



मई, 2021 मासिक मार्केट मॉनिटरिंग रिपोर्ट

Monthly Market Monitoring Report

May, 2021



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केन्द्रीय विद्युत प्राधिकरण/ Central Electricity Authority

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TABLE OF CONTENTS

S.N.	Title	Page
1.	Day Ahead Market (DAM)	4
2.	Summary of the Market in the Power Exchanges	4
3.	Term Ahead Market (TAM)	7
4.	Real Time Market (RTM)	9
5.	Green Term Ahead Market(GTAM)	10
6.	Bilateral Transactions	15
7.	Analysis of movement of prices observed in DAM Transactions in May, 2021	16
8.	Analysis of Movement of prices observed in RTM Transactions in May, 2021	19

TABLES

1.	Table: 1A Daily MCP of IEX and PXIL in DAM for May, 2021 vs April, 2021	5
2.	Table: 1B Daily MCP of IEX and PXIL in DAM for May, 2021 vs May, 2020	5
3.	Table: 2A ACP of IEX and PXIL in DAM for May, 2021 vs April, 2021	6
4.	Table: 2B ACP of IEX and PXIL in DAM for May, 2021 vs May, 2020	6
5.	Table: 3A FSV of IEX and PXIL in DAM for May, 2021 vs April, 2021	6
6.	Table: 3B FSV of IEX and PXIL in DAM for May, 2021 vs May, 2020	6
7.	Table:4A Volume transacted in TAM in PXs for May, 2021 vs April, 2021 (on trade date basis)	7
8.	Table: 4B Volume transacted in TAM in PXs for May, 2021 vs May, 2020 (on trade date basis)	8
9.	Table: 4C FSV of IEX and PXIL in TAM for May, 2021 vs April, 2021 (on delivery date basis)	9
10.	Table: 4D FSV of IEX and PXIL in TAM for May, 2021 vs May, 2020 (on delivery date basis)	9
11.	Table: 5A FSV of IEX and PXIL in RTM for May, 2021 vs April, 2021	9
12.	Table: 5B Daily MCP of IEX and PXIL in RTM for May, 2021 vs April, 2021	10
13.	Table: 5C ACP of IEX and PXIL in RTM for May, 2021 vs April, 2021	10
14.	Table:6A FSV of IEX in Solar Segment of GTAM for May, 2021vs April, 2021(On trade date basis)	10
15.	Table: 6B Daily MCP of IEX in Solar Segment of GTAM for May, 2021 vs April, 2021 (on trade date basis)	11
16.	Table: 6C FSV of IEX in Solar Segment of GTAM for May, 2021 vs April, 2021 (on delivery date basis)	11
17.	Table: 6D Daily MCP of IEX in Solar Segment of GTAM for May, 2021 vs April, 2021 (on delivery date basis)	12

18.	Table: 6E FSV of IEX & PXIL in Non-Solar Segment of GTAM for May, 2021 vs April, 2021 (on trade date basis)	12
19.	Table: 6F Daily MCP of IEX & PXIL in Non-Solar Segment of GTAM for May, 2021 vs April, 2021 (on trade date basis)	13
20.	Table: 6G FSV of IEX & PXIL in Non-Solar Segment of GTAM for May, 2021 vs April, 2021 (on delivery date basis)	13
21.	Table: 6H Daily MCP of IEX & PXIL in Non-Solar Segment of GTAM for May, 2021 vs April, 2021 (on delivery date basis)	14
22.	Table: 7A Total Buy and Sell volume in Bilateral transaction for May, 2021	15
23.	Table: 7B Region wise buy volume in Bilateral transaction for May, 2021	15
24.	Table: 7C Region wise sell volume in Bilateral transaction for May, 2021	15

FIGURES

1.	Figure: 1 Comparison of volume of electricity transacted through both PXs together in DAM and Bilateral buy(Direct and through Traders)	16
2.	Figure: 2 Comparison of Total Purchase, Sell bids along with FSV and Daily MCP in DAM	17
3.	Figure: 3 Comparison of Maximum, Minimum, Daily, Evening Time MCP (Rs/kWh) in DAM	18
4.	Figure: 4 Comparison of Total Purchase, Sell bids along with FSV and Daily MCP in RTM	20
5.	Figure: 5 Comparison of Maximum, Minimum, Daily, Evening Time MCP (Rs/kWh) in RTM	20

ANNEXURES

1.	Annexure I FSV and Average MCP in DAM for the months April, 2021 to March, 2022	22
2.	Annexure II FSV in TAM for the months April, 2021 to March, 2022 (on delivery and trade date basis)	23
3.	Annexure-III Top Five Entity (Buyers and Sellers) in Bilateral transactions in May, 2021	24
4.	Annexure-IV All MCPs vis: Evening MCP, Day MCP, Night MCP, Morning MCP, Maximum MCP, Minimum MCP, Average MCP and Final Schedule Volume (MU) in DAM in May, 2021	25
5.	Annexure-V Comparison of MCP w.r.t. Purchase Bid for 2976 Time Blocks during the month of May, 2021 in DAM	26
6.	Annexure-VI Max. FSV, Min FSV, Max MCP and Min MCP w.r.t. all Time blocks in DAM in May, 2021	27
7.	Annexure-VII Sellers and Purchasers of Electricity in DAM in May, 2021	28

8.	Annexure-VIII	All MCPs vis: Evening MCP, Day MCP, Night MCP, Morning MCP, Maximum MCP, Minimum MCP, Average MCP and Final Schedule Volume (MU) in RTM in May, 2021	30
9.	Annexure-IX	Comparison of MCP w.r.t. Purchase Bid for 2976 Time Blocks during the month of May, 2021 in RTM	31
10.	Annexure-X	Max. FSV, Min FSV, Max MCP and Min MCP w.r.t. all Time blocks in May, 2021 in RTM	32
11.	Annexure-XI	Sellers and Purchasers of Electricity in RTM in May, 2021	33
12.	Annexure-XII	Cross Border Transactions of Electricity with Nepal in DAM in IEX in May, 2021	36

APPENDIX

1.	Appendix-I	Analysis for change in trend of Final Scheduled Volume in DAM on 05th Saturday and 5th Monday of May 2021 (i.e. 29th and 31st May 2021).	37
2.	Appendix-II	Definitions/ Terminologies used in the Report	38

REPORT FOR MONTH: MAY, 2021

OVERVIEW OF 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, 2021 was **4,367.20 MU**. The total energy supplied in the country during the month of May, 2021 was 1,08,809 MU. Thus, the volume of electricity transacted on the power exchanges in DAM during May, 2021 was 4.01 % of the total energy supplied in the country. The total volume of electricity transacted in DAM during April, 2021 was **5,703.95 MU** which was 4.87% of the total energy supplied [1,17,080 MU] in the country during April, 2021. Similarly, the total volume of electricity transacted in DAM during May, 2020 was **5,595.97 MU** which was 5.48 % of the total energy supplied [1,02,089] in the country during May, 2020.
 - 1.2. The volume of electricity transacted on IEX and PXIL during May, 2021 were **4,363.88 MU and 3.32 MU**, respectively, which means that the total volume transacted on IEX was **99.92%** of the total volume on power exchanges. The volume of electricity transacted on IEX and PXIL during April, 2021 were **5,699.22 MU and 4.73 MU**, respectively, which means that the total volume transacted on IEX was **99.92 %** of the total volume on power exchanges. Also, the volume of electricity transacted on IEX and PXIL during May, 2020, were **5,573.73 MU and 22.24 MU**, respectively.
 - 1.3. The DAM Volume in IEX for May, 2021 is inclusive of Cross Border Transactions of Electricity of **118.73 MU (purchase only)** happened with Nepal during May, 2021, whereas, the same was **16.47 MU** during April, 2021. The day-wise details of trade happened during May, 2021 are given in **Annexure-XII**. IEX commenced Cross Border Electricity Trade (CBET) with Nepal in its Day Ahead Electricity Market on April 17, 2021.
 - 1.4. The Average Market Clearing Price (MCP) on IEX during the month of May, 2021 was **Rs 2.83/kWh**, which shows a decrease of **23.51%** and an increase of **10.12%** when compared with average MCP's for the month of April, 2021 and May, 2020, which were **Rs 3.70/kWh and Rs 2.57/kWh**, respectively. On PXIL, the average MCP during the month of May, 2021 was **Rs 3.06/kWh**, which shows a decrease of **17.07%** and an increase of **14.61%** when compared with average MCP's for the month of April, 2021 and May, 2020, which were **Rs 3.69/kWh and Rs 2.67/kWh**, respectively.
- #### 2. SUMMARY OF THE MARKET CLEARING PRICE, AREA CLEARING PRICE AND FINAL SCHEDULED VOLUME IN THE POWER EXCHANGES

2.1. A comparison of the Minimum, Maximum and Average of Daily MCP during the month of May, 2021 with that of April, 2021 and May, 2020 is given in Table-1A & 1B:

(a) May, 2021 vis- a -vis April, 2021

Daily MCP (Rs/kWh)	IEX			PXIL		
	May, 2021	April, 2021	% Change	May, 2021	April, 2021	% Change
Minimum	2.26	2.96	-23.65	2.53	3.28	-22.87
Maximum	3.29	4.94	-33.40	3.63	4.57	-20.57
Average	2.83	3.70	-23.51	3.06	3.69	-17.07

Table: 1A

(b) May, 2021 vis- a –vis May, 2020

Daily MCP (Rs/kWh)	IEX			PXIL		
	May, 2021	May, 2020	% Change	May, 2021	May, 2020	% Change
Minimum	2.26	2.24	0.89	2.53	2.47	2.43
Maximum	3.29	2.79	17.92	3.63	3.03	19.80
Average	2.83	2.57	10.12	3.06	2.67	14.61

Table: 1B

2.2. The maximum Area Clearing Price (ACP) of **Rs 7.10/kWh** in IEX was observed in all 13 regions during the time block **22:30-22:45 Hrs** on 31st May, 2021. As there was no congestion in transmission system, the MCP for this time-block was also **Rs 7.10/kWh**. However, the Daily MCP in IEX on pan India basis on 31st May, 2021 was **Rs 3.22/kWh**. Whereas, in PXIL, the maximum ACP of **Rs 4.41/kWh** was observed in all 13 regions during 11 consecutive time blocks starting from **21:15-21:30 to 23:45-24:00 Hrs** on 05th May, 2021. As there was no congestion in transmission system, the MCP for above time blocks was also **Rs 4.41/kWh** on 05th May, 2021. However, the Daily MCP in PXIL on 05th May, 2021 was **Rs 3.24/kWh**.

2.3. The minimum ACP of **Rs 1.50/kWh** in IEX was observed in all 13 regions during the time block **13:15-13:30 Hrs** on 29th May, 2021. As there was no congestion in transmission system, the MCP for this time-block was also **Rs 1.50/kWh**. However, the Daily MCP in IEX on pan India basis on 29th May, 2021 was **Rs 2.89/kWh**. Whereas, in PXIL, the minimum ACP of **Rs 2.53/kWh** was observed in all 13 regions on 14th May, 2021 for all the 96 time blocks starting from **00:00-00:15 Hrs to 23:45-24:00 Hrs** during May, 2021. As no congestion was there in transmission system, the MCP for the above time blocks was also **Rs 2.53/kWh**. Since the minimum ACP of **Rs.2.53/kWh** was observed for all the 96 time blocks on 14th May, 2021, the Daily MCP in PXIL on 14th May, 2021 was also **Rs 2.53/kWh**.

