



जून, 2020 मासिक मार्केट मॉनिटरिंग रिपोर्ट

Monthly Market Monitoring Report

June, 2020



भारत सरकार/ Government of India

विद्युत मंत्रालय/ Ministry of Power

केन्द्रीय विद्युत प्राधिकरण/ Central Electricity Authority

आर. ए. प्रभाग/ Regulatory Affairs Division

मार्केट मॉनिटरिंग सेल /Market Monitoring Cell

दिनांक: 21.07.2020

TABLE OF CONTENTS

S.N.	Title	Page
1.	Day Ahead Market (DAM)	3
2.	Summary of the market in the power exchanges	3
3.	Term Ahead Market	6
4.	Real Time Market	7
5.	Analysis of movement of prices observed in DAM during June, 2020	7
6.	Analysis of Movement of prices observed in RTM Transactions in June, 2020	10

TABLES

1.	Table: 1A Daily MCP of IEX and PXIL for June, 2020 vs May, 2020	4
2.	Table: 1B Daily MCP of IEX and PXIL for June, 2020 vs June, 2019	4
3.	Table: 2A ACP of IEX and PXIL for June, 2020 vs May, 2020	5
4.	Table: 2B ACP of IEX and PXIL for June, 2020 vs June, 2019	5
5.	Table: 3A FSV of IEX and PXIL in DAM for June, 2020 vs May, 2020	5
6.	Table: 3B FSV of IEX and PXIL in DAM for June, 2020 vs June, 2019	5
7.	Table: 4A: FSV of IEX and PXIL in TAM for June, 2020 vs May, 2020	6
8.	Table: 4B FSV of IEX and PXIL in TAM for June, 2020 vs June, 2019	7
9.	Table: 5A: FSV of IEX and PXIL in RTM for June, 2020	7
10.	Table: 5B Daily MCP and ACP of IEX and PXIL in RTM for June, 2020	7

FIGURES

1.	Figure: 1 Comparison of Total Purchase, Sell bids along with FSV and Daily MCP in DAM	8
2.	Figure: 2 Comparison of Maximum, Minimum, Daily, Non Peak Time, Peak Time MCP (Rs/kWh) in DAM	9
3.	Figure: 3 Comparison of Total Purchase, Sell bids along with FSV and Daily MCP in RTM	11
4.	Figure: 4 Comparison of Maximum, Minimum, Daily, Non Peak Time, Peak Time MCP (Rs/kWh) in RTM	11

ANNEXURES

1.	Annexure I-: FSV and Average MCP in DAM for the months April, 2020 to June, 2020	13
2.	Annexure II-: FSV in TAM for the months April, 2020 to June, 2020	14
3.	Annexure-III: All MCPs vis: Peak Time MCP, Non-Peak MCP, Maximum MCP, Minimum MCP, Average MCP and Final Schedule Volume (MU) in DAM	15
4.	Annexure-IV: Comparison of MCP w.r.t. Purchase Bid for 2,880 Time Blocks during the month of June, 2020 in DAM	16
5.	Annexure-V: Max. FSV, Min FSV, Max MCP and Min MCP w.r.t. all Time blocks in DAM	17

6. Annexure-VI: Top Ten Entity (Sellers and Purchaser) in June, 2020 in DAM	18
7. Annexure-VII: All MCPs vis: Peak Time MCP, Non-Peak MCP, Maximum MCP, Minimum MCP, Average MCP and Final Schedule Volume (MU) in RTM	19
8. Annexure-VIII: Comparison of MCP w.r.t. Purchase Bid for 2,880 Time Blocks during the month of June, 2020 in RTM	20
9. Annexure-IX: Max. FSV, Min FSV, Max MCP and Min MCP w.r.t. all Time blocks in RTM	21
10. Annexure-X: Top Ten Entity (Sellers and Purchaser) in June, 2020 in RTM	22

APPENDIX

1. Appendix-I: Analysis for change in trend of Final Scheduled Volume and Daily MCP on 1 st & 4 th Sunday and on 3 rd & 5 th Monday during the Month of June, 2020	23
2. Appendix-II: Definitions/ Terminologies used in the Report	24

REPORT FOR MONTH: JUNE, 2020

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 June, 2020 is **4,189.37 MU**. The total energy supplied in the country during the month of June, 2020 is **105,164 MU (Provisional)**. Thus, the volume of electricity transacted on the power exchanges in DAM was **3.98 %** of the total energy supplied in the country. 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 [**102,089 MU**] in the country during May, 2020. Similarly, the total volume of electricity transacted in DAM during June, 2019 was **4,207.10 MU** which was 3.57 % of the total energy supplied [**117,988 MU**] in the country during June, 2019.
- 1.2. The volume of electricity transacted on IEX and PXIL during June, 2020 are **4,174.34 MU** and **15.03 MU**, respectively, which means that the total volume transacted on IEX is **99.64 %** of the total volume on power exchanges. The volume of electricity transacted on IEX and PXIL during May, 2020 was 5,573.73 MU and 22.24 MU, respectively, which means that the total volume transacted on IEX is 99.60 % of the total volume on power exchanges. Also, the total volume of electricity transacted during June, 2019 on IEX and PXIL was 4,206.68 MU and 0.42 MU, respectively, which means that the total volume transacted on IEX was 99.99 % of the total volume on the power exchanges.
- 1.3. The Average Market Clearing Price (MCP) on IEX during the month of June, 2020 is **Rs 2.35/kWh**, which shows decline of **8.56 %** and 29.22 % when compared with average MCP's for the month of May, 2020 and June, 2019, which were Rs 2.57/kWh and Rs 3.32/kWh, respectively. On PXIL, the average MCP during the month of June, 2020 is **Rs 2.56/kWh**, which shows a decline of 0.78 % and 26.44 % when compared with average MCP's for the month of May, 2020 and June, 2019, which were Rs 2.58/kWh and Rs 3.48/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 June, 2020 with that of May, 2020 and June, 2019 is given in Table- 1A & 1B:

(a) June, 2020 vis- a -vis May, 2020

Daily MCP (Rs/kWh)	IEX			PXIL		
	June, 2020	May, 2020	% Change	June, 2020	May, 2020	% Change
Minimum	1.65	2.24	-26.34	2.15	2.45	-12.24
Maximum	2.74	2.79	-1.79	2.93	2.86	2.45
Average	2.35	2.57	-8.56	2.56	2.58	-0.78

Table: 1A**(b) June, 2020 vis- a -vis June, 2019**

Daily MCP (Rs/kWh)	IEX			PXIL		
	June, 2020	June, 2019	% Change	June, 2020	June, 2019	% Change
Minimum	1.65	2.45	-32.65	2.15	3.41	-36.95
Maximum	2.74	4.21	-34.92	2.93	3.50	-16.29
Average	2.35	3.32	-29.22	2.56	3.48	-26.44

Table: 1B

- 2.2. The maximum Area Clearing Price (ACP) of **Rs 4.11/kWh** in IEX was observed in all 13 regions during the time block **21:45-22:00 Hrs** on 30th June, 2020. As there was no congestion in transmission system on that day, the MCP for this time-block was also **Rs 4.11/kWh**. However, the Daily MCP in IEX on pan India basis on 30th June, 2020 was **Rs 2.73/kWh**. Whereas, in PXIL, the maximum ACP of **Rs 3.50/kWh** was observed in all 13 regions during the time blocks from **22:00-23:00 Hrs** on 1st June, 2020. As no congestion was there in transmission system, the MCP for above time blocks was also **Rs 3.50/kWh**. However, the Daily MCP in PXIL on 1st June, 2020 was **Rs 2.62/kWh**.
- 2.3. The minimum ACP of **Rs 1.00/kWh** in IEX was observed in all 13 regions during the time block **13:30-13:45 Hrs** on 21st June, 2020. 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 21st June, 2020 was **Rs 1.82/kWh**. Whereas, in PXIL, the minimum ACP of **Rs 1.80/kWh** was observed in all 13 regions on 4th and 5th June, 2020 for multiple time blocks. As no congestion was there in transmission system, the MCP for the above time blocks was also **Rs 1.80/kWh**. However, the Daily MCP in PXIL on 4th and 5th June, 2020 was **Rs 2.31/kWh** and **Rs 2.15/kWh**, respectively.
- 2.4. **A comparison of the Minimum and Maximum Area Clearing Price (ACP) during the months of June, 2020 with that of May, 2020 and June, 2019 is given in Table- 2A & 2B:**

