40	00:00 - 00:15	12.00
03-05-2022	09:45 - 10:00	1.61	00:00 - 00:15	12.00	23:30 - 23:45	0.51	12:00 - 12:15	10.34
04-05-2022	11:00 - 11:15	1.85	00:00 - 00:15	12.00	23:30 - 23:45	0.53	08:45 - 09:00	7.00
05-05-2022	10:45 - 11:00	1.69	00:00 - 00:15	12.00	23:15 - 23:30	0.51	08:45 - 09:00	6.08
06-05-2022	10:30 - 10:45	1.41	00:00 - 00:15	12.00	00:45 - 01:00	0.66	09:00 - 09:15	4.04
07-05-2022	11:00 - 11:15	1.42	00:00 - 00:15	12.00	00:15 - 00:30	0.71	09:00 - 09:15	4.00
08-05-2022	02:15 - 02:30	1.00	00:00 - 00:15	12.00	13:00 - 13:15	0.56	09:45 - 10:00	2.85
09-05-2022	23:45 - 24:00	1.18	00:00 - 00:15	12.00	03:30 - 03:45	0.69	08:30 - 08:45	3.00
10-05-2022	10:30 - 10:45	1.31	00:15 - 00:30	8.50	18:30 - 18:45	0.81	08:45 - 09:00	3.00
11-05-2022	23:45 - 24:00	1.26	15:30 - 15:45	9.39	08:00 - 08:15	0.78	10:00 - 10:15	2.87
12-05-2022	12:30 - 12:45	1.41	19:45 - 20:00	8.40	08:00 - 08:15	0.87	08:30 - 08:45	2.70
13-05-2022	23:30 - 23:45	1.75	22:15 - 22:30	9.00	08:00 - 08:15	0.90	08:45 - 09:00	1.50
14-05-2022	21:45 - 22:00	1.49	22:15 - 22:30	8.00	17:45 - 18:00	0.82	08:45 - 09:00	1.20
15-05-2022	00:00 - 00:15	1.43	23:00 - 23:15	7.00	17:30 - 17:45	0.67	10:00 - 10:15	1.20
16-05-2022	20:00 - 20:15	1.33	23:15 - 23:30	7.00	01:45 - 02:00	0.73	08:45 - 09:00	2.80
17-05-2022	23:30 - 23:45	1.41	22:45 - 23:00	8.00	08:00 - 08:15	0.83	08:30 - 08:45	2.74
18-05-2022	05:00 - 05:15	1.47	22:00 - 22:15	9.02	17:45 - 18:00	0.75	09:00 - 09:15	3.33
19-05-2022	23:45 - 24:00	1.83	00:00 - 00:15	12.00	08:00 - 08:15	1.01	09:00 - 09:15	3.47
20-05-2022	04:15 - 04:30	1.73	00:00 - 00:15	12.00	17:45 - 18:00	0.90	08:00 - 08:15	3.50
21-05-2022	01:00 - 01:15	1.70	00:00 - 00:15	12.00	17:45 - 18:00	0.77	08:00 - 08:15	3.00
22-05-2022	00:00 - 00:15	0.93	00:00 - 00:15	5.00	18:15 - 18:30	0.57	11:30 - 11:45	1.00
23-05-2022	22:45 - 23:00	1.07	22:45 - 23:00	6.49	03:45 - 04:00	0.56	09:45 - 10:00	2.00
24-05-2022	21:30 - 21:45	1.34	22:30 - 22:45	6.00	04:00 - 04:15	0.60	13:00 - 13:15	2.00
25-05-2022	21:15 - 21:30	1.59	18:45 - 19:00	7.00	13:15 - 13:30	0.78	13:00 - 13:15	3.07
26-05-2022	06:45 - 07:00	1.73	19:45 - 20:00	10.34	13:30 - 13:45	1.08	08:45 - 09:00	3.55
27-05-2022	18:45 - 19:00	1.67	00:00 - 00:15	12.00	09:00 - 09:15	1.04	09:00 - 09:15	3.30
28-05-2022	22:00 - 22:15	1.62	21:30 - 21:45	12.00	04:30 - 04:45	0.65	08:45 - 09:00	2.35
29-05-2022	22:30 - 22:45	1.57	23:15 - 23:30	8.00	04:45 - 05:00	0.67	11:15 - 11:30	1.80
30-05-2022	06:15 - 06:30	1.62	00:00 - 00:15	12.00	09:45 - 10:00	0.61	09:15 - 09:30	2.87
31-05-2022	15:30 - 15:45	1.60	22:30 - 22:45	12.00	09:00 - 09:15	0.74	08:45 - 09:00	2.78