2.4. A comparison of the Minimum and Maximum Area Clearing Price (ACP) during the months of May, 2021 with that of April, 2021 and May, 2020 is given in Table-2A&2B:

(a) May, 2021 vis- a -vis April, 2021

ACP (Rs/kWh)	IEX			PXIL		
	May, 2021	April, 2021	% Change	May, 2021	April, 2021	% Change
Minimum	1.50	2.30	-34.78	2.53	3.09	-18.12
Maximum	7.10	7.55	-5.96	4.41	7.10	-37.89

Table: 2A

(b) May, 2021 vis- a- vis May, 2020

ACP (Rs/kWh)	IEX			PXIL		
	May, 2021	May, 2020	% Change	May, 2021	May, 2020	% Change
Minimum	1.50	1.10	36.36	2.53	1.30	94.62
Maximum	7.10	5.00	42.00	4.41	5.50	-19.82

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, 2021 with that of April, 2021 and May, 2020 is given in Table-3A & 3B:

(a) May, 2021 vis- a- vis April, 2021

Final Scheduled Volume (MU)	IEX			PXIL		
	May, 2021	April, 2021	% Change	May, 2021	April, 2021	% Change
Minimum	102.60	143.55	-28.53	0.01	0.14	-92.86
Maximum	167.32	238.26	-29.77	0.79	0.84	-5.95
Average	140.77	189.97	-25.90	0.28	0.43	-34.88

Table: 3A

(b) May, 2021 vis- a- vis May, 2020

Final Scheduled Volume (MU)	IEX			PXIL		
	May, 2021	May, 2020	% Change	May, 2021	May, 2020	% Change
Minimum	102.60	140.41	-26.93	0.01	2.61	-99.62
Maximum	167.32	220.37	-24.07	0.79	6.21	-87.28
Average	140.77	179.80	-21.71	0.28	4.45	-93.71

Table: 3B

3. TERM AHEAD MARKET (TAM)

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

- 3.1. The total volume of electricity transacted on both the power exchanges in Term Ahead Market on trade date basis in May, 2021 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.
- 3.2. The total volume of electricity transacted on both the power exchanges in Term Ahead Market on trade date basis in April, 2021 was **977.13 MU**, out of which, **325.78 MU** (33.34 %) was transacted on IEX and **651.35 MU** (66.66 %) was transacted on PXIL.
- 3.3. Similarly, total volume of electricity transacted during May, 2020 in Term Ahead Market on trade date basis in both the power exchanges was **596.02 MU**, out of which, **377.67 MU** (63.37%) was transacted on IEX and **218.35 MU** (36.63%) was transacted on PXIL.
- 3.4. With respect to the total energy supplied during the month of May, 2021 in the country, the volume of electricity traded on the power exchanges in TAM on trade date basis represents **0.71%** of the total energy supplied. The same was **0.83 %** in April, 2021 and **0.58 %** in May, 2020.
- 3.5. In the month of May, 2021, there was a transmission congestion in IEX of **2.03 MU** in Day Ahead Contingency Contract and **0.035 MU** in Intraday contract, whereas in PXIL, there was a transmission congestion of **0.287 MU** in Intraday contract and **1.72 MU** in Daily/Anyday contract during the month of May, 2021.
- 3.6. The comparison of total volume of electricity transacted on both the power exchanges in Term Ahead Market (TAM) during May, 2021 with April, 2021 and May, 2020 is given in Table- 4A&4B:

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

Contract Type	IEX			PXIL		
	May, 2021	April, 2021	% Change	May, 2021	April, 2021	% Change
Intra Day (MU)	2.65	7.50	-64.67	68.68	95.87	-28.36
Day Ahead Contingency(MU)	129.41	64.77	99.80	-	-	NA
Daily/ Any Day (MU)	293.57	253.51	15.80	275.35	555.48	-50.43
Weekly (MU)	-	-	NA	-	-	NA

- : No Transaction happened

NA: Not Applicable

Table: 4A

(b) May, 2021 vis- a- vis May, 2020 (on trade Date Basis)

Contract Type	IEX			PXIL		
	May, 2021	May, 2020	% Change	May, 2021	May, 2020	% Change
Intra Day (MU)	2.65	56.65	-95.32	68.68	35.93	91.15
Day Ahead Contingency (MU)	129.41	26.53	387.79	-	0.14	NA
Daily/ Any Day (MU)	293.57	197.92	48.33	275.35	182.28	51.06
Weekly (MU)	-	96.57	NA	-	-	NA

-: No transaction happened

NA: Not Applicable

Table: 4B**Term Ahead Market (TAM) (on delivery Date Basis)**

- 3.7.** The total volume of electricity transacted on both the power exchanges in Term Ahead Market on delivery date basis in May, 2021 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.
- 3.8.** The total volume of electricity transacted on both the power exchanges in Term Ahead Market on delivery date basis in April, 2021 was **925.30 MU**, out of which, **348.58 MU** (37.67%) was transacted on IEX and **576.72 MU** (62.33%) was transacted on PXIL.
- 3.9.** Similarly, total volume of electricity transacted during May, 2020 in Term Ahead Market on delivery date basis in both the power exchanges was **715.76 MU**, out of which, **431.38 MU** (60.27%) was transacted on IEX and **284.38 MU** (39.73%) was transacted on PXIL.
- 3.10.** With respect to the total energy supplied during the month of May, 2021 in the country, the volume of electricity traded on the power exchanges in TAM on delivery date basis represents **0.74 %** of the total energy supplied. The same was **0.79 %** in April, 2021 and **0.70%** in May, 2020.
- 3.11.** In the month of May, 2021, there was real time curtailment in IEX of **5.01 MU** in Daily/ Anyday contract and **0.036 MU** in Day Ahead Contingency Contract, whereas in PXIL, there was real time curtailment of **0.287 MU** in Intraday contract and **9.63 MU** in Daily/Anyday Contract during May, 2021.
- 3.12.** The comparison of total volume of electricity transacted in both the power exchanges in Term Ahead Market (TAM) on delivery date basis during May, 2021 with April, 2021 and May, 2020 is given in Table – 4C&4D:

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

Contract Type	IEX			PXIL		
	May, 2021	April, 2021	% Change	May, 2021	April, 2021	% Change
Intra Day (MU)	2.65	7.50	-64.67	69.18	94.17	-26.54
Day Ahead Contingency(MU)	122.90	63.07	94.86	-	-	NA
Daily/ Any Day (MU)	257.07	278.01	-7.53	350.18	482.55	-27.43
Weekly (MU)	-	-	NA	-	-	NA

- : No transaction happened

NA: Not Applicable

Table: 4C

(b) May, 2021 vis- a- vis May, 2020 (on Delivery Date Basis)

Contract Type	IEX			PXIL		
	May, 2021	May, 2020	% Change	May, 2021	May, 2020	% Change
Intra Day (MU)	2.65	56.65	-95.32	69.18	35.74	93.56
Day Ahead Contingency MU)	122.90	27.32	349.85	-	0.14	NA
Daily/ Any Day (MU)	257.07	204.64	25.62	350.18	248.50	40.92
Weekly (MU)	-	142.77	NA	-	-	NA

-: No transaction happened

NA: Not Applicable

Table: 4D

4. 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 Final Scheduled Volume (FSV), Daily Market Clearing Prices (MCP) and Area Clearing Prices (ACP) in Real Time Market during the month of May, 2021 as compared with April, 2021 are as given in table 5A, 5B & 5C:

(i) Final Scheduled Volume:

Final Scheduled Volume (MU)	IEX			PXIL		
	May, 2021	April, 2021	% Change	May, 2021	April, 2021	% Change
Total	1436.28	1473.36	-2.52	No Transaction		
Minimum	26.62	35.56	-25.14	No Transaction		
Maximum	74.33	68.36	8.73	No Transaction		
Average	46.33	49.11	-5.66	No Transaction		

Table-5A

(ii) Daily Market Clearing Price (MCP):

Daily MCP (Rs/kWh)	IEX			PXIL		
	May, 2021	April, 2021	% Change	May, 2021	April, 2021	% Change
Minimum	1.71	2.77	-38.27	No Transaction		
Maximum	3.56	5.60	-36.43	No Transaction		
Average	2.53	3.50	-27.71	No Transaction		

Table-5B**(iii) Area Clearing Price (ACP):**

ACP (Rs/kWh)	IEX			PXIL		
	May, 2021	April, 2021	% Change	May, 2021	April, 2021	% Change
Minimum	0.50	1.00	-50.00	No Transaction		
Maximum	6.01	10.50	-42.76	No Transaction		

Table -5C**5. 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 and in PXIL w.e.f. 24th March, 2021 onwards. The total volume of electricity transacted in Solar Energy Segment in GTAM in Day Ahead Contingency, Intraday, Daily/ Anyday and Weekly contracts during May, 2021 on trade date basis and delivery date basis has been shown in Tables 6A to 6H.

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

The Final Scheduled Volume and the Price of electricity transacted in GTAM in IEX during May, 2021 and its comparison with April, 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, 2021	160.75	2.09	8.99	5.19
		April, 2021	72.73	0.44	6.10	2.42
		% Change	121.02	375.00	47.38	114.46
	Intraday	May, 2021	2.18	0.01	1.65	0.27
		April, 2021	0.42	0.42	0.42	0.42
		% Change	419.05	-97.62	292.86	-35.71
	Daily- Anyday	May, 2021	10.70	0.42	7.00	2.68
		April, 2021	3.50	1.40	2.10	1.75
		% Change	205.71	-70.00	233.33	53.14
	Weekly	May, 2021	19.97	2.05	4.20	3.33
		April, 2021	1.68	1.68	1.68	1.68
		% Change	1,088.69	22.02	150.00	98.21

Table-6A

(ii) Daily Market Clearing Price (MCP):

Exchange	Solar Energy Contract	Period	Prices(Rs/kWh)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	May, 2021	3.05	3.50	3.24
		April, 2021	3.45	4.47	3.90
		% Change	-11.59	-21.70	-16.92
	Intraday	May, 2021	3.00	3.70	3.43
		April, 2021	4.00	4.00	4.00
		%Change	-25.00	-7.50	-14.25
	Daily/ Anyday	May, 2021	3.12	3.40	3.28
		April, 2021	4.35	4.40	4.38
		%Change	-28.28	-22.73	-25.11
	Weekly	May, 2021	3.20	3.65	3.34
		April, 2021	4.00	4.00	4.00
		%Change	-20.00	-8.75	-16.50

Table-6B

Solar Energy Segment in GTAM (On Delivery date basis)

The Final Scheduled Volume and the Price of electricity transacted in GTAM in IEX during May, 2021 and its comparison with April, 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, 2021	155.78	1.12	8.99	5.03
		April, 2021	72.07	0.44	6.10	2.40
		% Change	116.15	154.55	47.38	109.58
	Intraday	May, 2021	2.18	0.01	1.65	0.27
		April, 2021	0.42	0.42	0.42	0.42
		%Change	419.05	-97.62	292.86	-35.71
	Daily/ Anyday	May, 2021	10.82	0.06	1.40	0.68
		April, 2021	2.90	0.20	0.30	0.24
		%Change	273.10	-70.00	366.67	183.33
	Weekly	May, 2021	15.74	0.24	1.00	0.54
		April, 2021	-	-	-	-
		%Change	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, 2021	3.05	3.50	3.24
		April, 2021	3.45	4.47	3.91
		% Change	-11.59	-21.70	-17.14
	Intraday	May, 2021	3.00	3.70	3.43
		April, 2021	4.00	4.00	4.00
		% Change	-25.00	-7.50	-14.25
	Daily/ Anyday	May, 2021	3.21	4.35	3.44
		April, 2021	4.35	4.40	4.38
		% Change	-26.21	-1.14	-21.46
	Weekly	May, 2021	3.20	4.00	3.53
		April, 2021	-	-	-
		% Change	NA	NA	NA

-: No transaction happened

NA: Not Applicable

Table-6D

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

The total volume of electricity transacted in non-Solar Energy Segment in GTAM in Day Ahead Contingency, Intraday, Daily/ Anyday and Weekly contracts during May, 2021 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 during May, 2021 on trade date basis and its comparison with April, 2021 has been shown in Table 6E & 6F below.