(a) June, 2020 vis- a -vis May, 2020

ACP (Rs/kWh)	IEX			PXIL		
	June, 2020	May, 2020	% Change	June, 2020	May, 2020	% Change
Minimum	1.00	1.10	-9.09	1.80	1.30	38.46
Maximum	4.11	5.00	-17.80	3.50	5.50	-36.36

Table: 2A**(b) June, 2020 vis- a- vis June, 2019**

ACP (Rs/kWh)	IEX			PXIL		
	June, 2020	June, 2019	% Change	June, 2020	June, 2019	% Change
Minimum	1.00	1.00	0.00	1.80	3.41	-47.21
Maximum	4.11	9.00	-54.33	3.50	3.50	0.00

Table: 2B

- 2.5. A comparison of Minimum, Maximum and Average of Final Scheduled Volume (FSV) of electricity transactions happened on IEX and PXIL for a day during the months of June, 2020 with that of May, 2020 and June, 2019 is given in Table- 3A & 3B:

(a) June, 2020 vis- a- vis May, 2020

Final Scheduled Volume (MU)	IEX			PXIL		
	June, 2020	May, 2020	% Change	June, 2020	May, 2020	% Change
Minimum	86.28	140.41	-38.55	0.05	2.61	-98.08
Maximum	173.52	220.37	-21.26	3.08	6.21	-50.40
Average	139.14	179.80	-22.61	1.16	4.45	-73.93

Table: 3A**(b) June, 2020 vis- a- vis June, 2019**

Final Scheduled Volume (MU)	IEX			PXIL		
	June, 2020	June, 2019	% Change	June, 2020	June, 2019	% Change
Minimum	86.28	108.50	-20.48	0.05	0.03	66.67
Maximum	173.52	172.35	0.68	3.08	0.06	5033.33
Average	139.14	140.22	-0.77	1.16	0.05	2220.00

Table: 3B

- 2.6. The total volume of electricity transacted in DAM on both the power exchanges during the period April, 2020 to June, 2020 is **13,477.38 MU**. The same was 12,017.58 MU during the period April, 2019 to June, 2019, which shows an increase of **12.15 %**.

3. TERM AHEAD MARKET (TAM)

- 3.1. The total volume of electricity transacted in both the power exchanges in Term Ahead Market in June, 2020 was **148.88 MU**, out of which, 74.00 MU (49.70 %) was transacted on IEX and 74.88MU (50.30%) was transacted on PXIL.
- 3.2. The total volume of electricity transacted on both the power exchanges in May, 2020 in Term Ahead Market was **671.80 MU**, out of which 387.42 MU (57.67 %) was transacted on IEX and, 284.38 MU (42.33 %) was transacted on PXIL.
- 3.3. Similarly, total volume of electricity transacted during June, 2019 in Term Ahead Market on both the power exchanges was **508.06 MU**, out of which, 368.84 MU (72.60%) was transacted on IEX and **139.22MU** (27.40%) was transacted on PXIL. This shows a decrease of **77.84%** in TAM during June, 2020 as compared to May, 2020 and a decrease of **70.70 %** as compared to June, 2019.
- 3.4. With respect to the total energy supplied during the month of June, 2020 in the country, the volume of electricity traded on the power exchanges in TAM represents 0.14 % of the total energy supplied. The same was 0.66 % in May, 2020 and 0.43 % in June, 2019.
- 3.5. The total volume of electricity transacted in TAM on both the power exchanges during the period April, 2020 to June, 2020 is **1,407.86 MU**, which shows decrease of 11.15 % as compared to 1,584.47 MU during the period April, 2019 to June, 2019.
- 3.6. **The comparison of total volume of electricity transacted on both the power exchanges in Term Ahead Market (TAM) during June, 2020 with May, 2020 and June, 2019 is given in Table - 4A & 4B:**
- (a) June, 2020 vis- a- vis May, 2020**

Contract Type	IEX			PXIL		
	June, 2020	May, 2020	% Change	June, 2020	May, 2020	% Change
Intra Day (MU)	6.55	57.25	-88.56	17.24	35.74	-51.76
Day Ahead Contingency (MU)	7.69	25.85	-70.25	-	0.14	NA
Daily/ Any Day (MU)	59.76	206.88	-71.11	57.64	248.50	-76.80
Weekly (MU)	-	97.44	NA	-	-	NA

- : No transaction happened
NA: Not Applicable

Table: 4A

(a) June, 2020 vis- a- vis June, 2019

Contract Type	IEX			PXIL		
	June, 2020	June, 2019	% Change	June, 2020	June, 2019	% Change
Intra Day (MU)	6.55	76.64	-91.45	17.24	116.70	-85.23
Day Ahead Contingency (MU)	7.69	191.04	-95.97	-	-	NA
Daily/ Any Day (MU)	59.76	101.16	-40.93	57.64	22.52	155.95
Weekly (MU)	-	-	NA	-	-	NA

- : No transaction happened

NA: Not Applicable

Table: 4B**4. REAL TIME MARKET (RTM)**

The transaction of electricity in the Real Time Market have been started in both the power exchanges - IEX and PXIL from 1st June, 2020 with the approval of the CERC. The Final Scheduled Volume (FSV), Daily Market Clearing Prices (MCP), Area Clearing Prices (ACP), Real Time Curtailment and details of Transmission Congestion in Real Time Market during the month of June, 2020 are as given in table 5A & 5B:

(i) Final Scheduled Volume:

Exchange	Period	Final Scheduled Volume (MU)			
		Total	Minimum	Maximum	Average
IEX	June, 2020	515.465	3.415	36.086	17.182
PXIL	June, 2020	1.863	0.007	0.900	0.233

Table-5A**(ii) Daily Market Clearing Price (MCP) and Area Clearing Price (ACP):**

Exchange	Period	Prices				
		Daily MCP (Rs/kWh)			ACP (Rs/kWh)	
		Minimum	Maximum	Average	Minimum	Maximum
IEX	June, 2020	1.56	3.03	2.22	0.015	10.00
PXIL	June, 2020	2.25	2.91	2.59	1.88	4.00