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

Annexure-VII**Sellers and Buyers in Day Ahead Market (DAM) in the month of May, 2022**

S. No.	Entity Name	Sell		Entity Name	Purchase	
		(MU)	Percent (%)		(MU)	Percent (%)
1.	Karnataka	414.65	13.02%	Punjab	450.12	14.13%
2.	Himachal Pradesh	192.36	6.04%	Haryana	388.28	12.19%
3.	JITPL	189.98	5.96%	Gujarat	362.27	11.37%
4.	Raipur Energen	167.09	5.25%	Tamilnadu	256.73	8.06%
5.	Essar Power MP Ltd	144.96	4.55%	Uttar Pradesh	247.95	7.78%
6.	Telangana	133.91	4.20%	Rajasthan	237	7.44%
7.	Teesta -3	99.83	3.13%	West Bengal	183.54	5.76%
8.	Chhattisgarh	97.52	3.06%	Andhra Pradesh	174.2	5.47%
9.	Assam	96.05	3.02%	Maharashtra	104.97	3.30%
10.	Madhya Pradesh	95.48	3.00%	Assam	85.52	2.68%
11.	Delhi	93.43	2.93%	Madhya Pradesh	83.43	2.62%
12.	Jaypee Nigrie	86.37	2.71%	NVVN (SNA) - NEA	63.22	1.98%
13.	Maharashtra	77.88	2.44%	Telangana	60.58	1.90%
14.	Uttar Pradesh	75.75	2.38%	Delhi	58.81	1.85%
15.	Jindal Power Ltd. Stg-II	75.72	2.38%	ArcelorMittal Nippon	54.32	1.71%
16.	Bihar	72.38	2.27%	Uttarakhand	52.45	1.65%
17.	Andhra Pradesh	66.94	2.10%	Jharkhand	48.15	1.51%
18.	Kerala	66.66	2.09%	Bihar	43.96	1.38%
19.	DB Power	62.84	1.97%	Orissa	36.63	1.15%
20.	Sembcorp Gayatri	60.54	1.90%	Himachal Pradesh	33	1.04%
21.	Tamilnadu	58.00	1.82%	Kerala	24.57	0.77%
22.	ACBIL	56.75	1.78%	NEA-NR	21.47	0.67%
23.	MB Power	53.27	1.67%	Chhattisgarh	20.37	0.64%
24.	Kameng HEP	42.56	1.34%	Railways	16.45	0.52%
25.	Karcham Wangtoo	33.62	1.06%	Karnataka	14.07	0.44%
26.	RKM Power	29.50	0.93%	Goa SR	10.75	0.34%
27.	West Bengal	29.01	0.91%	Dadra & Nagar Haveli	10.35	0.32%
28.	Orissa	28.70	0.90%	Nathpa Jhakri	9.97	0.31%
29.	Sainj HEP	28.31	0.89%	Tripura	8.25	0.26%
30.	Uttarakhand	27.50	0.86%	BALCO 2	5.8	0.18%
31.	Arunachal Pradesh	25.22	0.79%	Daman & Diu	5.25	0.16%
32.	Gujarat	22.18	0.70%	Goa WR	5.22	0.16%
33.	Sembcorp Energy India Ltd.	21.48	0.67%	Chandigarh	3.1	0.10%
34.	Jharkhand	20.24	0.64%	Manipur	1.92	0.06%
35.	Adhunik Power	19.46	0.61%	NLC TPS-II Stg-2	1.05	0.03%
36.	Adani Hybrid Energy Jaisalmer	19.17	0.60%	Meghalaya	0.63	0.02%
37.	AD Hydro	19.17	0.60%	Vallur	0.5	0.02%
38.	Chandigarh	18.91	0.59%	J&K	0.36	0.01%
39.	Goa WR	16.78	0.53%	Chamera-III	0.3	0.01%
40.	Maruti Clean Coal Power	16.54	0.52%	Arunachal Pradesh	0.04	0.00%