(iii) **Final Scheduled Volume:**

Exchange	Non- Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum	Maximum	Average
IEX	Day Ahead Contingency	May, 2021	147.89	1.01	12.42	4.77
		April, 2021	104.61	0.24	13.31	3.49
		%Change	41.37	320.83	-6.69	36.68
	Intraday	May, 2021	9.92	0.16	4.16	1.42
		April, 2021	3.01	0.18	2.40	1.00
		%Change	229.57	-11.11	73.33	42.00
	Daily/ Anyday	May, 2021	4.22	0.96	3.26	2.11
		April, 2021	-	-	-	-
		%Change	NA	NA	NA	NA
	Weekly	May, 2021	1.51	0.67	0.84	0.76
		April, 2021	-	-	-	-
		%Change	NA	NA	NA	NA
PXIL	Day Ahead Contingency	May, 2021	-			
		April, 2021	-			
	Intraday	May, 2021	-	-	-	-
		April, 2021	0.03	0.03	0.03	0.03
		% Change	NA	NA	NA	NA
	Daily/ Anyday	May, 2021	0.60	0.07	0.12	0.09
		April, 2021	5.51	0.08	1.61	0.37
		% Change	-89.11	-12.50	-92.55	-75.68
	Weekly	May, 2021	-			
		April, 2021	-			

-: No transaction happened

Table-6E

NA: Not Applicable

(iv) Daily Market Clearing Price (MCP):

Exchange	Non- Solar Energy Contract	Period	Prices(Rs/kWh)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	May, 2021	3.42	4.50	3.88
		April, 2021	4.12	5.03	4.39
		% Change	-16.99	-10.54	-11.62
	Intraday	May, 2021	3.83	5.04	4.44
		April, 2021	4.90	5.60	5.25
		%Change	-21.84	-10.00	-15.43
	Daily/Anyday	May, 2021	3.70	4.00	3.85
		April, 2021	-	-	-
		%Change	NA	NA	NA
	Weekly	May, 2021	3.40	3.45	3.43
		April, 2021	-	-	-
		%Change	NA	NA	NA
PXIL	Day Ahead Contingency	May, 2021	-		
		April, 2021	-		
	Intraday	May, 2021	-	-	-
		April, 2021	4.00	4.00	4.00
		% Change	NA	NA	NA
	Daily/ Anyday	May, 2021	3.00	4.00	3.47
		April, 2021	1.10	4.95	4.20
		% Change	172.73	-19.19	-17.38
	Weekly	May, 2021	-		
		April, 2021	-		

-: No transaction happened

NA: Not Applicable

Table-6F

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

The Final Scheduled Volume and the Price of electricity transacted in GTAM in IEX during May, 2021 and its comparison with April, 2021 has been shown in Table 6G & 6H below.

(iii) Final Scheduled Volume:

Exchange	Non- Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum	Maximum	Average
IEX	Day Ahead Contingency	May, 2021	148.76	1.01	12.42	4.80
		April, 2021	99.94	0.24	13.31	3.33
		% Change	48.85	320.83	-6.69	44.14
	Intraday	May, 2021	9.92	0.16	4.16	1.42
		April, 2021	3.01	0.18	2.40	1.00
		%Change	229.57	-11.11	73.33	42.00
	Daily/Anyday	May, 2021	0.26	0.26	0.26	0.26
		April, 2021	-	-	-	-
		%Change	NA	NA	NA	NA
	Weekly	May, 2021	1.51	0.10	0.12	0.11
		April, 2021	-	-	-	-
		%Change	NA	NA	NA	NA

Table-6G (continued)						
PXIL	Day Ahead Contingency	May, 2021	-			
		April, 2021	-			
	Intraday	May, 2021	-	-	-	-
		April, 2021	0.03	0.03	0.03	0.03
		%Change	NA	NA	NA	NA
	Daily/Anyday	May, 2021	0.60	0.07	0.12	0.09
		April, 2021	5.71	0.08	1.61	0.36
		%Change	-89.49	-12.50	-92.55	-75.00
	Weekly	May, 2021	-			
		April, 2021	-			

-: No transaction happened

NA: Not Applicable

Table-6G

(iv) Daily Market Clearing Price (MCP):

Exchange	Non- Solar Energy Contract	Period	Prices(Rs/kW)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	May, 2021	3.42	4.54	3.88
		April, 2021	4.12	5.03	4.38
		% Change	-16.99	-9.74	-11.42
	Intraday	May, 2021	3.83	5.04	4.44
		April, 2021	4.90	5.60	5.25
		%Change	-21.84	-10.00	-15.43
	Daily/Anyday	May, 2021	3.70	3.70	3.70
		April, 2021	-	-	-
		%Change	NA	NA	NA
	Weekly	May, 2021	3.40	3.45	3.43
		April, 2021	-	-	-
		%Change	NA	NA	NA
PXIL	Day Ahead Contingency	May, 2021	-		
		April, 2021	-		
	Intraday	May, 2021	-	-	-
		April, 2021	4.00	4.00	4.00
		%Change	NA	NA	NA
	Daily/Anyday	May, 2021	3.00	4.00	3.47
		April, 2021	3.70	4.95	4.45
		%Change	-18.92	-19.19	-22.02
	Weekly	May, 2021	-		
		April, 2021	-		

-: No transaction happened

NA: Not Applicable

Table-6H

6. **BILATRAL TRANSACTIONS:**

The total volume of electricity transacted through **Bilateral transactions** in the month of May, 2021 for buy and sell were **5,969.77 MU** and **5,969.61 MU** respectively. The total buy volume of electricity transacted in bilateral market through direct transactions and traders in the month of May, 2021 were **1,172.80 MU** and **4,796.97 MU** respectively. Similarly, the total sell volume of electricity transacted in bilateral market through direct transactions and traders in the month of May, 2021 were **1,188.32 MU** and **4,781.29 MU** respectively. The details of Bilateral buy and sell Transactions of Electricity happened during May, 2021 have been shown in Tables Below:

Volume (MU)	Buy		Total Buy (MU)	Sell		Total Sell (MU)
	Direct	Traders		Direct	Traders	
Total	1172.80	4796.97	5,969.77	1188.32	4781.29	5,969.61
Maximum	247.21	820.63	-	348.65	750.65	-
Minimum	0.77	1.46	-	0.31	0.09	-

Table -7A

The region-wise maximum/ minimum volume of electricity for buy and sell happened bilaterally during May, 2021 is given in tables below:

(i) **Region-wise Buy Volume:**

Table -7B

Region-wise Volume (MU)	ER		WR		NR		SR		NER	
	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader
Total	228.07	794.03	383.94	1038.65	542.55	1659.13	18.24	1271.43	0.00	33.73
Maximum	122.13	272.16	191.35	820.63	247.21	438.55	10.56	801.20	0.00	28.07
Minimum	5.89	7.82	0.97	1.46	2.60	32.83	0.77	1.53	0.00	1.52

(ii) **Region-wise Sell Volume:**

Region-wise Volume (MU)	ER		WR		NR		SR		NER	
	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader
Total	293.13	612.82	711.30	2659.13	163.86	553.07	20.03	873.40	0.00	82.87
Maximum	157.09	405.34	348.65	750.65	105.35	224.29	10.56	358.99	0.00	41.78
Minimum	13.91	0.09	0.31	24.13	4.53	1.13	0.97	0.69	0.00	0.33

Table -7C

6.1. The **top 5 buyers** on bilateral transaction through direct transactions in the month of May, 2021 were **Uttar Pradesh, Haryana, Chhattisgarh, Madhya Pradesh and Jharkhand**, which constituted **77.61%** of the market volume. Whereas **top 5 buyers** on bilateral transaction through traders in the month of May, 2021 were **Gujarat, Tamil Nadu, Punjab,**

Delhi and Andhra Pradesh, which constituted **59.09 %** of the market volume. [Annexure III]

- 6.2.** The **top 5 sellers** on bilateral transaction through direct transactions in the month of May, 2021 were **Madhya Pradesh, SKS Raigarh, DVC, Adhunik Power and Rajasthan**, which constituted **75.65%** of the market volume. Whereas **top 5 sellers** on bilateral transaction through traders in the month of May, 2021 were **Raipur Energen, JITPL, SEIL Project-2, JP NIGRIE and Raigarh Energy**, which constituted **45.81%** of the market volume. [Annexure III]
- 6.3. Deviation Import and Export Volume** - The total volume of Deviation observed in the month of May, 2021 were **1923.43 MU** in import and **2341.41 MU** in export, respectively.
- 6.4.** A comparison of volume of electricity transacted through both the Power Exchanges together in DAM and Bilateral Buy (i.e. Direct and through traders) in the month of May, 2021 is shown in **Figure 1**:

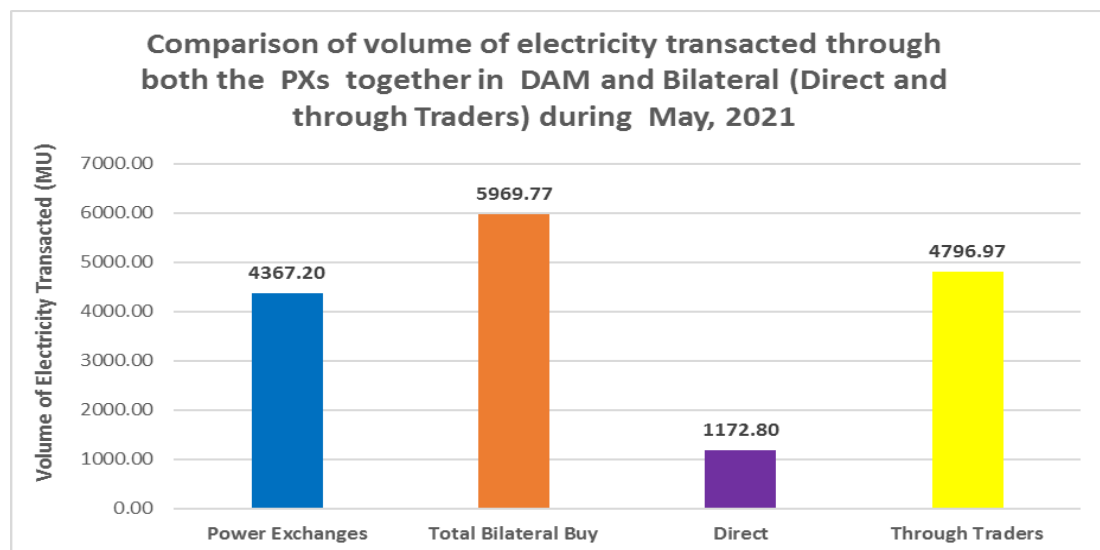


Figure -1

7. ANALYSIS OF MOVEMENT OF PRICES OBSERVED IN DAM DURING MAY, 2021

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, 2021 month. The observations made are as under:

- 7.1.** 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.
- 7.2.** 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 significant variables were the total purchase bid, total sell bid and coal 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 **0.25**. In effect, the regression reveals that the most important variable which determines daily market clearing price is the total purchase bid in the month of May, 2021.