Table-5B**5. ANALYSIS OF MOVEMENT OF PRICES OBSERVED IN THE DAY AHEAD MARKET (DAM) DURING JUNE, 2020**

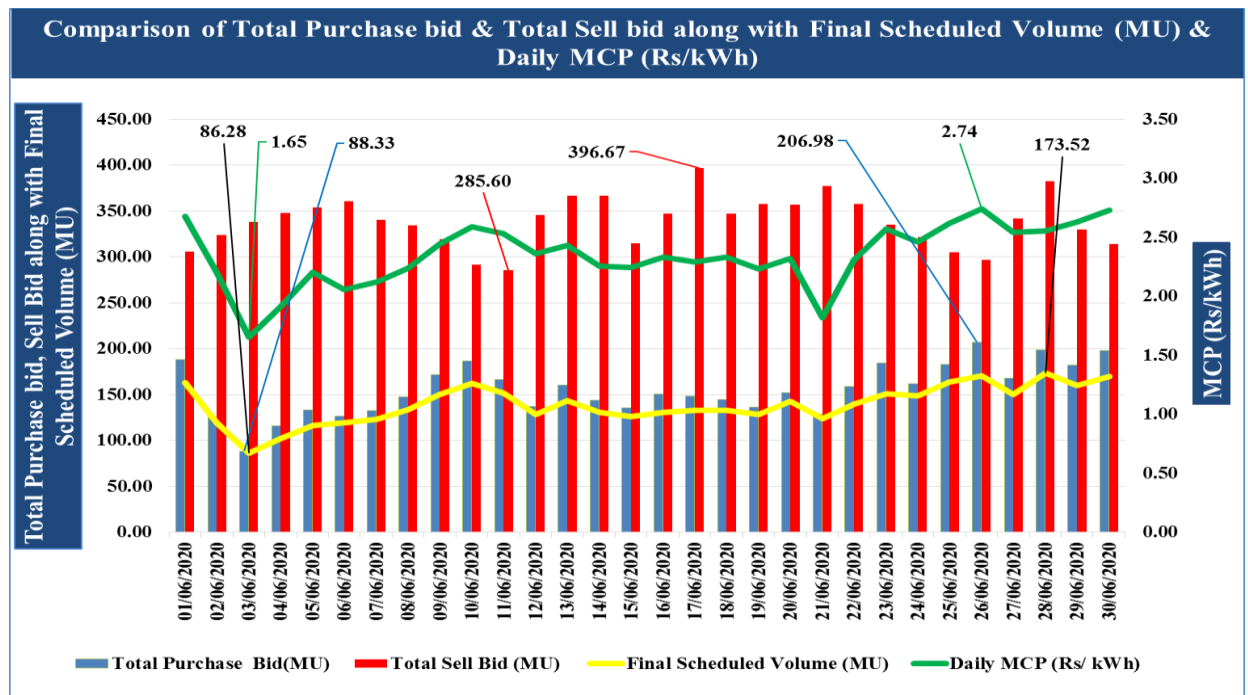
A regression analysis has been carried out on the Day Ahead Market data taken from IEX website. Also, data was plotted in various graphs to observe patterns for each day of the June, 2020 month. The observations made are as under:

- 5.1. 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.
- 5.2. 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 and Hydro 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 0.56. In effect, the regression analysis reveals that the most important variable, which determines daily market clearing price is the total purchase bid in the month of June, 2020.

5.3. The same relationship is visible from the analysis carried out from the plot in **Figure 1**.

Figure -1



5.4. 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 when compared to other days of week [**Figure 1**]. However, in the month of June, 2020, it is observed that on first and fourth Sundays (i.e. 7th and 28th June, 2020), FSV showed increasing trend in comparison to Saturdays (i.e. 6th and 27th June, 2020). Whereas, on third and fifth Monday (i.e. 15th and 29th June, 2020), FSV showed decreasing trend in comparison to Sundays (i.e. 14th and 28th June, 2020). The detailed analysis on this is given at **Appendix-I**.

- 5.5. A comparison of maximum, minimum, daily, non-peak time, peak time MCP is shown in **Figure -2**. The same are also tabulated in **Annexure III**.

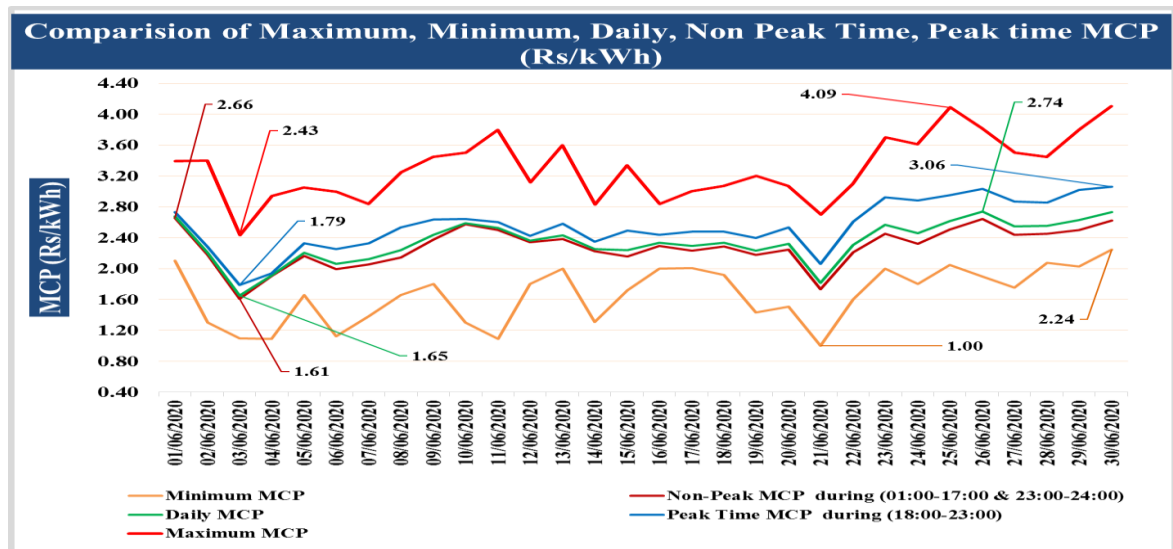


Figure -2

- 5.6. The Purchase Bids and the MCP discovered in each of the 15-minute time block during the month almost followed the same trend [**Annexure IV**]. This is also corroborated with the outcome of regression analysis mentioned at para 5.1 and 5.2 above.
- 5.7. On **30 days** during the month, the maximum MCP occurred during the **time period 21:45-23:15** [**Annexure V**].
- 5.8. On **14 days** during the month, the minimum FSV occurred during the **time period 17:30-18:30** [**Annexure V**].
- 5.9. On **10 days** during the month, the maximum FSV occurred during the **time period 07:00-07:45** and also on **10 days** during the month, the maximum FSV occurred during the time period **22:30-23:00** [**Annexure V**].
- 5.10. The maximum demand met during the month of June, 2020 in the country occurred on **23rd June, 2020 at 164.95 GW**, which is 0.88 % less than the maximum demand occurred during **May, 2020 [i.e. 166.42 GW on 26th May, 2020]** and is 9.67 % less than the maximum demand occurred during June, 2019 i.e. [**182.60 GW on 14th June, 2019**].
- 5.11. One nation One Price was observed for **all 30 days** in IEX, as there was no congestion in transmission system in IEX in June, 2020. Also, in PXIL there was no congestion in transmission system, so one nation one price was observed on all **13 days** during which transaction happened (1st to 6th and 8th to 14th June, 2020). In the month of May, 2020 One nation One Price was observed for all 31 days in IEX and all 5 days in PXIL (transaction happened in PXIL from 27th to 31st May, 2020) during the month of May, 2020, as no transmission congestion occurred in both the power exchanges. Similarly, in the month of

June, 2019, there was no congestion in transmission system in IEX, hence, one nation one price was observed for all 30 days on IEX. In PXIL also, there was no congestion in transmission system, so one nation one price was observed on all 8 days during which transaction happened (17th to 21st, 23rd, 27th, and 29th June, 2020).

5.12. There was no real time curtailment in IEX and PXIL during the month of June, 2020. Also, there was no real time curtailment in IEX and PXIL during May, 2020. In the month of June, 2019, real time curtailment of **4.91 MU** occurred in IEX, whereas there was no real time curtailment in PXIL.

5.13. The **top 10 sellers** on the power exchanges during the month are **Teesta -3, Jammu & Kashmir, Odisha, Himachal Pradesh, Raipur Energen, Assam, Madhya Pradesh, Uttar Pradesh, Sembcorp Gayatri and Delhi** which constituted **61.76%** of the market share. [Annexure VI]

5.14. The **top 10 purchasers** on the power exchanges during the month are **Maharashtra, Telangana, Gujarat, Punjab, Andhra Pradesh, Tamil Nadu, Haryana, ArcelorMittal Nippon Steel (ESIL), Rajasthan and Uttar Pradesh** which constituted **86.73 %** of the market share. [Annexure VI]

6. ANALYSIS OF MOVEMENT OF PRICES OBSERVED IN REAL TIME MARKET (RTM) TRANSACTIONS IN JUNE, 2020

6.1. Similar to the regression analysis carried out for Day Ahead Market, the regression analysis for Real Time Market was also done using double log function, 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. The regression analysis revealed that the significant variables were the total purchase bid, total sell bid, peak demand 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 0.26. 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 June, 2020

6.2. The Purchase Bids and the MCP discovered in each of the 15-minute time block during the month almost followed the same trend [Annexure VIII]. This is also corroborated with the outcome of regression analysis mentioned at para 6.1 above.