41.	Raigarh Energy Ltd.	15.26	0.48%			
42.	DVC	14.68	0.46%			
43.	Adani Green Solar Jaisalmer	14.23	0.45%			
44.	GMR Warora	14.13	0.44%			
45.	Adani Hybrid Energy Jaisalmer	13.17	0.41%			
46.	Tashiding HEP	11.82	0.37%			
47.	Jorethang	11.75	0.37%			
48.	GMR Kamalanga	11.69	0.37%			
49.	Palatana	11.31	0.35%			
50.	Renew Surya Ravi Private	10.94	0.34%			
51.	Adani Hybrid Energy Jaisalmer	9.28	0.29%			
52.	Sikkim	8.23	0.26%			
53.	J&K	7.92	0.25%			
54.	Nagaland	7.10	0.22%			
55.	Jindal Power	6.61	0.21%			
56.	Singoli Bhagwati	5.92	0.19%			
57.	Rajasthan	5.81	0.18%			
58.	Chuzachen	5.00	0.16%			
59.	Mizoram	4.96	0.16%			
60.	Adani Green Energy Nineteen	4.48	0.14%			
61.	Dikchu	4.28	0.13%			
62.	NLC TPS-II Stg-2	4.23	0.13%			
63.	Shree Cement	3.68	0.12%			
64.	RGPPL	3.38	0.11%			
65.	Lanco Budhil	2.89	0.09%			
66.	Meghalaya	2.88	0.09%			
67.	Rampur HEP	2.46	0.08%			
68.	Renew Solar Urja Private	1.55	0.05%			
69.	Sorang HEP, (Himachal Sorang	1.53	0.05%			
70.	NLC TPS-II	1.34	0.04%			
71.	Adani Wind Energy Kutchh Five	1.15	0.04%			
72.	Dhariwal	1.05	0.03%			
73.	Renew Solar Energy (Jharkhand	1.02	0.03%			
74.	Adani Power STG3	0.62	0.02%			
75.	Tehri	0.52	0.02%			
76.	Dhauliganga	0.50	0.02%			
77.	Ostro Energy Private Limited	0.36	0.01%			
78.	Dadra & Nagar Haveli	0.35	0.01%			
79.	Rognichu Hydro Electric Project	0.34	0.01%			
80.	Darlipalli	0.27	0.01%			
81.	IL&FS	0.12	0.00%			
82.	NPGC Nabinagar	0.03	0.00%			
Total Volume of top 10		1,631.81	51.23%	Total Volume of top 10	2,490.56	78.18%
Total Volume in PXs		3,185.52		Total Volume in PXs	3,185.52	

