



नवंबर, 2020 मासिक मार्केट मॉनिटरिंग रिपोर्ट

Monthly Market Monitoring Report

November, 2020



भारत सरकार/ Government of India

विद्युत मंत्रालय/ Ministry of Power

केन्द्रीय विद्युत प्राधिकरण/ Central Electricity Authority

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REPORT FOR MONTH: NOVEMBER, 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 November, 2020 is **4,909.08 MU**. The total energy supplied in the country in the month of November, 2020 is **96,883 MU**. Thus, the volume of electricity transacted on the power exchanges in DAM was **5.07 %** of the total energy supplied in the country. The total volume of electricity transacted in DAM during October, 2020 was **5,550.10 MU** which was **5.08 %** of the total energy supplied [**1,09,174 MU**] in the country during October, 2020. Similarly, the total volume of electricity transacted in DAM during November, 2019 was **3,389.26 MU** which was **3.61 %** of the total energy supplied [**93,949 MU**] in the country during November, 2019.
- 1.2. The volume of electricity transacted on IEX and PXIL during November, 2020 was **4,860.46 MU and 48.62 MU**, respectively, which means that the total volume transacted on IEX is **99.01 %** of the total volume on power exchanges. The volume of electricity transacted on IEX and PXIL during October, 2020 was **5,500.53 MU and 49.57 MU**, respectively, which means that the total volume transacted on IEX is **99.11 %** of the total volume on power exchanges. Also, the total volume of electricity transacted during November, 2019 on IEX and PXIL was **3,388.84 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 November, 2020 was **Rs 2.73/kWh**, which shows a decrease of **0.36 %** and **4.21 %** when compared with average MCP's for the month of October, 2020 and November, 2019, which were **Rs 2.74/kWh** and **Rs 2.85/kWh** respectively. On PXIL, the average MCP during the month of November, 2020 was **Rs 2.87/kWh**, which shows an increase of **2.50%** and decrease of **4.65 %**, when compared with average MCP's for the month of October, 2020 and November, 2019, which were **Rs 2.80/kWh** and **Rs 3.01/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 November, 2020 with that of October, 2020 and November, 2019 is given in Table- 1A & 1B:

(a) November, 2020 vis- a -vis October, 2020

Daily MCP (Rs/kWh)	IEX			PXIL		
	November, 2020	October, 2020	% Change	November, 2020	October, 2020	% Change
Minimum	2.13	2.40	-11.25	2.42	2.52	-3.97
Maximum	3.23	3.12	3.53	3.35	3.34	0.30
Average	2.73	2.74	-0.36	2.87	2.80	2.50

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

Daily MCP (Rs/kWh)	IEX			PXIL		
	November, 2020	November, 2019	% Change	November, 2020	November, 2019	% Change
Minimum	2.13	2.56	-16.80	2.42	2.91	-16.84
Maximum	3.23	3.29	-1.82	3.35	3.15	6.35
Average	2.73	2.85	-4.21	2.87	3.01	-4.65

Table: 1B

- 2.2. The maximum Area Clearing Price (ACP) of **Rs 6.00/kWh** in IEX was observed in all 13 regions during the time block **17:30-17:45 Hrs** on 6th November, 2020. As there was no congestion in transmission system, the MCP for this time-block was also **Rs 6.00/kWh**. However, the Daily MCP in IEX on pan India basis on 6th November, 2020 was **Rs 3.04 /kWh**. Whereas, in PXIL, the maximum ACP of **Rs 6.00/kWh** was observed in all 13 regions during the time period from **17:45-19:00 Hrs** on 11th November, 2020 i.e. five consecutive time blocks starting 17:45-18:00 Hrs. As there was no congestion in transmission system, the MCP for above time blocks was also **Rs 6.00/kWh**. However, the Daily MCP in PXIL on 11th November, 2020 was **Rs 2.90/kWh**.
- 2.3. The minimum ACP of **Rs 1.00/kWh** in IEX was observed in all 13 regions during the time block **05:45-06:00 Hrs** on 15th November, 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 15th November, 2020 was **Rs 2.13/kWh**. Whereas, in PXIL, the minimum ACP of **Rs 1.23/kWh** was observed in all 13 regions during the time period **12:00-14:45** on 10th November, 2020 i.e. **eleven consecutive time blocks** starting 12:00-12:15 Hrs. As no congestion was there in transmission system, the MCP for the above time blocks was also **Rs 1.23/kWh**. However, the Daily MCP in PXIL on 10th November, 2020 was **Rs 2.76/kWh**, respectively.
- 2.4. A comparison of the Minimum and Maximum Area Clearing Price (ACP) during the months of November, 2020 with that of October, 2020 and November, 2019 is given in Table- 2A & 2B:

(a) November, 2020 vis- a -vis October, 2020

ACP (Rs/kWh)	IEX			PXIL		
	November, 2020	October, 2020	% Change	November, 2020	October , 2020	% Change
Minimum	1.00	1.60	-37.50	1.23	2.00	-38.50
Maximum	6.00	6.00	0.00	6.00	5.47	9.69