- 6.3. The same relationship is visible from the analysis carried out from the graph plotted in Figure-3 below showing variations of Total Purchase Bid, Total Sell Bid, Daily MCP and FSV :

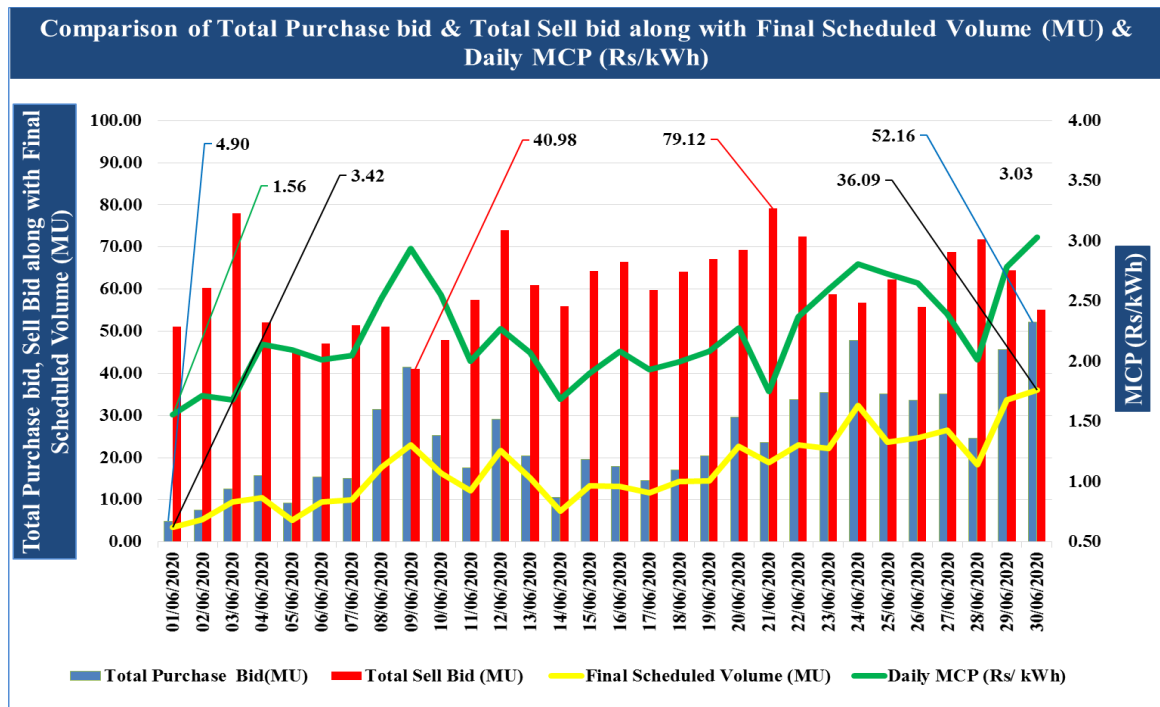


Figure-3

- 6.4. A comparison of maximum, minimum, daily, non-peak time, peak time MCP is shown in Figure-4. The same are also tabulated in Annexure VII.

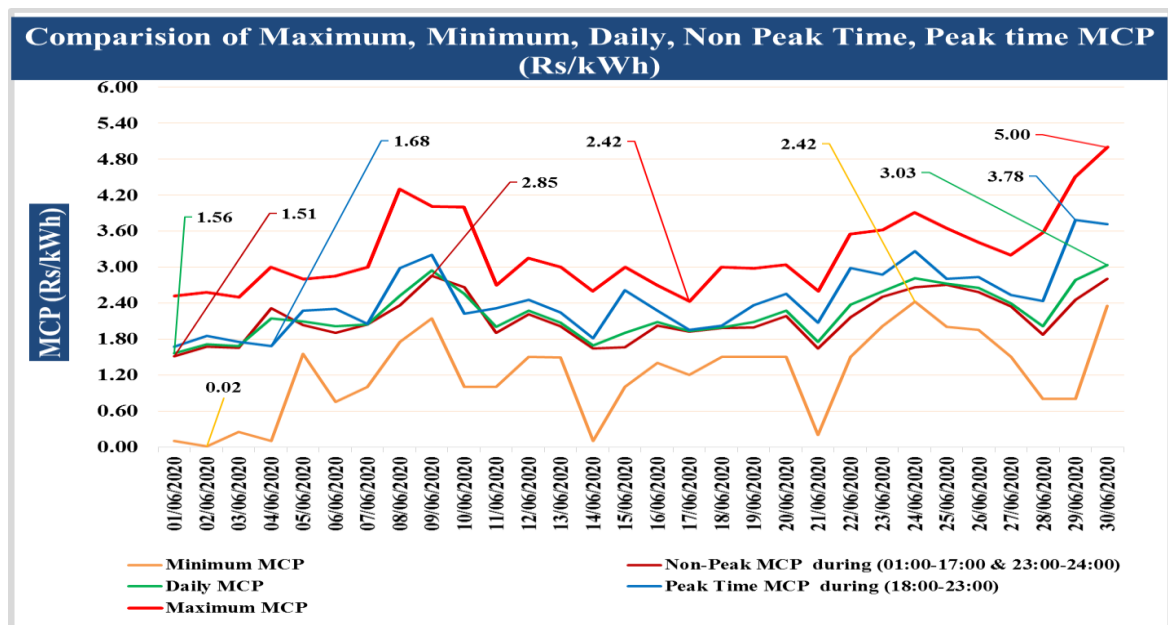


Figure-4

- 6.5. On **16 days** during the month, the maximum MCP occurred during the **time period 22:15-23:45**. [Annexure IX].
- 6.6. There was **no** real time curtailment in both the power exchanges in June, 2020 in Real Time Market (RTM).

- 6.7. In the month of June, 2020, there was congestion of **3.70 MU** in transmission system in IEX on 6th June, 2020, hence, one nation one price was observed for 29 days on IEX. Whereas, in PXIL there was no congestion in transmission system, so one nation one price was observed on all 8 days during which transaction happened (1st, 4th to 9th and 29th June, 2020).
- 6.8. **The top 10 sellers** on the power exchanges in RTM during the month are **Telangana, Maharashtra, Rajasthan, Andhra Pradesh, Haryana, West Bengal, Assam, Chhattisgarh, Delhi and Gujarat**, which constituted **89.39%** of the market share. [Annexure X]
- 6.9. **The top 10 purchasers** on the power exchanges in RTM during the month are **Jammu & Kashmir, Madhya Pradesh, NLC TPS-II Stg2, NLC TPS-II, Odisha, Uttar Pradesh, Sembcorp Gayatri, Karnataka, NLC and Delhi**, which constituted **64.89 %** of the market share. [Annexure X]

-
- 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, 2020 to June, 2020 of IEX and PXIL

Months	Final Scheduled Volume (MU)		Market Clearing Price (Rs/kWh)		Real Time Curtailment (MU)	
	IEX	PXIL	IEX	PXIL	IEX	PXIL
April, 2020	3,692.04	-	2.42	NA	0	NA
May, 2020	5,573.73	22.24	2.57	2.58	0	0
June, 2020	4,174.34	15.03	2.35	2.56	0	0
Total	13,440.11	37.27			0	0

- : No Transaction happened

NA: Not Applicable

Final Scheduled Volume in Term Ahead Market (TAM) for the months of April, 2020 to June, 2020 of IEX and PXIL

Months	Final Scheduled Volume (MU)		
	IEX	PXIL	Total
April, 2020	395.88	191.30	587.18
May, 2020	387.42	284.38	671.80
June, 2020	74.00	74.88	148.88
Total	857.30	550.56	1407.86