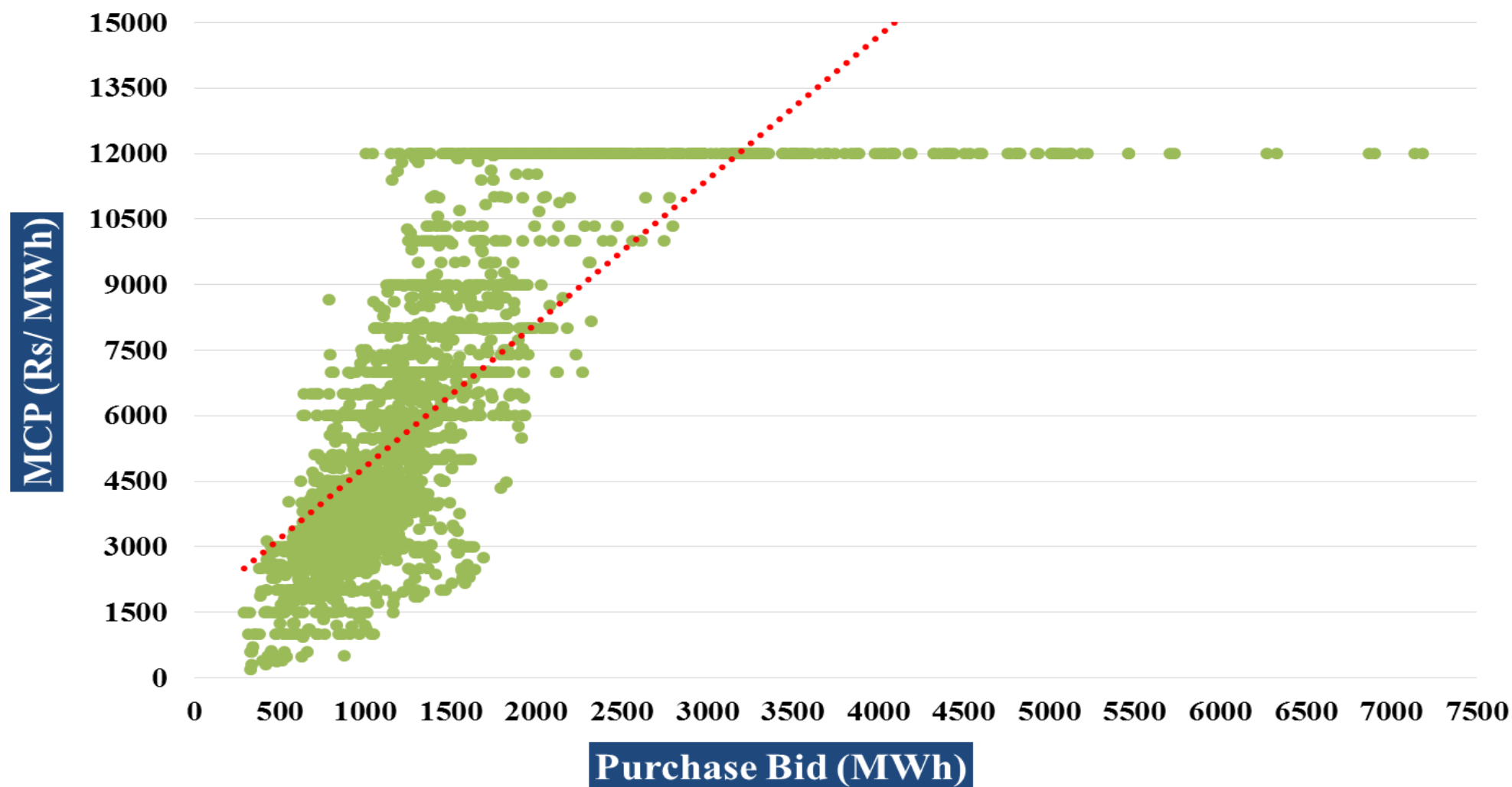
Annexure-VIII**Evening, Day, Night, Morning, Maximum, Minimum, Average MCP (Rs/kWh) and Final Scheduled Volume (MU) in RTM**

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)
01-05-2022	6.10	3.85	3.65	11.23	12.00	1.00	6.33	82.90
02-05-2022	4.19	6.16	12.00	6.48	12.00	0.60	7.38	87.44
03-05-2022	6.85	6.30	9.77	12.00	12.00	1.00	8.92	94.03
04-05-2022	6.45	6.97	9.07	12.00	12.00	2.00	8.88	89.54
05-05-2022	6.17	7.79	11.29	9.54	12.00	2.71	8.90	77.06
06-05-2022	3.89	4.84	9.44	11.03	12.00	1.88	7.63	70.45
07-05-2022	3.36	4.94	7.72	8.80	12.00	1.00	6.50	52.70
08-05-2022	2.63	3.15	5.45	8.90	12.00	0.70	5.32	42.02
09-05-2022	3.00	4.24	6.69	6.68	12.00	1.50	5.36	56.91
10-05-2022	3.13	3.82	8.56	6.80	12.00	1.67	5.76	76.44
11-05-2022	2.96	5.00	6.29	6.09	10.01	2.00	5.30	88.16
12-05-2022	2.77	3.09	6.03	4.49	9.50	1.96	4.18	79.93
13-05-2022	3.36	3.64	6.06	3.89	8.20	1.80	4.27	68.56
14-05-2022	2.28	3.33	5.35	4.56	7.00	1.00	4.02	76.82
15-05-2022	1.80	2.92	4.27	4.43	8.00	0.60	3.51	60.07
16-05-2022	2.94	4.11	5.88	4.49	8.00	1.00	4.47	76.20
17-05-2022	3.47	5.57	9.33	5.79	12.00	2.50	6.22	73.20
18-05-2022	4.74	7.22	11.30	9.10	12.00	3.38	8.38	78.48
19-05-2022	5.27	8.60	7.99	10.15	12.00	4.00	8.34	104.40
20-05-2022	3.18	3.96	7.25	6.14	10.57	2.12	5.29	74.93
21-05-2022	1.94	2.73	2.75	3.73	6.00	1.00	2.89	58.76
22-05-2022	1.49	2.22	3.64	3.37	5.50	0.48	2.79	68.30
23-05-2022	0.97	1.83	4.22	2.77	6.99	0.20	2.56	76.47
24-05-2022	2.94	4.27	10.36	3.87	12.00	1.84	5.45	96.63
25-05-2022	5.02	6.33	10.47	8.75	12.00	3.50	7.85	84.31
26-05-2022	4.16	3.79	5.80	9.65	12.00	2.95	6.06	71.85
27-05-2022	3.16	3.29	5.64	5.18	8.02	2.20	4.40	68.54
28-05-2022	3.44	3.91	8.91	7.03	12.00	1.87	5.99	73.53
29-05-2022	3.07	3.45	5.57	8.64	12.00	1.00	5.43	62.45
30-05-2022	3.98	5.38	9.77	7.93	12.00	2.00	6.99	72.59
31-05-2022	3.75	6.89	8.66	6.76	12.00	2.36	6.77	75.06
Maximum	6.85	8.60	12.00	12.00	12.00	4.00	8.92	104.40
Minimum	0.97	1.83	2.75	2.77	5.50	0.20	2.56	42.02
Average	3.63	4.63	7.39	7.10	10.57	1.74	5.88	74.80