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

ACP (Rs/kWh)	IEX			PXIL		
	November, 2020	November, 2019	% Change	November, 2020	November, 2019	% Change
Minimum	1.00	1.80	-44.44	1.23	2.91	-57.73
Maximum	6.00	7.93	-24.34	6.00	3.15	90.48

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 November, 2020 with that of October, 2020 and November, 2019 is given in Table- 3A & 3B:

(a) November, 2020 vis- a- vis October, 2020

Final Scheduled Volume (MU)	IEX			PXIL		
	November, 2020	October, 2020	% Change	November, 2020	October, 2020	% Change
Minimum	95.12	123.04	-22.69	0.03	0.58	-94.83
Maximum	204.76	208.48	-1.78	3.62	2.69	34.57
Average	162.02	177.44	-8.69	1.62	1.60	1.25

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

Final Scheduled Volume (MU)	IEX			PXIL		
	November, 2020	November, 2019	% Change	November, 2020	November, 2019	% Change
Minimum	95.12	88.06	8.02	0.03	0.03	0.00
Maximum	204.76	133.97	52.84	3.62	0.09	3,922.22
Average	162.02	112.96	43.43	1.62	0.06	2,600.00

Table: 3B

2.6. The total volume of electricity transacted in DAM on both the power exchanges during the period **April, 2020 to November, 2020** is **37,762.92 MU**. The same was **31,772.69 MU** during the period April, 2019 to November, 2019, which shows an **increase of 18.85 %** in the corresponding period.

3. TERM AHEAD MARKET (TAM)

- 3.1. The total volume of electricity transacted on both the power exchanges in Term Ahead Market (TAM) in November, 2020 was **1,061.60 MU**, out of which, **189.00 MU** (17.80 %) was transacted on IEX and **872.60 MU** (82.20%) was transacted on PXIL.
- 3.2. The total volume of electricity transacted on both the power exchanges in TAM in October, 2020 was **1,067.86 MU**, out of which, **276.80 MU** (25.92 %) was transacted on IEX and **791.06 MU** (74.08%) was transacted on PXIL.
- 3.3. Similarly, total volume of electricity transacted during November, 2019 in TAM on both the power exchanges was **589.99 MU**, out of which, **458.83 MU** (77.77 %) was transacted on IEX and **131.16 MU** (22.23 %) was transacted on PXIL.
- 3.4. With respect to the total energy supplied during the month of November, 2020 in the country, the volume of electricity traded on the power exchanges in TAM represents **1.10 %** of the total energy supplied. The same was **0.98 %** in October, 2020 and **0.63 %** in November, 2019, respectively of the energy supplied.
- 3.5. The total volume of electricity transacted in TAM on both the power exchanges cumulatively during the period April, 2020 to November, 2020 is **4,669.41 MU**, which shows a decrease of 21.97 % as compared to **5,984.41 MU** during the period April, 2019 to November, 2019.
- 3.6. In TAM, there was transmission congestion of **0.43 MU** in IEX in the month of November, 2020.
- 3.7. The comparison of total volume of electricity transacted on both the power exchanges in TAM during November, 2020 with October, 2020 and November, 2019 is given in Table - 4A & 4B:

(a) November, 2020 vis- a- vis October, 2020

Contract Type	IEX			PXIL		
	November, 2020	October, 2020	% Change	November, 2020	October, 2020	% Change
Intra Day (MU)	6.46	0.89	625.84	20.35	20.60	-1.21
Day Ahead Contingency (MU)	13.66	16.71	-18.25	-	-	NA
Daily/ Any Day (MU)	168.88	91.20	85.18	852.25	770.46	10.62
Weekly (MU)	-	168.00	NA	-	-	NA

- : No transaction happened

NA: Not Applicable

Table: 4A

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

Contract Type	IEX			PXIL		
	November, 2020	November, 2019	% Change	November, 2020	November, 2019	% Change
Intra Day (MU)	6.46	28.90	-77.65	20.35	40.41	-49.64
Day Ahead Contingency (MU)	13.66	38.73	-64.73	-	-	NA
Daily/ Any Day (MU)	168.88	273.60	-38.27	852.25	36.75	2219.05
Weekly (MU)	-	117.60	NA	-	54.00	NA

- : No transaction happened

NA: Not Applicable

Table: 4B**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 November, 2020 as compared with October, 2020 are as given in table 5A, 5B & 5C:

(i) Final Scheduled Volume:

Final Scheduled Volume (MU)	IEX			PXIL		
	November, 2020	October, 2020	% Change	November, 2020	October, 2020	% Change
Total	893.62	814.48	9.72	-	-	NA
Minimum	19.01	16.71	13.76	-	-	NA
Maximum	40.60	44.54	-8.85	-	-	NA
Average	29.79	26.27	13.40	-	-	NA

- : No transaction happened

NA: Not Applicable

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

Daily MCP (Rs/kWh)	IEX			PXIL		
	November, 2020	October, 2020	% Change	November, 2020	October, 2020	% Change
Minimum	1.87	1.96	-4.59	NA	NA	NA
Maximum	3.38	3.39	-0.29	NA	NA	NA
Average	2.75	2.69	2.23	NA	NA	NA