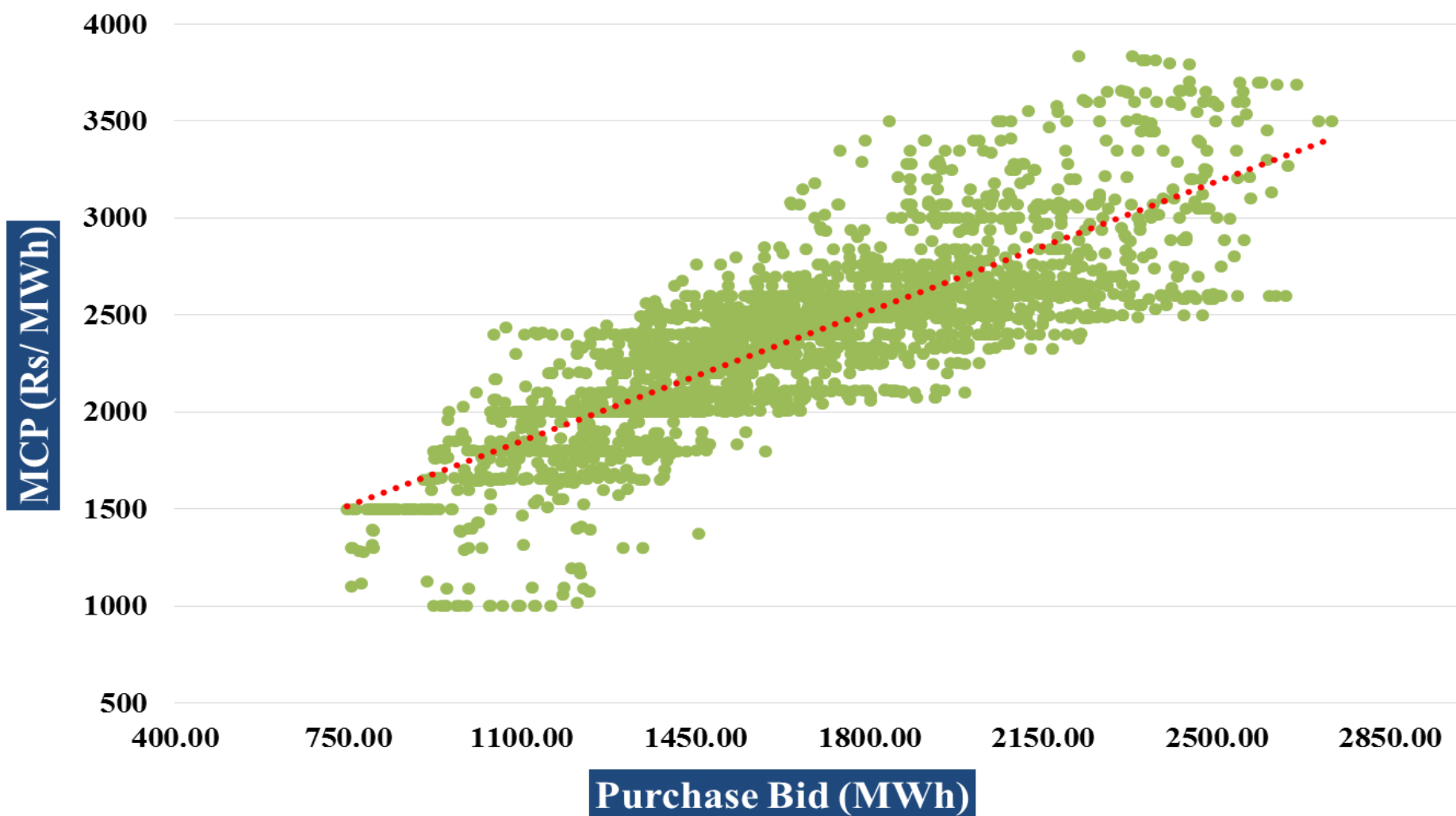
Annexure-III**Peak Time MCP, Non-Peak MCP, Maximum MCP, Minimum MCP, Average MCP and Final Scheduled Volume (MU) in DAM**

Date	MCP during (01:00-06:00, 23:00-24:00)	MCP during (07:00-10:00)	MCP during (11:00-17:00)	Peak Time MCP during (18:00-23:00)	Non-Peak MCP during (01:00-17:00 & 23:00-24:00)	Maximum MCP	Minimum MCP	Average MCP	Final Scheduled Volume (MU)
01/06/2020	2.66	2.57	2.71	2.73	2.66	3.39	2.10	2.68	163.17
02/06/2020	2.34	1.84	2.21	2.28	2.18	3.40	1.30	2.20	119.29
03/06/2020	1.66	1.43	1.65	1.79	1.61	2.43	1.10	1.65	86.28
04/06/2020	1.90	1.70	2.03	1.94	1.91	2.94	1.09	1.91	101.91
05/06/2020	2.11	1.96	2.34	2.33	2.16	3.05	1.66	2.20	116.45
06/06/2020	2.04	1.94	1.98	2.25	1.99	3.00	1.13	2.06	119.67
07/06/2020	2.01	2.07	2.10	2.33	2.06	2.84	1.39	2.12	123.47
08/06/2020	2.21	1.97	2.17	2.53	2.14	3.25	1.66	2.24	133.63
09/06/2020	2.36	2.32	2.43	2.64	2.38	3.45	1.80	2.44	150.24
10/06/2020	2.60	2.47	2.61	2.65	2.57	3.50	1.30	2.59	162.57
11/06/2020	2.45	2.53	2.54	2.60	2.50	3.79	1.09	2.53	151.55
12/06/2020	2.22	2.33	2.48	2.42	2.34	3.12	1.80	2.36	128.66
13/06/2020	2.38	2.30	2.44	2.58	2.38	3.60	2.00	2.43	143.11
14/06/2020	2.40	2.13	2.11	2.35	2.22	2.83	1.31	2.26	130.63
15/06/2020	2.25	2.12	2.09	2.49	2.16	3.34	1.72	2.24	126.16
16/06/2020	2.44	2.18	2.22	2.44	2.30	2.84	2.00	2.33	130.75
17/06/2020	2.35	2.16	2.15	2.48	2.23	3.00	2.01	2.29	133.11
18/06/2020	2.36	2.17	2.28	2.48	2.29	3.07	1.92	2.33	132.74
19/06/2020	2.29	2.10	2.10	2.39	2.18	3.20	1.43	2.23	128.69
20/06/2020	2.34	2.22	2.17	2.53	2.25	3.07	1.51	2.32	142.41
21/06/2020	1.94	1.76	1.51	2.06	1.73	2.70	1.00	1.82	123.59
22/06/2020	2.10	2.24	2.31	2.61	2.21	3.10	1.60	2.31	139.93
23/06/2020	2.49	2.49	2.39	2.92	2.45	3.70	2.00	2.57	150.79
24/06/2020	2.30	2.42	2.28	2.88	2.32	3.61	1.80	2.46	148.74
25/06/2020	2.51	2.48	2.52	2.95	2.51	4.09	2.05	2.62	163.33
26/06/2020	2.72	2.51	2.65	3.03	2.64	3.81	1.90	2.74	170.58
27/06/2020	2.66	2.19	2.36	2.87	2.44	3.50	1.75	2.54	149.92
28/06/2020	2.62	2.38	2.32	2.86	2.45	3.45	2.07	2.55	173.52
29/06/2020	2.54	2.39	2.52	3.02	2.50	3.80	2.03	2.63	159.67
30/06/2020	2.72	2.60	2.54	3.06	2.62	4.11	2.24	2.73	169.77
Maximum	2.72	2.60	2.71	3.06	2.66	4.11	2.24	2.74	173.52
Minimum	1.66	1.43	1.51	1.79	1.61	2.43	1.00	1.65	86.28
Average	2.33	2.20	2.27	2.55	2.28	3.30	1.66	2.35	139.14