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 May, 2022 in RTM



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 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
01-05-2022	05:30 - 05:45	1.47	00:00 - 00:15	12.00	11:15 - 11:30	0.51	12:00 - 12:15	1.00
02-05-2022	15:45 - 16:00	1.40	16:00 - 16:15	12.00	23:15 - 23:30	0.46	08:00 - 08:15	0.60
03-05-2022	17:45 - 18:00	1.63	00:00 - 00:15	12.00	00:45 - 01:00	0.56	08:45 - 09:00	1.00
04-05-2022	06:00 - 06:15	1.53	00:00 - 00:15	12.00	09:15 - 09:30	0.37	18:00 - 18:15	2.00
05-05-2022	22:15 - 22:30	1.01	00:00 - 00:15	12.00	18:45 - 19:00	0.49	09:45 - 10:00	2.71
06-05-2022	17:30 - 17:45	1.18	00:00 - 00:15	12.00	09:45 - 10:00	0.38	09:45 - 10:00	1.88
07-05-2022	17:30 - 17:45	0.81	00:00 - 00:15	12.00	19:15 - 19:30	0.33	07:45 - 08:00	1.00
08-05-2022	14:30 - 14:45	0.67	00:00 - 00:15	12.00	18:45 - 19:00	0.24	07:45 - 08:00	0.70
09-05-2022	23:30 - 23:45	0.99	00:00 - 00:15	12.00	00:00 - 00:15	0.28	11:00 - 11:15	1.50
10-05-2022	23:30 - 23:45	1.10	21:00 - 21:15	12.00	07:45 - 08:00	0.49	10:00 - 10:15	1.67
11-05-2022	23:00 - 23:15	1.58	00:00 - 00:15	10.01	18:15 - 18:30	0.54	08:15 - 08:30	2.00
12-05-2022	23:30 - 23:45	1.23	22:30 - 22:45	9.50	18:45 - 19:00	0.42	08:15 - 08:30	1.96
13-05-2022	23:15 - 23:30	1.19	19:45 - 20:00	8.20	16:45 - 17:00	0.43	17:45 - 18:00	1.80
14-05-2022	23:15 - 23:30	1.03	19:45 - 20:00	7.00	19:15 - 19:30	0.50	08:15 - 08:30	1.00
15-05-2022	15:00 - 15:15	0.92	22:45 - 23:00	8.00	08:30 - 08:45	0.33	08:45 - 09:00	0.60
16-05-2022	18:45 - 19:00	1.04	23:30 - 23:45	8.00	08:30 - 08:45	0.56	07:45 - 08:00	1.00
17-05-2022	00:30 - 00:45	1.04	19:30 - 19:45	12.00	08:15 - 08:30	0.52	07:00 - 07:15	2.50
18-05-2022	16:00 - 16:15	1.21	00:00 - 00:15	12.00	19:45 - 20:00	0.39	08:15 - 08:30	3.38
19-05-2022	15:00 - 15:15	1.58	00:00 - 00:15	12.00	00:15 - 00:30	0.71	09:00 - 09:15	4.00
20-05-2022	01:45 - 02:00	1.12	22:30 - 22:45	10.57	17:45 - 18:00	0.50	10:00 - 10:15	2.12
21-05-2022	13:45 - 14:00	0.93	00:00 - 00:15	6.00	07:15 - 07:30	0.30	18:00 - 18:15	1.00
22-05-2022	12:30 - 12:45	1.35	21:15 - 21:30	5.50	05:00 - 05:15	0.41	09:30 - 09:45	0.48
23-05-2022	14:15 - 14:30	1.44	18:30 - 18:45	6.99	10:00 - 10:15	0.33	10:00 - 10:15	0.20
24-05-2022	01:30 - 01:45	1.43	19:00 - 19:15	12.00	06:00 - 06:15	0.71	03:00 - 03:15	1.84
25-05-2022	16:00 - 16:15	1.35	00:00 - 00:15	12.00	21:15 - 21:30	0.27	09:00 - 09:15	3.50
26-05-2022	21:00 - 21:15	1.31	00:00 - 00:15	12.00	00:15 - 00:30	0.34	13:00 - 13:15	2.95
27-05-2022	00:30 - 00:45	1.16	21:30 - 21:45	8.02	11:30 - 11:45	0.43	10:00 - 10:15	2.20
28-05-2022	01:15 - 01:30	1.06	00:00 - 00:15	12.00	23:30 - 23:45	0.36	11:00 - 11:15	1.87
29-05-2022	21:15 - 21:30	0.89	00:00 - 00:15	12.00	00:15 - 00:30	0.45	07:45 - 08:00	1.00
30-05-2022	22:00 - 22:15	1.24	00:00 - 00:15	12.00	05:30 - 05:45	0.29	09:00 - 09:15	2.00
31-05-2022	21:00 - 21:15	1.29	21:30 - 21:45	12.00	05:15 - 05:30	0.31	08:45 - 09:00	2.36