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

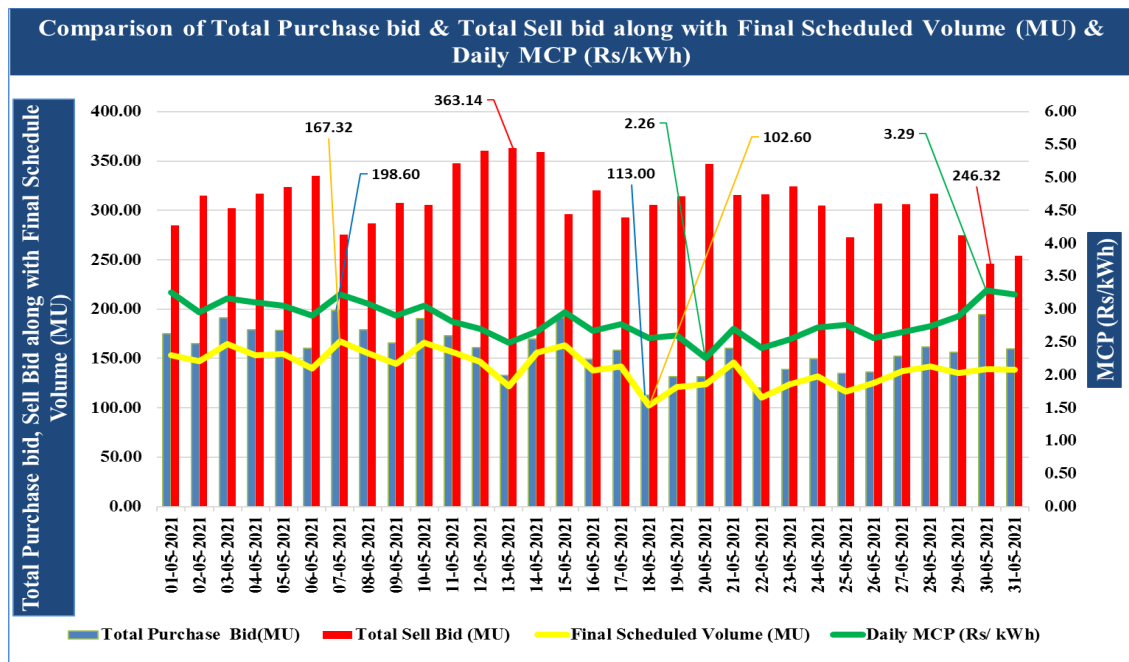


Figure -2

7.4. Invariably, the Final Scheduled Volume (MU) and the Daily MCP (Rs/kWh) showed decreasing trend on Sundays as the demand of electricity in the country is less compared to other days of week. However, during the month of May, 2021, it is observed that on fifth Monday (i.e. 31st May, 2021), FSV showed decreasing trend in comparison to fifth Sunday (i.e. 30th May, 2021) and on fifth Sunday (i.e. 30th May, 2021), FSV showed increasing trend in comparison to fifth Saturday (i.e. 29th May, 2021). The detailed analysis on this is given at **Appendix-I**.

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

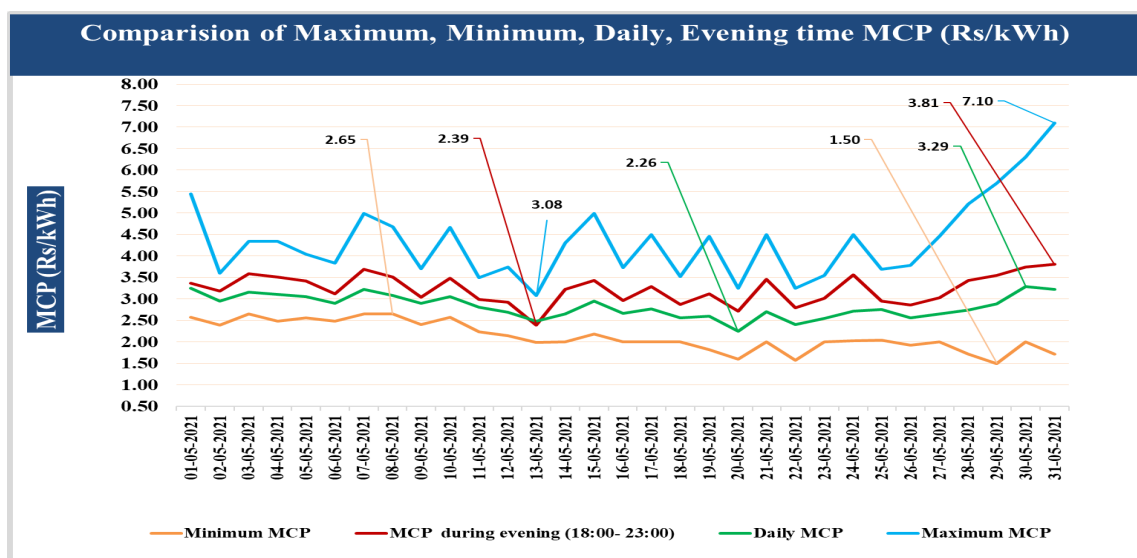


Figure -3

- 7.6. 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 7.1 and 7.2 above**.
- 7.7. On **16 days** during the month, the maximum FSV occurred during the **time period 06:00-07:00 Hrs. [Annexure VI]**
- 7.8. On **13 days** during the month, the maximum MCP occurred during the **time period 22:00-23:00 Hrs. [Annexure VI]**
- 7.9. On **11 days** during the month, the minimum FSV occurred during the **time period 10:30-11:30 Hrs. [Annexure VI]**
- 7.10. On **15 days** during the month, the minimum MCP occurred during the **time period 08:00-09:00 Hrs. [Annexure VI]**
- 7.11. The maximum demand met during the month of May, 2021 in the country occurred on **06th May, 2021 at 168.78 GW**, which is 7.55% lower than the maximum demand occurred during **April, 2021 [i.e. 182.56 GW on 08th April, 2021]** and is 1.42% more than the maximum demand occurred during May, 2020 i.e. **[166.42 GW on 26th May, 2020]**.
- 7.12. 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). While in the month of April, 2021, One nation One Price was observed in IEX for **27 days** during the month, as there was transmission congestion of **11.26 MU** on account of congestion on **3 days** (i.e., 02nd to 04th April, 2021). Whereas, in PXIL, there was no congestion in transmission system during April, 2021, so one nation one price was observed on all **11 days** during which transaction of electricity happened (i.e. 06th to 10th, 12th, 14th, 16th, 19th to 21st April, 2021). Similarly, in the month of May, 2020, there was no congestion in transmission system in IEX, hence, one nation one price was observed for all 31 days on IEX. In PXIL also, there was no congestion in transmission system during May, 2020, so one nation one price was observed on all 5 days during which transaction of electricity happened (27th to 31st May, 2020).
- 7.13. There was no real time curtailment in IEX and PXIL in May, 2021. Further, there was no real time curtailment in IEX and PXIL in April, 2021. In May, 2020 also, there was no real time curtailment in IEX and PXIL.
- 7.14. The **top 10 sellers** on the power exchanges in **DAM** in the month of May, 2021 were **Uttar Pradesh, Teesta-3, Orissa, Chhattisgarh, Himachal Pradesh, Delhi, West Bengal,**

Telangana, Madhya Pradesh and Karnataka, which constituted 59.13% of the market volume. [Annexure VII]

7.15. The top 10 purchasers on the power exchanges in DAM in the month of May, 2021 were Andhra Pradesh, Gujarat, Maharashtra, Tamil Nadu, Punjab, Haryana, NRVN (SNA) NEA, Telangana, Uttarakhand and Assam, which constituted 85.13 % of the market volume. [Annexure VII]

7.16. The total volume of electricity purchased by Discoms/Licensees in DAM in the month of May, 2021 was 4,329.73 MU, which constituted 99.14 % of total volume of electricity purchased on both the power exchanges.

7.17. Similarly, the total volume of electricity purchased by Discoms/Licensees in DAM in the month of April, 2021 was 5,634.21 MU, which constituted 98.78 % of total volume of electricity purchased on both the power exchanges.

8. ANALYSIS OF MOVEMENT OF PRICES OBSERVED IN REAL TIME MARKET (RTM) TRANSACTIONS IN MAY, 2021

8.1. 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, Sell Bid and Coal 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 **0.35**. In effect, the regression reveals that the most important variable which determines daily market clearing price is the total purchase bid in the month of May, 2021 for RTM transactions.

8.2. 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 8.1 above**.

8.3. The Total Purchase Bid, Total Sell Bid, Daily MCP and FSV are shown in Figure-4 below:

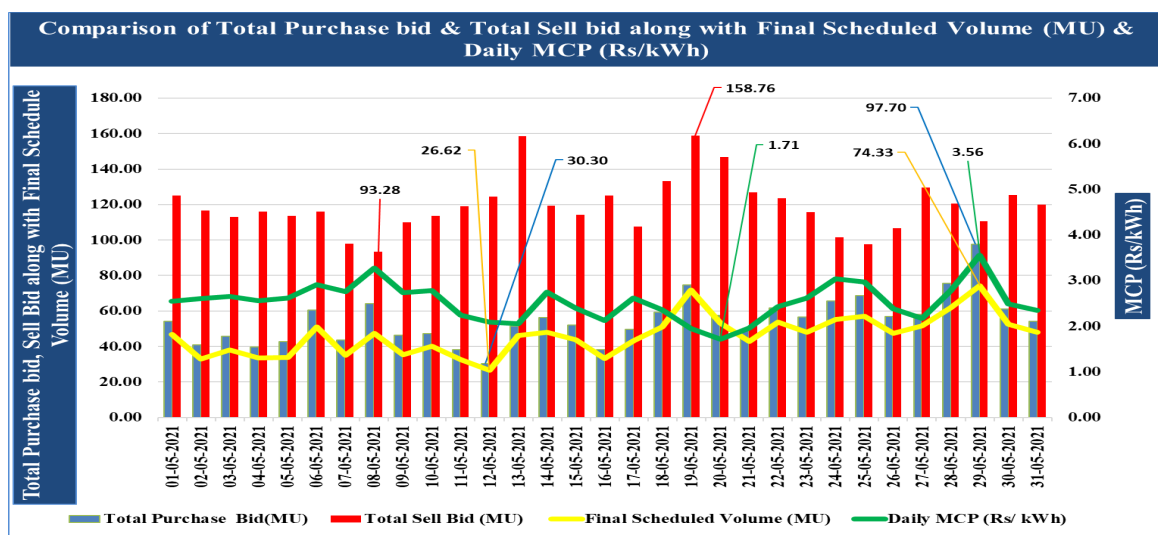


Figure-4

- 8.4. A comparison of maximum, minimum, daily, evening time MCP is shown in **Figure-5**. The same are also tabulated in **Annexure-VIII**.