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

Comparison of MCP w.r.t. Purchase Bid for 2,880 Time Blocks during the month of June, 2020 in DAM



Time Blocks during the Month [96 time blocks in a day x 30 days = 2,880]

Annexure-V**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
01/06/2020	14:45 - 15:00	2.10	22:00 - 22:15	3.39	18:15 - 18:30	1.08	18:00 - 18:15	2.10
02/06/2020	22:30 - 22:45	1.78	22:30 - 22:45	3.40	18:15 - 18:30	0.75	18:00 - 18:15	1.30
03/06/2020	00:15 - 00:30	1.13	21:45 - 22:00	2.43	13:00 - 13:15	0.74	07:30 - 07:45	1.10
04/06/2020	22:30 - 22:45	1.40	22:30 - 22:45	2.94	08:30 - 08:45	0.87	18:45 - 19:00	1.09
05/06/2020	22:30 - 22:45	1.66	22:30 - 22:45	3.05	10:00 - 10:15	1.02	03:45 - 04:00	1.66
06/06/2020	21:45 - 22:00	1.78	22:45 - 23:00	3.00	18:00 - 18:15	0.90	18:00 - 18:15	1.13
07/06/2020	22:30 - 22:45	1.66	22:30 - 22:45	2.84	11:00 - 11:15	0.97	11:00 - 11:15	1.39
08/06/2020	22:45 - 23:00	1.93	22:30 - 22:45	3.25	11:00 - 11:15	1.02	10:45 - 11:00	1.66
09/06/2020	22:30 - 22:45	2.10	22:30 - 22:45	3.45	10:00 - 10:15	1.29	03:45 - 04:00	1.80
10/06/2020	06:30 - 06:45	2.12	22:30 - 22:45	3.50	18:15 - 18:30	1.27	18:30 - 18:45	1.30
11/06/2020	21:45 - 22:00	2.01	21:45 - 22:00	3.79	18:00 - 18:15	1.20	18:30 - 18:45	1.09
12/06/2020	22:45 - 23:00	1.70	22:45 - 23:00	3.12	17:30 - 17:45	1.05	18:45 - 19:00	1.80
13/06/2020	22:45 - 23:00	1.95	22:30 - 22:45	3.60	17:45 - 18:00	1.13	17:45 - 18:00	2.00
14/06/2020	22:30 - 22:45	1.71	22:30 - 22:45	2.83	17:45 - 18:00	1.07	17:45 - 18:00	1.31
15/06/2020	21:45 - 22:00	1.65	22:30 - 22:45	3.34	11:00 - 11:15	1.06	09:00 - 09:15	1.72
16/06/2020	07:00 - 07:15	1.78	21:45 - 22:00	2.84	12:30 - 12:45	1.15	17:45 - 18:00	2.00
17/06/2020	07:00 - 07:15	1.88	23:00 - 23:15	3.00	12:45 - 13:00	1.15	04:15 - 04:30	2.01
18/06/2020	07:00 - 07:15	1.78	22:45 - 23:00	3.07	03:45 - 04:00	1.15	03:45 - 04:00	1.92
19/06/2020	22:30 - 22:45	1.86	22:30 - 22:45	3.20	11:15 - 11:30	1.00	11:15 - 11:30	1.43
20/06/2020	07:15 - 07:30	2.00	22:30 - 22:45	3.07	13:00 - 13:15	1.14	13:00 - 13:15	1.51
21/06/2020	07:00 - 07:15	1.82	22:30 - 22:45	2.70	13:30 - 13:45	0.92	13:30 - 13:45	1.00
22/06/2020	07:15 - 07:30	1.99	21:45 - 22:00	3.10	04:00 - 04:15	1.23	04:00 - 04:15	1.60
23/06/2020	07:30 - 07:45	2.30	21:45 - 22:00	3.70	10:45 - 11:00	1.24	10:00 - 10:15	2.00
24/06/2020	07:00 - 07:15	2.19	22:30 - 22:45	3.61	04:00 - 04:15	1.25	03:45 - 04:00	1.80
25/06/2020	07:00 - 07:15	2.39	21:45 - 22:00	4.09	18:00 - 18:15	1.37	18:00 - 18:15	2.05
26/06/2020	06:30 - 06:45	2.25	21:45 - 22:00	3.81	18:00 - 18:15	1.35	18:00 - 18:15	1.90
27/06/2020	16:15 - 16:30	1.91	21:45 - 22:00	3.50	18:00 - 18:15	1.17	18:00 - 18:15	1.75
28/06/2020	16:15 - 16:30	2.19	22:15 - 22:30	3.45	18:00 - 18:15	1.46	13:00 - 13:15	2.07
29/06/2020	14:45 - 15:00	2.01	21:45 - 22:00	3.80	18:00 - 18:15	1.33	03:45 - 04:00	2.03
30/06/2020	07:00 - 07:15	2.23	21:45 - 22:00	4.11	18:15 - 18:30	1.35	04:15 - 04:30	2.24

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

Annexure-VI**Top Ten Entities (Sellers and Purchasers) in Day Ahead Market (DAM) in the month of June, 2020**

Entity Name	Sell		Entity Name	Purchase	
	(MU)	Percent		(MU)	Percent (%)
Teesta -3	696.56	16.63%	Maharashtra	865.43	20.66%
J&K	523.70	12.50%	Telangana	751.68	17.94%
Odisha	321.07	7.66%	Gujarat	501.14	11.96%
Himachal Pradesh	269.19	6.43%	Punjab	438.28	10.46%
Raipur Energen	170.77	4.08%	Andhra Pradesh	370.03	8.83%
Assam	155.12	3.70%	Tamil Nadu	222.39	5.31%
Madhya Pradesh	124.24	2.97%	Haryana	158.55	3.78%
Uttar Pradesh	117.65	2.81%	ArcelorMittal Nippon	123.36	2.94%
Sembcorp Gayatri	116.55	2.78%	Rajasthan	106.14	2.53%
Delhi	92.30	2.20%	Uttar Pradesh	96.45	2.30%
Total	2,587.15	61.76%	Total	3,633.45	86.73%
Total Volume in PXs	4,189.37		Total Volume in PXs	4,189.37	