MCP: Market Clearing Price (Rs/kWh)**FSV: Final Scheduled Volume (MU)**

Annexure-XI**Sellers and Buyers in Real Time Market (RTM) in the month of May, 2022**

S. No.	Entity Name	Sell		Entity Name	Purchase	
		(MU)	Percent (%)		(MU)	Percent (%)
1.	Bihar	283.88	12.24%	Punjab	344.74	14.87%
2.	Karnataka	191.42	8.26%	West Bengal	244.63	10.55%
3.	Madhya Pradesh	180.04	7.76%	Rajasthan	233.80	10.08%
4.	Delhi	155.70	6.71%	Maharashtra	176.05	7.59%
5.	West Bengal	124.43	5.37%	Andhra Pradesh	175.79	7.58%
6.	Chhattisgarh	111.90	4.83%	Haryana	162.62	7.01%
7.	Andhra Pradesh	108.40	4.67%	Uttar Pradesh	142.56	6.15%
8.	Telangana	96.63	4.17%	Telangana	132.45	5.71%
9.	J&K	84.23	3.63%	Gujarat	113.36	4.89%
10.	Uttar Pradesh	78.30	3.38%	Orissa	100.83	4.35%
11.	Assam	69.27	2.99%	Tamilnadu	100.51	4.33%
12.	Himachal Pradesh	68.71	2.96%	Delhi	61.90	2.67%
13.	Kerala	64.26	2.77%	Himachal Pradesh	57.55	2.48%
14.	Kameng HEP	60.36	2.60%	Madhya Pradesh	55.86	2.41%
15.	Rajasthan	56.07	2.42%	Assam	40.06	1.73%
16.	Maharashtra	54.47	2.35%	Bihar	31.41	1.35%
17.	Orissa	49.04	2.11%	BALCO 2	24.74	1.07%
18.	Tripura	34.84	1.50%	DVC	18.91	0.82%
19.	Neyveli New Thermal	30.83	1.33%	Karnataka	17.33	0.75%
20.	Teesta -3	30.80	1.33%	ArcelorMittal Nippon	14.89	0.64%
21.	Tamilnadu	30.05	1.30%	Kerala	11.25	0.49%
22.	Uttarakhand	28.73	1.24%	Railways	10.27	0.44%
23.	MB Power	24.31	1.05%	Chhattisgarh	9.08	0.39%
24.	Jindal Power Ltd. Stg-	21.75	0.94%	Uttarakhand	8.83	0.38%
25.	Sembcorp Gayatri	20.02	0.86%	Jharkhand	8.07	0.35%
26.	Haryana	19.17	0.83%	Dadra & Nagar Haveli	5.11	0.22%
27.	Jharkhand	17.85	0.77%	Daman & Diu	3.01	0.13%
28.	Manipur	13.37	0.58%	Manipur	2.57	0.11%
29.	NLC TPS-II Stg-2	12.50	0.54%	Meghalaya	2.23	0.10%
30.	Sasan UMPP	12.38	0.53%	Sikkim	1.45	0.06%
31.	RKM Power	11.44	0.49%	Tripura	1.38	0.06%
32.	NLC	10.81	0.47%	Goa SR	1.35	0.06%
33.	Meghalaya	9.19	0.40%	J&K	1.07	0.05%
34.	Nagaland	9.11	0.39%	Goa WR	0.82	0.04%
35.	DB Power	8.66	0.37%	Arunachal Pradesh	0.81	0.04%
36.	Essar Power MP Ltd	8.14	0.35%	Chandigarh	0.55	0.02%
37.	Sembcorp Energy India	7.95	0.34%	Maruti Clean Coal	0.48	0.02%
38.	NLC TPS-II Expn	7.21	0.31%	Raipur Energen	0.34	0.01%
39.	Raipur Energen	7.08	0.31%	ACBIL	0.05	0.00%
40.	Punjab	7.01	0.30%			
41.	Arunachal Pradesh	6.38	0.28%			