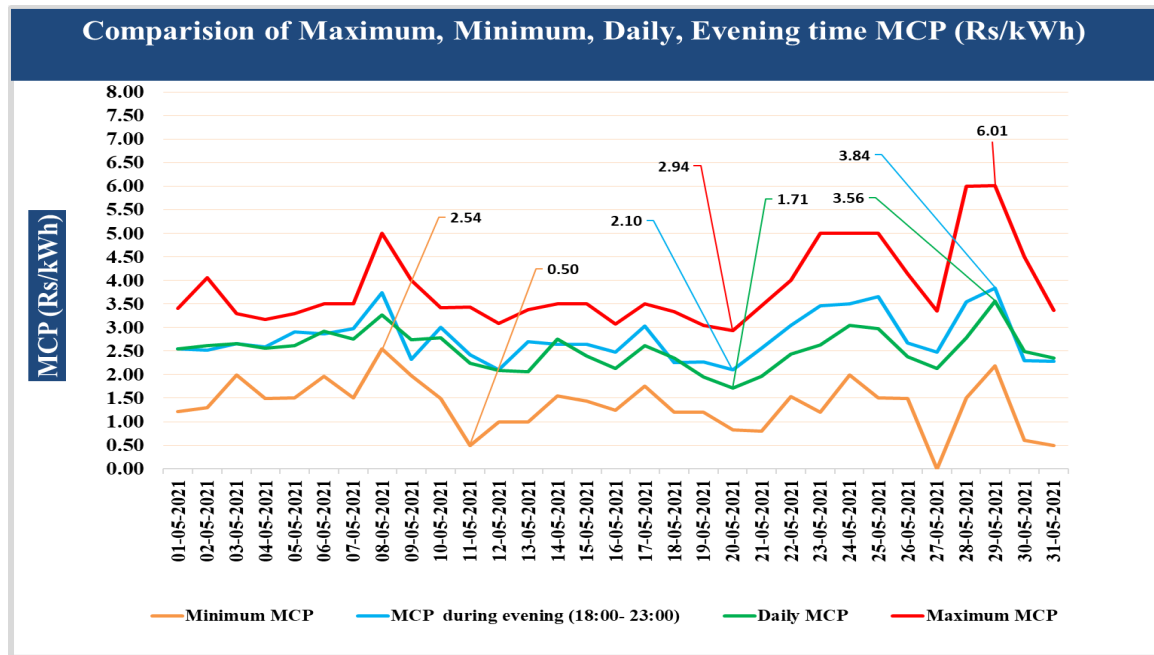


Figure-5

- 8.5. On **10 days** during the month, the maximum FSV occurred during the **time period 14:30-16:00 Hrs.** [Annexure X]
- 8.6. On **10 days** during the month, the maximum MCP occurred during the **time period 21:30-23:00 Hrs.** [Annexure X]
- 8.7. On **7 days** during the month, the minimum FSV occurred during the **time period 07:00-08:30 Hrs.** [Annexure X]
- 8.8. On **8 days** during the month, the minimum MCP occurred during the **time period 17:00-18:30 Hrs.** [Annexure X]
- 8.9. There was **no** real time curtailment in IEX in Real Time Market during May, 2021 and April, 2021, whereas, no transaction of electricity happened in PXIL during May, 2021 and April, 2021.
- 8.10. 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. Further, in the month of April, 2021, there was congestion of **0.64 MU** in transmission system in IEX in Real Time Market on account of congestion on **6 days** (i.e. 3rd, 13th, 17th, 22nd, 23rd and 29th April, 2021), hence, one nation one price was observed for **24 days** in IEX. Whereas, in PXIL, no transaction of electricity happened in April, 2021 in Real Time Market.

- 8.11.** The **top 10 sellers** on the power exchanges in **RTM** in the month of May, 2021 were **Madhya Pradesh, Rajasthan, Uttar Pradesh, West Bengal, Orissa, Delhi, Kameng HEP, NLC TPS-II Stg-2, NLC TPS-II and Karnataka**, which constituted **57.38%** of the market volume. [Annexure XI]
- 8.12.** The **top 10 purchasers** on the power exchanges in **RTM** in the month of May, 2021 were **Andhra Pradesh, J&K, Telangana, Maharashtra, Rajasthan, West Bengal, Gujarat, Bihar, Punjab and Orissa**, which constituted **78.76%** of the market volume. [Annexure XI]
- 8.13.** The total volume of electricity purchased by Discoms/Licensees in RTM in the month of May, 2021 was **1,427.28 MU**, which constituted **99.37 %** of total volume of electricity purchased on both the power exchanges.
- 8.14.** Similarly, the total volume of electricity purchased by Discoms/Licensees in RTM in the month of April, 2021 was **1,451.88 MU**, which constituted **98.54 %** of total volume of electricity purchased 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, 2021 to March, 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, 2021	5,699.22	4.73	3.70	3.69	0	0
	May, 2021	4,363.88	3.32	2.83	3.06	0	0
Total Quarter -I	April - June, 2021	10,063.10	8.05			0	0
Total April, 2021 - March, 2022		10,063.10	8.05			0	0

Annexure-II**Final Scheduled Volume in Term Ahead Market (TAM) for the months of April, 2021 to March, 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, 2021	325.78	651.35	977.13
	May, 2021	425.63	344.03	769.66
Total Quarter -I	April - June, 2021	751.41	995.38	1,746.79
Total April, 2021 - March, 2022		751.41	995.38	1,746.79

Quarter	Months	Final Scheduled Volume (MU) on Delivery Date Basis		
		IEX	PXIL	Total
Quarter -I	April, 2021	348.58	576.72	925.30
	May, 2021	382.62	419.36	801.98
Total Quarter -I	April- June, 2021	731.20	996.08	1,727.28
Total April, 2021 - March, 2022		731.20	996.08	1,727.28

Top Five Entities (Buyers and Sellers) in Bilateral transactions in the month of May, 2021

(i) Top five Buyers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
Uttar Pradesh	247.21	21.08%	Gujarat	820.63	17.11%
Haryana	196.42	16.75%	TAMILNADU	801.20	16.70%
CHATTISGARH	191.35	16.32%	Punjab	438.55	9.14%
MP	153.04	13.05%	Delhi	394.38	8.22%
Jharkhand	122.13	10.41%	ANDHRA_PRADES	380.00	7.92%
Total Volume	910.15	77.61%	Total Volume	2834.76	59.09%
Total Volume in Bilateral	1172.80		Total Volume in Bilateral	4796.97	

(ii) Top five Sellers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
MP	348.65	29.34%	Raipur Energen	750.65	15.70%
SKS Raigarh	165.65	13.94%	JITPL	405.34	8.48%
DVC	157.09	13.22%	SEIL Project-2	358.99	7.51%
Adhunik Power	122.13	10.28%	JPNIGRIE_JNSTPP	339.86	7.11%
Rajasthan	105.35	8.87%	Raigarh Energy	334.98	7.01%
Total Volume	898.87	75.65%	Total Volume	2189.82	45.81%
Total Volume in Bilateral	1188.32		Total Volume in Bilateral	4781.29	

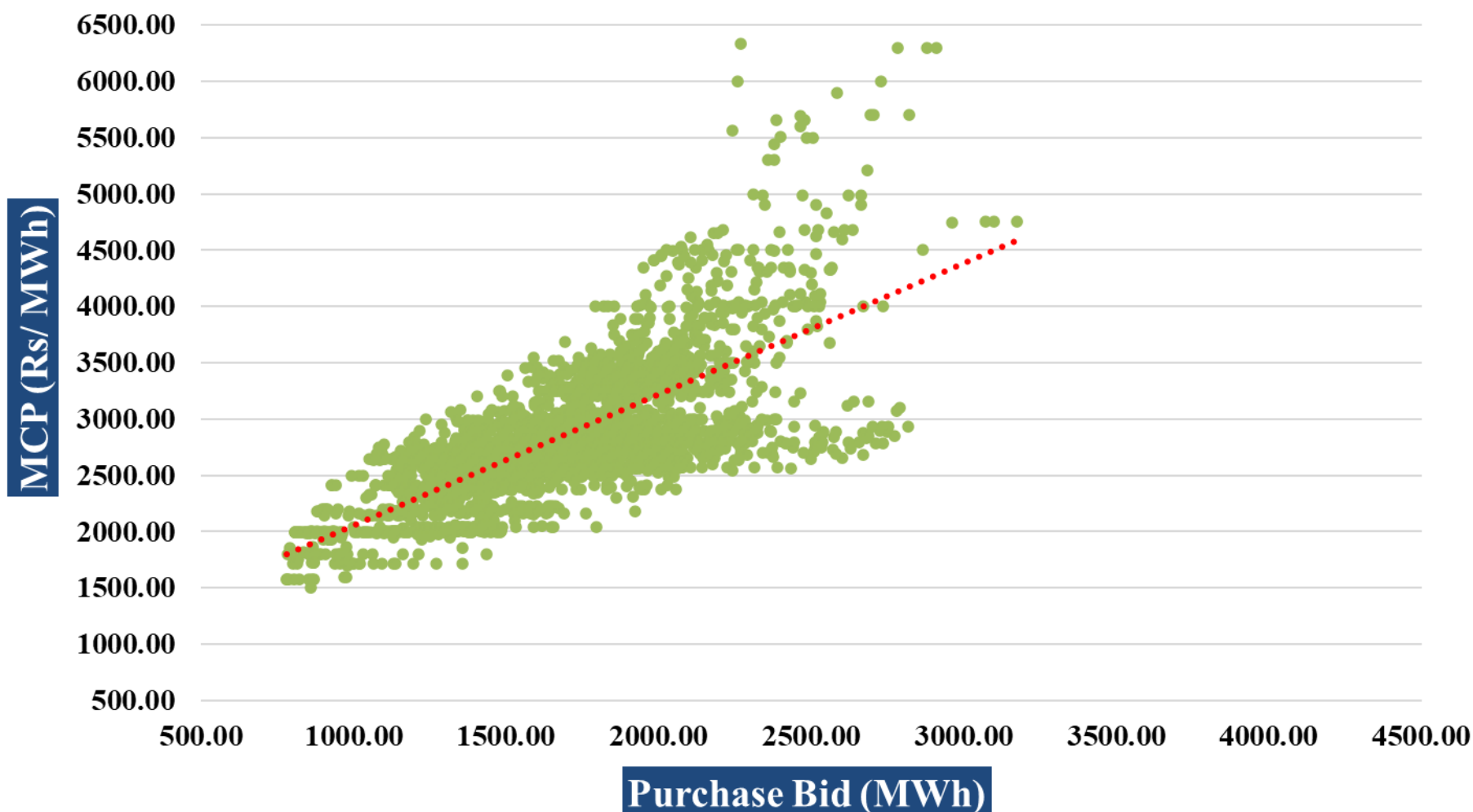
Evening MCP, Day MCP, Night MCP, Morning MCP, Maximum MCP, Minimum MCP, Average MCP and Final Scheduled Volume (MU) in DAM