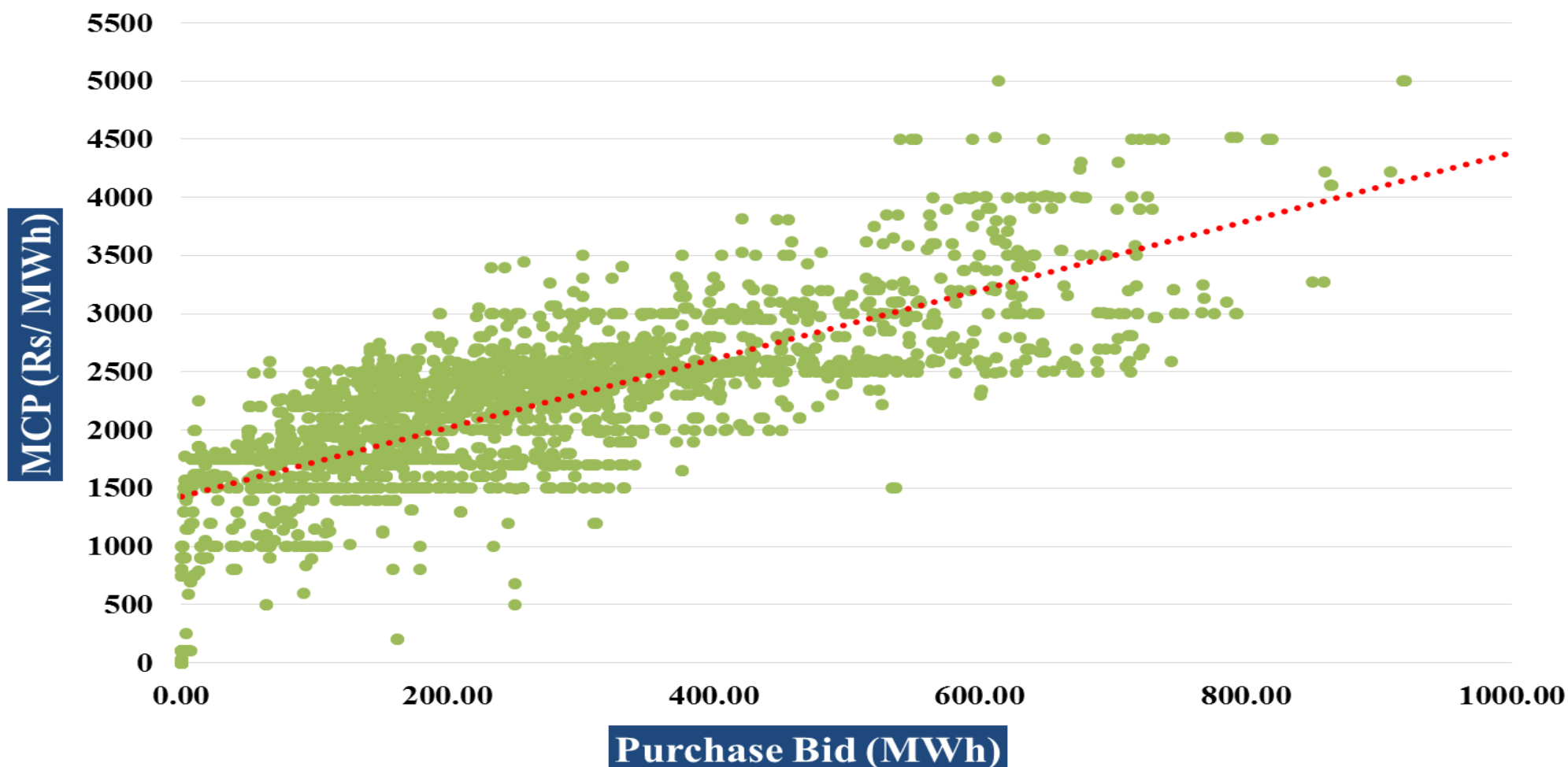
Annexure-VII**Peak Time MCP, Non-Peak MCP, Maximum MCP, Minimum MCP, Average MCP and Final Scheduled Volume (MU) in RTM**

Date	MCP during (01:00-06:00, 23:00-24:00)	MCP during (07:00-10:00)	MCP during (11:00-17:00)	Peak Time MCP during (18:00-23:00)	Non-Peak MCP during (01:00-17:00 & 23:00-24:00)	Maximum MCP	Minimum MCP	Average MCP	Final Scheduled Volume (MU)
01/06/2020	1.65	1.50	1.42	1.67	1.51	2.52	0.10	1.56	3.42
02/06/2020	2.16	0.83	1.66	1.86	1.67	2.58	0.02	1.72	5.32
03/06/2020	1.94	1.50	1.44	1.75	1.65	2.50	0.25	1.68	9.42
04/06/2020	2.43	2.27	2.18	1.68	2.31	3.00	0.10	2.14	10.44
05/06/2020	2.28	2.06	1.81	2.27	2.03	2.80	1.55	2.09	5.12
06/06/2020	1.86	1.92	1.91	2.30	1.90	2.85	0.75	2.01	9.43
07/06/2020	2.46	1.87	1.73	2.06	2.04	3.00	1.00	2.05	9.99
08/06/2020	2.51	2.20	2.31	2.99	2.36	4.30	1.75	2.52	17.73
09/06/2020	2.92	2.63	2.91	3.20	2.85	4.00	2.14	2.94	22.96
10/06/2020	2.80	2.42	2.67	2.23	2.66	4.00	1.00	2.55	16.38
11/06/2020	1.97	1.16	2.25	2.31	1.90	2.70	1.00	2.00	12.22
12/06/2020	2.10	2.27	2.28	2.46	2.21	3.15	1.50	2.27	21.64
13/06/2020	2.06	2.23	1.84	2.24	2.02	3.00	1.50	2.07	15.22
14/06/2020	2.07	1.47	1.34	1.81	1.64	2.60	0.10	1.69	7.27
15/06/2020	1.82	1.23	1.76	2.62	1.66	3.00	1.00	1.90	13.28
16/06/2020	2.12	2.05	1.90	2.28	2.02	2.70	1.40	2.08	13.15
17/06/2020	1.95	1.89	1.90	1.96	1.92	2.42	1.20	1.93	11.70
18/06/2020	2.18	1.84	1.87	2.03	1.98	3.00	1.50	1.99	14.39
19/06/2020	2.02	2.19	1.85	2.36	1.99	2.98	1.50	2.08	14.55
20/06/2020	2.58	2.28	1.74	2.55	2.19	3.04	1.50	2.28	22.60
21/06/2020	1.94	1.76	1.29	2.07	1.65	2.60	0.20	1.75	18.84
22/06/2020	1.91	2.17	2.42	2.98	2.17	3.54	1.50	2.37	23.00
23/06/2020	2.45	2.50	2.55	2.88	2.50	3.62	2.01	2.60	22.20
24/06/2020	2.71	2.55	2.68	3.26	2.66	3.91	2.42	2.81	32.34
25/06/2020	3.04	2.44	2.50	2.80	2.70	3.65	2.00	2.72	23.68
26/06/2020	2.98	2.62	2.21	2.84	2.59	3.41	1.95	2.65	24.67
27/06/2020	2.64	2.29	2.13	2.53	2.35	3.20	1.50	2.39	26.51
28/06/2020	2.10	2.05	1.54	2.43	1.87	3.58	0.80	2.01	18.25
29/06/2020	2.46	2.01	2.69	3.78	2.45	4.50	0.80	2.78	33.64
30/06/2020	3.03	2.50	2.76	3.71	2.81	5.00	2.35	3.03	36.09
Maximum	3.04	2.63	2.91	3.78	2.85	5.00	2.42	3.03	36.09
Minimum	1.65	0.83	1.29	1.67	1.51	2.42	0.02	1.56	3.42
Average	2.30	2.02	2.05	2.46	2.14	3.24	1.21	2.22	17.18

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

Comparison of MCP w.r.t. Purchase Bid for 2,880 Time Blocks during the month of June, 2020 in RTM



Time Blocks during the Month [96 time blocks in a day x 30 days = 2,880]