42.	Jorethang	6.25	0.27%			
43.	DVC	6.13	0.26%			
44.	Dikchu	6.13	0.26%			
45.	Sikkim	6.01	0.26%			
46.	Goa WR	5.42	0.23%			
47.	GMR Warora	5.02	0.22%			
48.	NLC TPS-II	4.88	0.21%			
49.	Sorang HEP,	4.62	0.20%			
50.	Karcham Wangtoo	3.92	0.17%			
51.	Gujarat	3.70	0.16%			
52.	Sainj HEP	3.68	0.16%			
53.	Singoli Bhagwati	3.63	0.16%			
54.	Palatana	3.34	0.14%			
55.	GMR Kamalanga	2.81	0.12%			
56.	Coastal Gujrat Power	2.69	0.12%			
57.	Tashiding HEP	2.63	0.11%			
58.	AD Hydro	2.40	0.10%			
59.	ACBIL	2.29	0.10%			
60.	Jindal Power	2.14	0.09%			
61.	Ostro Energy Private	1.93	0.08%			
62.	Adhunik Power	1.65	0.07%			
63.	Darlipalli	1.63	0.07%			
64.	Bongaigaon	1.05	0.05%			
65.	Chuzachen	1.01	0.04%			
66.	Jhabua Power	0.78	0.03%			
67.	Chandigarh	0.70	0.03%			
68.	JITPL	0.66	0.03%			
69.	Adani Power STG3	0.61	0.03%			
70.	Adani Hybrid Energy	0.56	0.02%			
71.	Dadra & Nagar Haveli	0.50	0.02%			
72.	RGPPL	0.39	0.02%			
73.	Lanco Budhil	0.35	0.02%			
74.	Adani Hybrid Energy	0.34	0.01%			
75.	Maruti Clean Coal	0.33	0.01%			
76.	Raigarh Energy Ltd.	0.33	0.01%			
77.	Maithon Power	0.30	0.01%			
78.	Daman & Diu	0.25	0.01%			
79.	IL&FS	0.22	0.01%			
80.	Ramagundam Floating	0.19	0.01%			
81.	Renew Surya Ravi	0.13	0.01%			
82.	AGBPP	0.12	0.01%			
83.	AGTPP	0.09	0.00%			
84.	Dhariwal	0.08	0.00%			
Total Volume of top 10		1,414.93	61.02%		1,826.83	78.79%
Total Volume in PXs		2,318.72		Total Volume in PXs	2,318.72	

Annexure-XII**Cross Border Electricity Transactions in Day Ahead Market (DAM) in IEX with Nepal and Bhutan during the month of May, 2022**