Date	MCP during night (01:00-06:00, 23:00-24:00)	MCP during morning (07:00- 10:00)	MCP during day (11:00- 17:00)	MCP during evening (18:00- 23:00)	Maximum MCP	Minimum MCP	Average MCP	Final Scheduled Volume (MU)
01-05-2021	3.74	2.95	2.85	3.36	5.44	2.57	3.26	153.10
02-05-2021	3.15	2.62	2.74	3.19	3.60	2.40	2.95	147.45
03-05-2021	3.29	2.84	2.86	3.59	4.34	2.65	3.16	164.97
04-05-2021	3.20	2.75	2.85	3.52	4.34	2.49	3.10	153.18
05-05-2021	3.14	2.73	2.83	3.42	4.04	2.56	3.05	154.57
06-05-2021	3.00	2.65	2.75	3.13	3.84	2.49	2.90	139.92
07-05-2021	3.47	2.82	2.80	3.69	4.99	2.65	3.22	167.32
08-05-2021	3.18	2.77	2.82	3.51	4.68	2.65	3.09	155.37
09-05-2021	3.18	2.69	2.63	3.05	3.70	2.41	2.90	144.90
10-05-2021	3.11	2.77	2.79	3.48	4.66	2.57	3.05	165.89
11-05-2021	2.92	2.63	2.64	2.99	3.50	2.23	2.81	156.42
12-05-2021	2.84	2.40	2.54	2.93	3.75	2.15	2.70	146.67
13-05-2021	2.74	2.35	2.39	2.39	3.08	1.99	2.49	121.89
14-05-2021	2.57	2.28	2.48	3.22	4.30	2.00	2.66	155.67
15-05-2021	3.10	2.58	2.62	3.43	4.99	2.18	2.95	163.61
16-05-2021	2.96	2.32	2.31	2.97	3.73	2.00	2.67	137.62
17-05-2021	3.05	2.31	2.30	3.28	4.50	2.00	2.77	141.90
18-05-2021	3.00	2.21	2.04	2.87	3.52	2.00	2.56	102.60
19-05-2021	2.81	2.32	2.11	3.13	4.46	1.82	2.60	121.44
20-05-2021	2.38	1.88	1.94	2.72	3.25	1.60	2.26	123.53
21-05-2021	2.73	2.40	2.18	3.46	4.50	2.00	2.70	145.92
22-05-2021	2.57	2.18	2.06	2.79	3.25	1.58	2.41	110.51
23-05-2021	2.62	2.25	2.23	3.02	3.55	2.00	2.54	123.60
24-05-2021	2.56	2.39	2.34	3.56	4.50	2.03	2.72	132.16
25-05-2021	2.91	2.55	2.56	2.96	3.69	2.04	2.76	116.28
26-05-2021	2.84	2.25	2.23	2.86	3.78	1.93	2.57	125.18
27-05-2021	2.77	2.47	2.32	3.03	4.45	2.00	2.65	137.23
28-05-2021	3.07	2.09	2.20	3.44	5.21	1.71	2.74	141.88
29-05-2021	3.52	2.17	2.11	3.55	5.70	1.50	2.89	135.36
30-05-2021	4.10	2.64	2.45	3.74	6.30	2.00	3.29	139.00
31-05-2021	3.68	2.42	2.71	3.81	7.10	1.71	3.22	138.73
Maximum	4.10	2.95	2.86	3.81	7.10	2.65	3.29	167.32
Minimum	2.38	1.88	1.94	2.39	3.08	1.50	2.26	102.60
Average	3.04	2.47	2.47	3.23	4.35	2.13	2.83	140.77

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, 2021



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
01-05-2021	06:45 - 07:00	2.11	00:00 - 00:15	5.44	10:45 - 11:00	1.20	08:00 - 08:15	2.57
02-05-2021	18:45 - 19:00	1.91	00:30 - 00:45	3.60	13:00 - 13:15	1.18	08:15 - 08:30	2.40
03-05-2021	06:30 - 06:45	2.16	21:15 - 21:30	4.34	13:00 - 13:15	1.33	08:00 - 08:15	2.65
04-05-2021	18:45 - 19:00	2.07	21:45 - 22:00	4.34	13:00 - 13:15	1.13	08:00 - 08:15	2.49
05-05-2021	06:30 - 06:45	2.17	22:45 - 23:00	4.04	13:00 - 13:15	1.14	08:15 - 08:30	2.56
06-05-2021	06:30 - 06:45	2.12	21:45 - 22:00	3.84	03:45 - 04:00	1.04	08:15 - 08:30	2.49
07-05-2021	06:30 - 06:45	2.61	22:45 - 23:00	4.99	10:30 - 10:45	1.33	08:15 - 08:30	2.65
08-05-2021	06:30 - 06:45	2.59	22:15 - 22:30	4.68	10:45 - 11:00	1.01	08:00 - 08:15	2.65
09-05-2021	06:30 - 06:45	2.36	00:00 - 00:15	3.70	13:15 - 13:30	1.05	12:00 - 12:15	2.41
10-05-2021	06:30 - 06:45	2.60	22:15 - 22:30	4.66	02:15 - 02:30	1.25	08:15 - 08:30	2.57
11-05-2021	06:30 - 06:45	2.62	21:30 - 21:45	3.50	18:00 - 18:15	1.25	18:00 - 18:15	2.23
12-05-2021	06:30 - 06:45	2.22	22:15 - 22:30	3.75	11:15 - 11:30	1.08	10:15 - 10:30	2.15
13-05-2021	06:30 - 06:45	2.04	22:30 - 22:45	3.08	11:30 - 11:45	0.98	21:00 - 21:15	1.99
14-05-2021	21:45 - 22:00	2.20	22:30 - 22:45	4.30	13:15 - 13:30	1.16	08:15 - 08:30	2.00
15-05-2021	06:30 - 06:45	2.48	22:30 - 22:45	4.99	10:30 - 10:45	1.24	08:15 - 08:30	2.18
16-05-2021	06:30 - 06:45	1.92	22:45 - 23:00	3.73	10:45 - 11:00	1.07	12:30 - 12:45	2.00
17-05-2021	06:45 - 07:00	2.03	22:45 - 23:00	4.50	09:30 - 09:45	1.06	09:30 - 09:45	2.00
18-05-2021	21:45 - 22:00	1.56	22:30 - 22:45	3.52	11:15 - 11:30	0.79	16:00 - 16:15	2.00
19-05-2021	21:30 - 21:45	1.89	22:30 - 22:45	4.46	10:30 - 10:45	0.79	09:00 - 09:15	1.82
20-05-2021	21:30 - 21:45	1.70	21:45 - 22:00	3.25	10:30 - 10:45	0.93	09:30 - 09:45	1.60
21-05-2021	06:00 - 06:15	1.98	21:45 - 22:00	4.50	11:30 - 11:45	1.18	11:30 - 11:45	2.00
22-05-2021	21:45 - 22:00	1.51	21:30 - 21:45	3.25	10:30 - 10:45	0.77	12:30 - 12:45	1.58
23-05-2021	19:15 - 19:30	1.72	21:45 - 22:00	3.55	12:00 - 12:15	1.03	07:45 - 08:00	2.00
24-05-2021	20:45 - 21:00	1.93	21:30 - 21:45	4.50	02:30 - 02:45	1.00	04:00 - 04:15	2.03
25-05-2021	19:30 - 19:45	1.49	00:00 - 00:15	3.69	03:45 - 04:00	0.82	08:15 - 08:30	2.04
26-05-2021	15:00 - 15:15	1.68	23:30 - 23:45	3.78	04:00 - 04:15	0.77	08:15 - 08:30	1.93
27-05-2021	16:15 - 16:30	1.90	23:30 - 23:45	4.45	04:30 - 04:45	0.94	12:30 - 12:45	2.00
28-05-2021	23:00 - 23:15	1.95	23:30 - 23:45	5.21	04:30 - 04:45	1.08	08:15 - 08:30	1.71
29-05-2021	00:00 - 00:15	2.06	23:30 - 23:45	5.70	12:00 - 12:15	0.79	13:15 - 13:30	1.50
30-05-2021	06:45 - 07:00	2.06	23:30 - 23:45	6.30	10:45 - 11:00	0.86	12:00 - 12:15	2.00
31-05-2021	17:00 - 17:15	1.92	22:30 - 22:45	7.10	12:15 - 12:30	0.99	08:00 - 08:15	1.71

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

Annexure-VII**Sellers and Purchasers in Day Ahead Market (DAM) in the month of May, 2021**

S. No.	Entity Name	Sell		Entity Name	Purchase	
		(MU)	Percent (%)		(MU)	Percent (%)
1.	Uttar Pradesh	563.41	12.90%	Andhra Pradesh	1122.99	25.71%
2.	Teesta -3	319.36	7.31%	Gujarat	991.66	22.71%
3.	Orissa	294.87	6.75%	Maharashtra	491.08	11.24%
4.	Chhattisgarh	247.67	5.67%	Tamilnadu	333.63	7.64%
5.	Himachal Pradesh	236.84	5.42%	Punjab	235.03	5.38%
6.	Delhi	204.83	4.69%	Haryana	126.13	2.89%
7.	West Bengal	197.16	4.51%	NVVN (SNA) - NEA	118.73	2.72%
8.	Telangana	185.89	4.26%	Telangana	107.67	2.47%
9.	Madhya Pradesh	177.52	4.06%	Uttarakhand	95.67	2.19%
10.	Karnataka	154.60	3.54%	Assam	95.38	2.18%
11.	Sembcorp Gayatri	147.73	3.38%	Rajasthan	91.70	2.10%
12.	Bihar	139.82	3.20%	J&K	85.83	1.97%
13.	Kerala	137.17	3.14%	Karnataka	64.54	1.48%
14.	Rajasthan	132.49	3.03%	Madhya Pradesh	50.69	1.16%
15.	RKM Power	114.46	2.62%	Uttar Pradesh	50.67	1.16%
16.	Jindal Power	100.59	2.30%	Bihar	46.95	1.08%
17.	DB Power	86.83	1.99%	Himachal Pradesh	40.22	0.92%
18.	Haryana	77.34	1.77%	ArcelorMittal Nippon	37.47	0.86%
19.	MB Power	77.09	1.77%	Delhi	33.35	0.76%
20.	Thermal Powertech	53.39	1.22%	Jharkhand	28.42	0.65%
21.	JITPL	50.31	1.15%	Kerala	28.15	0.64%
22.	Maruti Clean Coal	48.61	1.11%	Dadra & Nagar Haveli	25.62	0.59%
23.	Spectrum Coal	45.77	1.05%	Orissa	22.55	0.52%
24.	Assam	39.24	0.90%	West Bengal	15.59	0.36%
25.	Goa WR	37.32	0.85%	Goa WR	7.61	0.17%
26.	Essar Power MP Ltd	35.33	0.81%	Nagaland	4.88	0.11%
27.	Tamilnadu	30.04	0.69%	Meghalaya	4.78	0.11%
28.	Chandigarh	30.02	0.69%	Arunachal Pradesh	3.68	0.08%
29.	Karcham Wangtoo	29.15	0.67%	Daman & Diu	3.65	0.08%
30.	Singoli Bhagwati	26.70	0.61%	Chandigarh	1.48	0.03%
31.	Sainj HEP	25.79	0.59%	Chhattisgarh	1.42	0.03%
32.	Jindal Power Ltd. Stg-II	24.72	0.57%			
33.	Jaypee Nigrie	22.80	0.52%			
34.	GMR Kamalanga	21.73	0.50%			
35.	Palatana	21.68	0.50%			
36.	Maharashtra	20.21	0.46%			
37.	Adhunik Power	18.18	0.42%			
38.	DVC	17.74	0.41%			
39.	Jhabua Power	16.92	0.39%			
40.	GMR Warora	16.79	0.38%			