Annexure-IX**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
01/06/2020	08:00 - 08:15	0.13	14:45 - 15:00	2.52	08:30 - 08:45	0.00	08:30 - 08:45	0.10
02/06/2020	01:45 - 02:00	0.20	01:30 - 01:45	2.58	06:30 - 06:45	0.00	07:30 - 07:45	0.02
03/06/2020	20:45 - 21:00	0.23	21:30 - 21:45	2.50	06:00 - 06:15	0.00	18:30 - 18:45	0.25
04/06/2020	00:30 - 00:45	0.33	22:45 - 23:00	3.00	19:45 - 20:00	0.00	19:30 - 19:45	0.10
05/06/2020	15:15 - 15:30	0.23	22:30 - 22:45	2.80	08:45 - 09:00	0.01	13:00 - 13:15	1.55
06/06/2020	21:30 - 21:45	0.34	23:30 - 23:45	2.85	04:30 - 04:45	0.01	03:30 - 03:45	0.75
07/06/2020	00:00 - 00:15	0.21	00:15 - 00:30	3.00	19:15 - 19:30	0.01	11:00 - 11:15	1.00
08/06/2020	17:00 - 17:15	0.35	23:00 - 23:15	4.30	03:15 - 03:30	0.03	10:30 - 10:45	1.75
09/06/2020	14:45 - 15:00	0.47	22:30 - 22:45	4.00	03:00 - 03:15	0.10	10:00 - 10:15	2.14
10/06/2020	10:30 - 10:45	0.37	00:00 - 00:15	4.00	04:00 - 04:15	0.05	18:15 - 18:30	1.00
11/06/2020	20:30 - 20:45	0.26	00:00 - 00:15	2.70	09:15 - 09:30	0.01	08:15 - 08:30	1.00
12/06/2020	15:30 - 15:45	0.54	23:15 - 23:30	3.15	03:30 - 03:45	0.04	05:15 - 05:30	1.50
13/06/2020	13:45 - 14:00	0.29	23:30 - 23:45	3.00	09:30 - 09:45	0.05	12:45 - 13:00	1.50
14/06/2020	13:30 - 13:45	0.15	01:15 - 01:30	2.60	08:45 - 09:00	0.01	09:15 - 09:30	0.10
15/06/2020	15:30 - 15:45	0.33	22:30 - 22:45	3.00	06:00 - 06:15	0.02	07:00 - 07:15	1.00
16/06/2020	16:30 - 16:45	0.31	22:45 - 23:00	2.70	23:15 - 23:30	0.04	17:00 - 17:15	1.40
17/06/2020	12:30 - 12:45	0.27	20:00 - 20:15	2.42	08:15 - 08:30	0.03	17:45 - 18:00	1.20
18/06/2020	14:45 - 15:00	0.29	22:30 - 22:45	3.00	06:30 - 06:45	0.06	08:30 - 08:45	1.50
19/06/2020	16:30 - 16:45	0.27	22:30 - 22:45	2.98	00:15 - 00:30	0.03	03:45 - 04:00	1.50
20/06/2020	16:15 - 16:30	0.44	23:30 - 23:45	3.04	04:15 - 04:30	0.12	11:15 - 11:30	1.50
21/06/2020	10:45 - 11:00	0.31	21:30 - 21:45	2.60	17:15 - 17:30	0.05	13:15 - 13:30	0.20
22/06/2020	15:30 - 15:45	0.55	22:30 - 22:45	3.54	04:00 - 04:15	0.07	04:00 - 04:15	1.50
23/06/2020	13:45 - 14:00	0.50	21:45 - 22:00	3.62	05:30 - 05:45	0.07	05:00 - 05:15	2.01
24/06/2020	15:45 - 16:00	0.61	22:15 - 22:30	3.91	22:00 - 22:15	0.13	11:45 - 12:00	2.42
25/06/2020	14:15 - 14:30	0.54	00:00 - 00:15	3.65	07:00 - 07:15	0.05	10:15 - 10:30	2.00
26/06/2020	12:45 - 13:00	0.39	01:15 - 01:30	3.41	02:45 - 03:00	0.09	17:00 - 17:15	1.95
27/06/2020	13:00 - 13:15	0.44	23:00 - 23:15	3.20	00:00 - 00:15	0.13	17:30 - 17:45	1.50
28/06/2020	22:30 - 22:45	0.49	21:15 - 21:30	3.58	10:15 - 10:30	0.04	10:15 - 10:30	0.80
29/06/2020	16:00 - 16:15	0.65	21:45 - 22:00	4.50	07:15 - 07:30	0.12	06:00 - 06:15	0.80
30/06/2020	12:15 - 12:30	0.66	22:30 - 22:45	5.00	03:00 - 03:15	0.17	04:15 - 04:30	2.35

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

Annexure-X**Top Ten Entities (Sellers and Purchasers) in Real Time Market (RTM) in the month of June, 2020**

Entity Name	Sell		Entity Name	Purchase	
	(MU)	Percent		(MU)	Percent (%)
Telangana	181.15	35.08%	J&K	93.99	18.20%
Maharashtra	85.57	16.57%	Madhya Pradesh	42.82	8.29%
Rajasthan	42.96	8.32%	NLC TPS-II Stg-2	40.02	7.75%
Andhra Pradesh	40.38	7.82%	NLC TPS-II	39.39	7.63%
Haryana	29.27	5.67%	Orissa	32.90	6.37%
West Bengal	26.20	5.07%	Uttar Pradesh	23.02	4.46%
Assam	23.42	4.53%	Sembcorp Gayatri	18.25	3.53%
Chhattisgarh	12.41	2.40%	Karnataka	16.31	3.16%
Delhi	11.35	2.20%	NLC	14.40	2.79%
Gujarat	8.94	1.73%	Delhi	14.01	2.71%
Total	461.64	89.39%	Total	335.12	64.89%
Total Volume in PXs	516.43		Total Volume in PXs	516.43	

Appendix-I**Analysis for change in trend of Final Scheduled Volume in DAM on 1st & 4th Sunday and on 3rd & 5th Monday of June, 2020 (i.e. on 7th, 15th, 28th and 29th June, 2020)**

During the month of June, 2020, it is observed that on first and fourth Sundays (i.e. 7th and 28th June, 2020), FSV showed increasing trend in comparison to Saturdays (i.e. 6th and 27th June, 2020). Whereas, on third and fifth Monday (i.e. 15th & 29th June, 2020) FSV showed decreasing trend in comparison to Sunday (i.e. 14th & 28th June, 2020). On analysis of this variation in trends of FSV on above days during June, 2020, it has been observed as under:

- (i) On Sunday (7th June, 2020), there was increase in purchase on power exchange by some of the States in comparison to Saturday (6th June, 2020) by **17.61 MU** [i.e. Andhra Pradesh (4.67 MU), Maharashtra (4.51 MU), Bihar (4.47 MU), Telangana (2.29 MU), etc.]. There was also decrease in purchase on power exchange by some of the States by **13.81 MU** [i.e. Gujarat (5.65 MU), Tamil Nadu (4.67 MU), Odisha (1.01 MU), etc.] This resulted in an overall increase in FSV by **3.80 MU** on Sunday (7th June, 2020).
- (ii) Similarly, on Sunday (28th June, 2020) there was increase in purchase on power exchange by some of the States and entities in comparison to Saturday (27th June, 2020) by **30.57 MU** [i.e. Andhra Pradesh (11.25 MU), Maharashtra (5.81 MU), Punjab (4.55 MU), Arcelor Mittal Nippon Steel (ESIL) (2.80 MU), etc.]. There was also decrease in purchase on power exchange by some of the States by **6.97 MU** [i.e. Haryana (2.33 MU), Uttarakhand (1.94 MU), Gujarat (0.75 MU), etc.] This resulted in an overall increase in FSV by **23.61 MU** on Sunday (28th June, 2020).
- (iii) Further, on Monday (15th June, 2020), although there was increase in purchase on power exchange by some of the States in comparison to Sunday (14th June, 2020) by **12.02 MU** [i.e. Telangana (4.39 MU), Bihar (2.98 MU), Tamil Nadu (2.16 MU), etc.]. There was also marked decrease in purchase on power exchange by some of the States and entities to the extent of **16.50 MU** [i.e. Maharashtra (9.00 MU), Haryana (2.87 MU), Punjab (2.72 MU), etc.]. This resulted in an overall decrease in FSV by **4.48 MU** on Monday (15th June, 2020).
- (iv) On Monday (29th June, 2020) also, although there was increase in purchase on power exchange by some of the States in comparison to Sunday (28th June, 2020) by **14.68 MU** [i.e. Haryana (3.77 MU), Uttarakhand (3.41 MU), Rajasthan (2.55 MU), Gujarat (1.43 MU), etc.], there was also decrease in purchase on power exchange by some of the States by **28.53 MU** [i.e. Andhra Pradesh (14.66 MU), Telangana (6.60 MU), Punjab (3.85 MU), etc.] This resulted in an overall decrease in FSV by **13.85 MU** on Monday (29th June, 2020).

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. **Daily MCP** is the average of MCP of all 96 Time Blocks of the day during which transaction happened.
4. **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.
5. **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.
6. **Energy Supplied** is the total energy (MU) available at the States' periphery.
7. **Final Scheduled Volume** is the total of scheduled volume of all 96 time blocks in a day during the month in which transaction happened.
8. **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.
9. **Real Time Market** 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.
10. **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.