S. No	Delivery Date	Buy Volume By Nepal (MU)	Buy Volume by Bhutan (MU)
1	01-05-2022	0.43	-
2	02-05-2022	4.13	-
3	03-05-2022	5.44	-
4	04-05-2022	4.32	-
5	05-05-2022	4.82	-
6	06-05-2022	5.91	-
7	07-05-2022	1.67	-
8	08-05-2022	3.58	-
9	09-05-2022	3.43	-
10	10-05-2022	4.03	-
11	11-05-2022	4.76	-
12	12-05-2022	2.55	-
13	13-05-2022	0.86	-
14	14-05-2022	2.04	-
15	15-05-2022	-	-
16	16-05-2022	0.71	-
17	17-05-2022	1.54	-
18	18-05-2022	0.65	-
19	19-05-2022	1.44	-
20	20-05-2022	4.47	-
21	21-05-2022	1.60	-
22	22-05-2022	0.56	-
23	23-05-2022	0.35	-
24	24-05-2022	1.67	-
25	25-05-2022	2.52	-
26	26-05-2022	4.16	-
27	27-05-2022	3.04	-
28	28-05-2022	2.32	-
29	29-05-2022	4.29	-
30	30-05-2022	4.45	-
31	31-05-2022	2.94	-
Total		84.69	-
		84.69	

∴ No transaction happened.

Note: Cross Border Transactions of Electricity of 84.69 MU (84.69 MU purchase by Nepal) happened during May, 2022 in IEX, which is included in DAM Volume of May, 2022 in IEX

Annexure-XIII**Details of Time Blocks in which Maximum & Minimum ACP occurred in IEX and PXIL during May, 2022**

In IEX, the maximum ACP of Rs 12.00/kWh was observed during multiple time blocks on several days during the month of May, 2022. Similarly, in PXIL also, the maximum ACP of Rs 12.00/kWh and minimum ACP of Rs 3.36/kWh were observed on many days on several time blocks. The details of time blocks and Daily MCPs are shown below:

Exchange	ACP	Date	Time Blocks	Daily MCP (Rs/kWh)
IEX	Maximum ACP (Rs 12.00/kWh)	01.05.2022	00:00-00:15 to 11:45-12:00, 12:15 - 12:30 to 13:15 - 13:30, 14:00 - 14:15 to 23:45 - 24:00 Hrs	11.97
		02.05.2022	00:00 - 00:15 to 23:45-24:00 Hrs	12.00
		03.05.2022	00:00 - 00:15 to 08:00 - 08:15, 14:00 - 14:15 to 23:45 - 24:00 Hrs	11.75
		04.05.2022	00:00 - 00:15 to 07:45 - 08:00, 12:45 - 13:00 to 23:45 - 24:00 Hrs	11.67
		05.05.2022	00:00 - 00:15 to 07:45 - 08:00, 13:30 - 13:45 to 23:45-24:00 Hrs	11.30
		06.05.2022	00:00 - 00:15 to 07:15 - 07:30, 14:15 - 14:30 to 23:45 - 24:00 Hrs	10.38
		07.05.2022	00:00 - 00:15 to 06:45 - 07:00, 15:15 - 15:30 to 23:45-24:00 Hrs	9.62
		08.05.2022	00:00 - 00:15 to 03:30 - 03:45, 21:15 - 21:30 to 23:45-24:00 Hrs	6.84
		09.05.2022	00:00 - 00:15, 14:45 - 15:00 to 23:45-24:00 Hrs	8.09
		20.05.2022	00:00 - 00:15, 00:15 - 00:30, 22:15 - 22:30 & 22:30 - 22:45 Hrs	6.94
		21.05.2022	00:00 - 00:15 to 01:15 - 01:30, 21:00 - 21:15 to 23:15 - 23:30 Hrs	6.49
		27.05.2022	00:00 - 00:15 to 00:45 - 01:00, 19:00 - 19:15 to 22:00 - 22:15 Hrs	7.02
		28.05.2022	21:30 - 21:45 to 22:15 - 22:30 Hrs	5.22
		30.05.2022	00:00 - 00:15, 21:15 - 21:30 to 23:45 - 24:00 Hrs	6.45
		31.05.2022	22:30 - 22:45 to 23:45 - 24:00 Hrs	5.92
PXIL	Maximum ACP (Rs 12.00/kWh)	05.05.2022	10:00-10:15 to 23:45-24:00 Hrs	8.00
		06.05.2022	00:00-00:15 to 01:45-02:00, 21:00-21:15 to 23:45-24:00 Hrs	3.50
	Minimum ACP (Rs 3.36/kWh)	30.05.2022	00:00-00:15 to 23:45-24:00 Hrs	3.36

Appendix-I**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.
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.