41.	Dikchu	16.14	0.37%			
42.	Jharkhand	15.72	0.36%			
43.	Andhra Pradesh	12.93	0.30%			
44.	AD Hydro	11.71	0.27%			
45.	Bongaigaon	8.77	0.20%			
46.	Adani Power STG2	8.66	0.20%			
47.	TRN Energy	6.30	0.14%			
48.	Arunachal Pradesh	6.01	0.14%			
49.	ACBIL	5.71	0.13%			
50.	Adani Power STG3	5.29	0.12%			
51.	Raigarh Energy Ltd.	4.31	0.10%			
52.	Chuzachen	3.80	0.09%			
53.	Raipur Energen	3.70	0.08%			
54.	Mizoram	3.25	0.07%			
55.	NTPL	3.08	0.07%			
56.	Uttarakhand	3.00	0.07%			
57.	NLC TPS-II	2.84	0.07%			
58.	BALCO 2	2.82	0.06%			
59.	Lanco Budhil	2.62	0.06%			
60.	Torrent Power	2.22	0.05%			
61.	Gujarat	2.17	0.05%			
62.	Ramagundam Stg-1	1.61	0.04%			
63.	Tashiding HEP	1.51	0.03%			
64.	Jorethang	1.46	0.03%			
65.	KSK Mahanadi	0.81	0.02%			
66.	Dadra & Nagar Haveli	0.63	0.01%			
67.	RGPPPL	0.55	0.01%			
68.	Simhadri Stg-2	0.45	0.01%			
69.	IL&FS	0.41	0.01%			
70.	Dhariwal	0.34	0.01%			
71.	Nagaland	0.19	0.00%			
72.	Punjab	0.05	0.00%			
Total Volume of top 10		2,582.15	59.13%	Total Volume of top 10	3,717.97	85.13%
Total Volume in PXs		4,367.20		Total Volume in PXs	4,367.20	

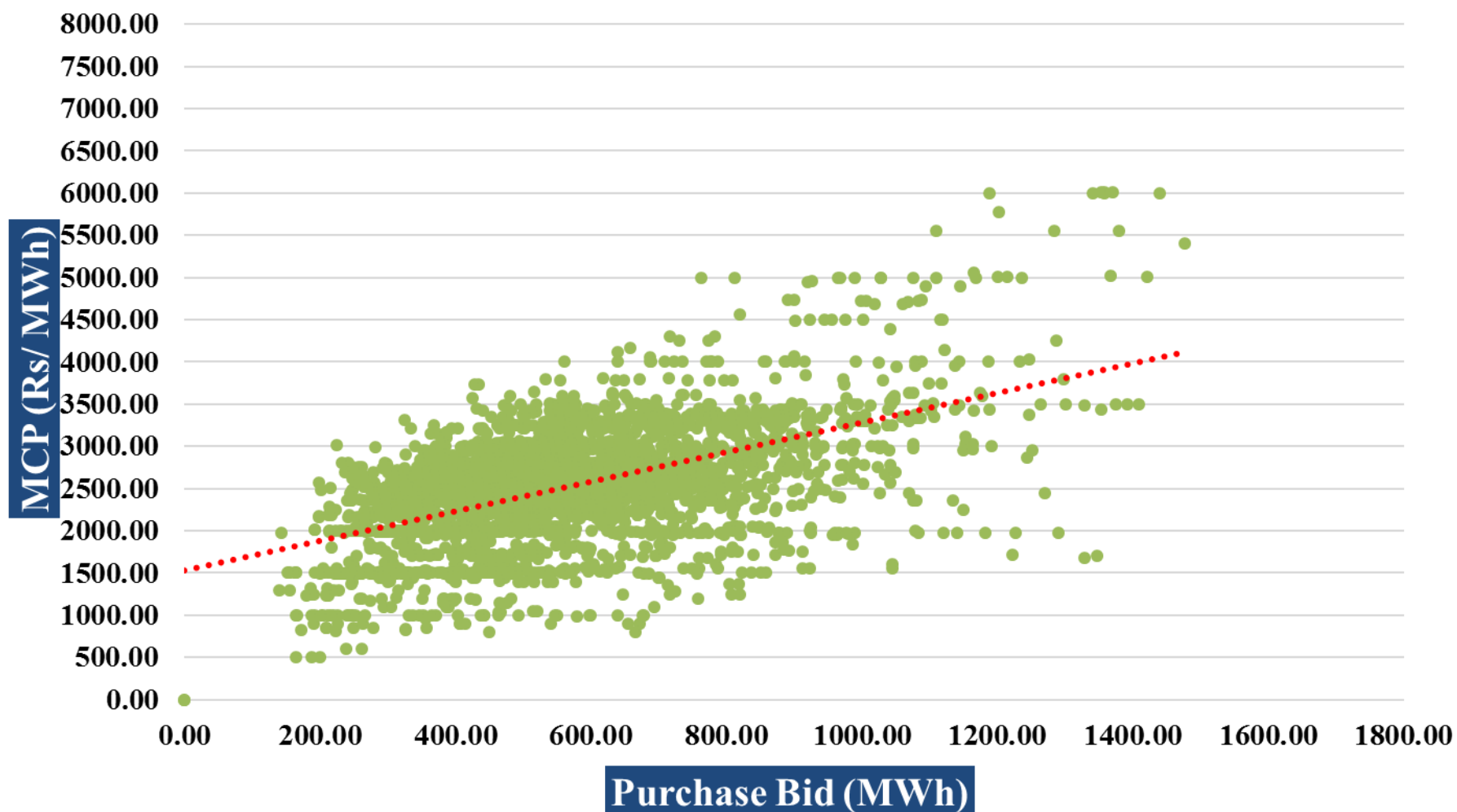
Annexure-VIII**Evening MCP, Day MCP, Night MCP, Morning MCP, Maximum MCP, Minimum MCP, Average MCP and Final Scheduled Volume (MU) in RTM**

Date	MCP during night (01:00-06:00, 23:00-)	MCP during morning (07:00-10:00)	MCP during day (11:00-17:00)	MCP during evening (18:00- 23:00)	Maximum MCP	Minimum MCP	Average MCP	Final Scheduled Volume (MU)
01-05-2021	2.92	2.08	2.46	2.54	3.40	1.21	2.55	46.72
02-05-2021	3.07	2.43	2.33	2.52	4.06	1.30	2.61	33.02
03-05-2021	2.59	2.53	2.78	2.65	3.30	1.99	2.65	38.09
04-05-2021	2.64	2.61	2.42	2.59	3.17	1.50	2.56	33.67
05-05-2021	2.82	2.17	2.45	2.90	3.30	1.50	2.62	33.94
06-05-2021	3.09	2.78	2.86	2.87	3.50	1.96	2.92	50.99
07-05-2021	2.65	2.30	2.93	2.98	3.50	1.50	2.75	35.03
08-05-2021	3.27	2.73	3.18	3.74	5.00	2.54	3.27	47.44
09-05-2021	3.25	2.70	2.59	2.33	4.01	1.98	2.73	35.26
10-05-2021	2.77	2.51	2.76	3.00	3.43	1.50	2.78	40.06
11-05-2021	2.65	1.31	2.20	2.42	3.43	0.50	2.24	32.50
12-05-2021	2.19	2.44	1.76	2.10	3.08	1.00	2.08	26.62
13-05-2021	1.95	1.53	1.92	2.70	3.38	1.00	2.06	46.27
14-05-2021	2.97	2.99	2.49	2.64	3.50	1.55	2.75	47.89
15-05-2021	2.61	2.29	2.04	2.65	3.50	1.44	2.40	43.82
16-05-2021	2.54	1.80	1.60	2.48	3.07	1.24	2.13	33.11
17-05-2021	2.73	2.24	2.38	3.03	3.50	1.75	2.62	43.33
18-05-2021	2.89	2.36	1.90	2.26	3.34	1.20	2.36	51.11
19-05-2021	2.12	1.72	1.65	2.27	3.04	1.20	1.95	71.77
20-05-2021	1.78	1.78	1.27	2.10	2.94	0.82	1.71	53.29
21-05-2021	2.26	1.15	1.60	2.56	3.46	0.80	1.96	42.82
22-05-2021	2.13	2.12	2.39	3.05	4.00	1.53	2.43	53.66
23-05-2021	2.62	2.08	2.22	3.46	5.00	1.20	2.62	47.94
24-05-2021	3.41	2.71	2.47	3.50	5.00	1.99	3.04	55.13
25-05-2021	3.07	2.59	2.49	3.66	5.00	1.50	2.97	56.93
26-05-2021	2.74	1.92	2.03	2.67	4.14	1.50	2.38	47.31
27-05-2021	2.55	1.78	1.75	2.47	3.35	0.85	2.13	51.61
28-05-2021	2.77	2.33	2.40	3.55	6.00	1.50	2.78	61.91
29-05-2021	4.21	2.86	3.07	3.84	6.01	2.19	3.56	74.33
30-05-2021	3.02	2.23	2.29	2.29	4.50	0.60	2.49	52.62
31-05-2021	2.54	2.21	2.31	2.28	3.36	0.50	2.35	48.08
Maximum	4.21	2.99	3.18	3.84	6.01	2.54	3.56	74.33
Minimum	1.78	1.15	1.27	2.10	2.94	0.50	1.71	26.62
Average	2.74	2.24	2.29	2.78	3.85	1.38	2.53	46.33

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, 2021



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
01-05-2021	22:00-22:15	0.72	02:30-02:45	3.40	07:30-07:45	0.26	08:00-08:15	1.21
02-05-2021	23:30-23:45	0.64	00:30-00:45	4.06	08:15-08:30	0.16	16:30-16:45	1.30
03-05-2021	12:30-12:45	0.61	21:30-21:45	3.30	01:45-02:00	0.22	17:00-17:15	1.99
04-05-2021	15:00-15:15	0.63	22:15-22:30	3.17	19:15-19:30	0.16	17:00-17:15	1.50
05-05-2021	23:00-23:15	0.66	21:30-21:45	3.30	07:15-07:30	0.19	20:30-20:45	1.50
06-05-2021	17:00-17:15	0.83	00:45-01:00	3.50	05:15-05:30	0.27	13:00-13:15	1.96
07-05-2021	21:00-21:15	0.83	20:45-21:00	3.50	08:15-08:30	0.13	17:30-17:45	1.50
08-05-2021	15:30-15:45	0.80	22:15-22:30	5.00	07:00-07:15	0.31	10:00-10:15	2.54
09-05-2021	14:30-14:45	0.54	00:00-00:15	4.01	19:45-20:00	0.20	20:00-20:15	1.98
10-05-2021	14:30-14:45	0.67	22:45-23:00	3.43	07:30-07:45	0.22	07:45-08:00	1.50
11-05-2021	15:45-16:00	0.80	00:15-00:30	3.43	07:15-07:30	0.16	07:15-07:30	0.50
12-05-2021	07:15-07:30	0.53	07:00-07:15	3.08	11:30-11:45	0.14	12:00-12:15	1.00
13-05-2021	21:00-21:15	0.95	21:45-22:00	3.38	09:45-10:00	0.22	09:45-10:00	1.00
14-05-2021	07:00-07:15	0.89	06:30-06:45	3.50	18:00-18:15	0.22	18:00-18:15	1.55
15-05-2021	14:45-15:00	0.65	22:00-22:15	3.50	09:00-09:15	0.28	11:15-11:30	1.44
16-05-2021	23:30-23:45	0.59	19:45-20:00	3.07	10:15-10:30	0.18	10:15-10:30	1.24
17-05-2021	16:30-16:45	0.73	20:45-21:00	3.50	00:15-00:30	0.27	08:15-08:30	1.75
18-05-2021	15:45-16:00	0.92	22:45-23:00	3.34	04:00-04:15	0.28	11:30-11:45	1.20
19-05-2021	16:45-17:00	1.27	02:45-03:00	3.04	00:15-00:30	0.27	08:45-09:00	1.20
20-05-2021	01:30-01:45	0.95	21:15-21:30	2.94	18:00-18:15	0.29	17:15-17:30	0.82
21-05-2021	14:45-15:00	0.79	20:30-20:45	3.46	20:15-20:30	0.18	11:45-12:00	0.80
22-05-2021	06:15-06:30	0.80	21:00-21:15	4.00	17:15-17:30	0.31	01:30-01:45	1.53
23-05-2021	16:30-16:45	0.76	19:15-19:30	5.00	09:30-09:45	0.26	10:00-10:15	1.20
24-05-2021	06:30-06:45	0.89	23:30-23:45	5.00	18:45-19:00	0.30	18:00-18:15	1.99
25-05-2021	21:00-21:15	0.82	21:00-21:15	5.00	00:30-00:45	0.35	04:00-04:15	1.50
26-05-2021	22:30-22:45	0.78	23:15-23:30	4.14	19:00-19:15	0.21	10:15-10:30	1.50
27-05-2021	17:15-17:30	0.85	22:15-22:30	3.35	09:15-09:30	0.24	10:00-10:15	0.85
28-05-2021	15:30-15:45	1.10	23:15-23:30	6.00	09:30-09:45	0.36	01:30-01:45	1.50
29-05-2021	14:30-14:45	1.09	22:45-23:00	6.01	18:15-18:30	0.38	18:00-18:15	2.19
30-05-2021	03:30-03:45	0.92	00:15-00:30	4.50	08:45-09:00	0.18	18:30-18:45	0.60
31-05-2021	21:00-21:15	0.83	00:00-00:15	3.36	22:15-22:30	0.20	18:15-18:30	0.50

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

Annexure-XI**Sellers and Purchasers in Real Time Market (RTM) in the month of May, 2021**

S. No.	Entity Name	Sell		Entity Name	Purchase	
		(MU)	Percent (%)		(MU)	Percent (%)
1.	Madhya Pradesh	115.39	8.03%	Andhra Pradesh	298.63	20.79%
2.	Rajasthan	107.38	7.48%	J&K	130.24	9.07%
3.	Uttar Pradesh	100.47	7.00%	Telangana	127.79	8.90%
4.	West Bengal	99.30	6.91%	Maharashtra	107.97	7.52%
5.	Orissa	90.44	6.30%	Rajasthan	91.67	6.38%
6.	Delhi	89.29	6.22%	West Bengal	85.06	5.92%
7.	Kameng HEP	68.87	4.80%	Gujarat	84.60	5.89%
8.	NLC TPS-II Stg-2	58.50	4.07%	Bihar	77.44	5.39%
9.	NLC TPS-II	48.79	3.40%	Punjab	69.55	4.84%
10.	Karnataka	45.69	3.18%	Orissa	58.32	4.06%
11.	Kerala	44.73	3.11%	Uttar Pradesh	50.88	3.54%
12.	MB Power	44.47	3.10%	Tamilnadu	37.08	2.58%
13.	Teesta -3	43.07	3.00%	Haryana	29.67	2.07%
14.	Bihar	38.31	2.67%	Himachal Pradesh	29.56	2.06%
15.	Telangana	38.25	2.66%	Delhi	23.09	1.61%
16.	J&K	33.55	2.34%	Assam	23.09	1.61%
17.	Chhattisgarh	30.32	2.11%	Manipur	21.47	1.49%
18.	Himachal Pradesh	28.55	1.99%	Jharkhand	20.71	1.44%
19.	Sasan UMPP	27.43	1.91%	Tripura	10.95	0.76%
20.	NLC	22.32	1.55%	Meghalaya	8.53	0.59%
21.	Haryana	18.93	1.32%	Karnataka	7.77	0.54%
22.	NLC TPS-II Expn	18.88	1.31%	Madhya Pradesh	7.16	0.50%
23.	Neyveli New Thermal	17.62	1.23%	Kerala	6.69	0.47%
24.	Jharkhand	14.07	0.98%	Sikkim	5.27	0.37%
25.	RKM Power	13.80	0.96%	MB Power	5.01	0.35%
26.	Sikkim	13.22	0.92%	Uttarakhand	4.61	0.32%
27.	Jindal Power Ltd. Stg-II	11.61	0.81%	Chhattisgarh	3.79	0.26%
28.	Assam	10.73	0.75%	Jindal Power Ltd. Stg-II	1.92	0.13%
29.	Sembcorp Gayatri	9.78	0.68%	Dadra & Nagar Haveli	1.86	0.13%
30.	Thermal Powertech	7.99	0.56%	ArcelorMittal Nippon	1.78	0.12%
31.	Jorethang	6.94	0.48%	DVC	1.04	0.07%
32.	GMR Warora	6.66	0.46%	Daman & Diu	0.80	0.06%
33.	Ramagundam Stg-1	6.44	0.45%	Arunachal Pradesh	0.69	0.05%
34.	Dikchu	5.56	0.39%	Nagaland	0.65	0.05%
35.	Tashiding HEP	5.35	0.37%	Goa WR	0.49	0.03%
36.	BALCO 2	5.12	0.36%	Jindal Power	0.29	0.02%
37.	Maharashtra	4.40	0.31%	Goa SR	0.16	0.01%
38.	Arunachal Pradesh	4.07	0.28%			
39.	DB Power	3.97	0.28%			

40.	AGBPP	3.83	0.27%			
41.	Singoli Bhagwati	3.80	0.26%			
42.	Sainj HEP	3.33	0.23%			
43.	Farakka	3.32	0.23%			
44.	Jhabua Power	3.26	0.23%			
45.	GMR Kamalanga	3.18	0.22%			
46.	Tripura	3.16	0.22%			
47.	Mouda Stg-1	3.07	0.21%			
48.	Jindal Power	2.92	0.20%			
49.	NTPC Gadarwara	2.91	0.20%			
50.	Bongaigaon	2.81	0.20%			
51.	AGTPP	2.78	0.19%			
52.	Khargone STPP	2.69	0.19%			
53.	DVC	2.66	0.19%			
54.	Raigarh Energy Ltd.	2.08	0.14%			
55.	Palatana	1.92	0.13%			
56.	Adani Power STG3	1.92	0.13%			
57.	Karcham Wangtoo	1.91	0.13%			
58.	Maruti Clean Coal	1.74	0.12%			
59.	Gujarat	1.64	0.11%			
60.	Raipur Energen	1.56	0.11%			
61.	Chuzachen	1.52	0.11%			
62.	Meghalaya	1.37	0.10%			
63.	Ramagundam Stg-3	1.36	0.09%			
64.	Farakka Stg 3	1.36	0.09%			
65.	Adani Power STG2	1.31	0.09%			
66.	Mouda Stg-2	1.06	0.07%			
67.	Tanda Stg-2	0.96	0.07%			
68.	Simhadri Stg-1	0.95	0.07%			
69.	TRN Energy	0.92	0.06%			
70.	Manipur	0.82	0.06%			
71.	Simhadri Stg-2	0.82	0.06%			
72.	Tamilnadu	0.77	0.05%			
73.	Dadri GPP	0.69	0.05%			
74.	Barh Stg-2	0.63	0.04%			
75.	Punjab	0.61	0.04%			
76.	Andhra Pradesh	0.61	0.04%			
77.	AD Hydro	0.59	0.04%			
78.	Uttarakhand	0.53	0.04%			
79.	BRBCL	0.50	0.03%			
80.	Anta	0.37	0.03%			
81.	Torrent Power	0.28	0.02%			
82.	Maithon Power	0.25	0.02%			
83.	Kawas	0.24	0.02%			
84.	Gandhar_NAPM	0.20	0.01%			
85.	Adhunik Power	0.16	0.01%			

86.	RGPPL_IR	0.14	0.01%			
87.	Gandhar	0.13	0.01%			
88.	IL&FS	0.13	0.01%			
89.	NSPCL Bhilai	0.06	0.00%			
90.	Dhariwal	0.05	0.00%			
91.	Nagaland	0.05	0.00%			
92.	Spectrum Coal	0.05	0.00%			
93.	Coastal Gujrat Power	0.04	0.00%			
94.	RGPPL_Others	0.02	0.00%			
95.	RGPPL	0.02	0.00%			
	Total Volume of top 10	824.12	57.38%	Total Volume of top 10	1,131.28	78.76%
	Total Volume in PXs	1,436.28		Total Volume in PXs	1,436.28	

Annexure-XII**Cross Border Electricity Transactions in Day Ahead Market (DAM) in IEX with Nepal During the month of May, 2021**

S. No	Delivery Date	Traded Volume (MU)
1	01-05-2021	7.13
2	02-05-2021	6.99
3	03-05-2021	6.94
4	04-05-2021	6.89
5	05-05-2021	6.37
6	06-05-2021	5.94
7	07-05-2021	4.36
8	08-05-2021	4.65
9	09-05-2021	3.78
10	10-05-2021	4.46
11	11-05-2021	5.10
12	12-05-2021	5.10
13	13-05-2021	2.45
14	14-05-2021	1.70
15	15-05-2021	1.31
16	16-05-2021	3.58
17	17-05-2021	4.98
18	18-05-2021	6.17
19	19-05-2021	6.17
20	20-05-2021	5.77
21	21-05-2021	3.90
22	22-05-2021	0.18
23	23-05-2021	3.32
24	24-05-2021	5.81
25	25-05-2021	3.58
26	26-05-2021	1.01
27	27-05-2021	1.01
28	28-05-2021	0.13
Total		118.73

Note: *Cross Border Transactions of Electricity of 118.73 MU (purchase only) happened with Nepal only during May, 2021. This is included in DAM Data of IEX for May, 2021.*

Appendix-I**Analysis for change in trend of Final Scheduled Volume in DAM on 05th Saturday and 5th Monday of May, 2021 (i.e. 29th and 31st May, 2021)**

Final Scheduled Volume (MU) and the Daily MCP (Rs/kWh) invariably shows decreasing trend on Sundays as the demand of electricity in the country is less compared to other days of week. However, during the month of May, 2021, it is observed that on fifth Monday (i.e. 31st May, 2021), FSV showed decreasing trend in comparison to fifth Sunday (i.e. 30th May, 2021) and on fifth Sunday (i.e. 30th May, 2021), FSV showed increasing trend in comparison to fifth Saturday (i.e. 29th May, 2021). On analysis, it has been found as under:

- (i) On fifth Monday (31st May, 2021), although there was an increase in purchase on power exchange by some of the States viz. Gujarat (17.76 MU), Punjab (3.03 MU), Odisha (3.01 MU), Bihar (1.38 MU) and Dadar & Nagar Haveli (1.07 MU) etc. there was also decrease in purchase on power exchange by some of the States in comparison to Sunday (30th May, 2021) viz.. Maharashtra (9.06 MU), Haryana (7.24 MU), Uttar Pradesh (3.15 MU), Uttarakhand (2.36 MU) and J&K (2.16 MU) etc. This resulted in an overall decrease in FSV by **0.27 MU** on Monday (31st May, 2021).
- (ii) On fifth Sunday (30th May, 2021), although there was decrease in purchase on power exchange by some of the States in comparison to fifth Saturday (29th May, 2021) viz. Gujarat (11.91 MU), Haryana (6.74 MU), Punjab (3.10 MU), Uttarakhand (0.99 MU) and J&K (0.60 MU) etc., there was also increase in purchase on power exchange by some of the States viz. Andhra Pradesh (12.42 MU), Maharashtra (12.27 MU), Delhi (1.47 MU), Assam (1.28 MU) and Uttar Pradesh (0.60 MU) etc. This resulted in an overall increase in FSV by **3.64 MU** on Sunday (30th May, 2021).

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. **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.

- 11. 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.
- 12. 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.