NA: Not Applicable

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

ACP (Rs/kWh)	IEX			PXIL		
	November, 2020	October, 2020	% Change	November, 2020	October, 2020	% Change
Minimum	0.05	0.60	-91.67	NA	NA	NA
Maximum	6.80	11.56	-41.18	NA	NA	NA

NA: Not Applicable

Table -5C

5. GREEN TERM AHEAD MARKET (GTAM):

The transaction of electricity in Green Term Ahead Market has started in IEX w.e.f. 21st August, 2020 onwards. The total volume of electricity transacted in Solar Energy Segment in GTAM in Day Ahead Contingency contract during November, 2020 was **161.15 MU** with an Average MCP of **Rs 3.74 /kWh** and in intraday contract, the same was **3.13 MU** with an Average MCP of **Rs 3.89 /kWh**. In Non- Solar Energy Segment in GTAM, no transaction of electricity happened in November, 2020. The Final Scheduled Volume and Price of electricity transacted in GTAM in IEX during November, 2020 and October, 2020 has been shown in Table 6A & 6B below.

(i) Final Scheduled Volume:

Solar Energy Contract	Period	Final Scheduled Volume MU)			
		Total	Minimum	Maximum	Average
Day Ahead Contingency	November, 2020	161.15	1.61	8.04	5.37
	October, 2020	203.31	0.87	12.86	6.56
	% Change	-20.74	85.06	-37.48	-18.14
Intraday	November, 2020	3.13	0.01	1.15	0.52
	October, 2020	5.09	0.02	1.58	0.46
	% Change	-38.51	-50.00	-27.22	13.04

Table-6A

(ii) Daily Market Clearing Price (MCP):

Solar Energy Contract	Period	Prices (Rs/kWh)		
		Minimum	Maximum	Average
Day Ahead Contingency	November , 2020	3.41	3.98	3.74
	October , 2020	3.36	3.68	3.50
	% Change	1.49	8.15	6.86
Intraday	November , 2020	3.64	4.00	3.89
	October , 2020	3.30	4.00	3.58
	% Change	10.30	0.00	8.66

Table-6B

6. BILATRAL TRANSACTIONS:

The total volume of electricity transacted through **Bilateral transactions** in the month of November, 2020 for buy and sell were **4,171.15 MU** and **4,162.75 MU** respectively. The total

buy volume of electricity transacted in bilateral market through direct transactions and traders were **1,621.07 MU** and **2,550.08 MU** respectively. Similarly, the total sell volume of electricity transacted in bilateral market through direct transactions and traders were **1,625.15 MU** and **2,537.60 MU** respectively. The details of Bilateral buy and sell Transactions of Electricity happened during November, 2020 have been shown in Tables Below:

Volume (MU)	Buy		Total Buy (MU)	Sell		Total Sell (MU)
	Direct	Traders		Direct	Traders	
Total	1,621.07	2,550.08	4,171.15	1,625.15	2,537.60	4,162.75
Maximum	1,099.12	779.20	-	517.07	580.48	-
Minimum	0.38	0.27	-	0.38	0.69	-

Table -7A

The region-wise maximum/ minimum volume of electricity for buy and sell happened bilaterally during November,2020 is given in tables below:

(i) Region-wise Buy Volume:

Region-wise Volume (MU)	ER		WR		NR		SR		NER	
	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader
Total	149.06	368.75	1231.18	38.04	167.33	1332.19	20.43	798.14	53.07	12.96
Maximum	91.49	127.19	1,099.12	29.99	73.09	688.59	15.17	779.20	53.07	7.20
Minimum	3.70	17.99	2.03	0.27	0.38	45.42	1.57	18.94	53.07	5.76

Table -7B**(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	348.39	108.65	420.15	1514.86	768.90	403.01	34.64	495.06	53.07	16.02
Maximum	195.39	49.10	198.49	580.48	517.07	182.43	15.17	328.07	53.07	7.97
Minimum	4.15	2.39	0.72	0.69	0.38	2.71	2.03	0.92	53.07	3.52

Table -7C

6.1. The top 5 buyers on bilateral transaction through direct transactions in the month of November, 2020 are **Madhya Pradesh, Chhattisgarh, Jharkhand, Rajasthan and Haryana**, which constituted **87.39%** of the market volume. Whereas **top 5 buyers** on bilateral transaction through traders in the month of November, 2020 are **Tamil Nadu, Punjab, Himachal Pradesh, West Bengal and Rajasthan**, which constituted **78.71%** of the market volume. [Annexure III]

6.2. The top 5 sellers on bilateral transaction through direct transactions in the month of November, 2020 are **Punjab, Uttar Pradesh, Chhattisgarh, DVC and Bangladesh**, which

constituted **76.26%** of the market volume. Whereas **top 5 sellers** on bilateral transaction through traders in the month of November, 2020 are **Gujarat, Raipur Energen, SEIL Project-2, Raigarh Energy and Punjab**, which constituted **65.15%** of the market volume. **[Annexure III]**

- 6.3. 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 November, 2020 is shown in **Figure 1**:

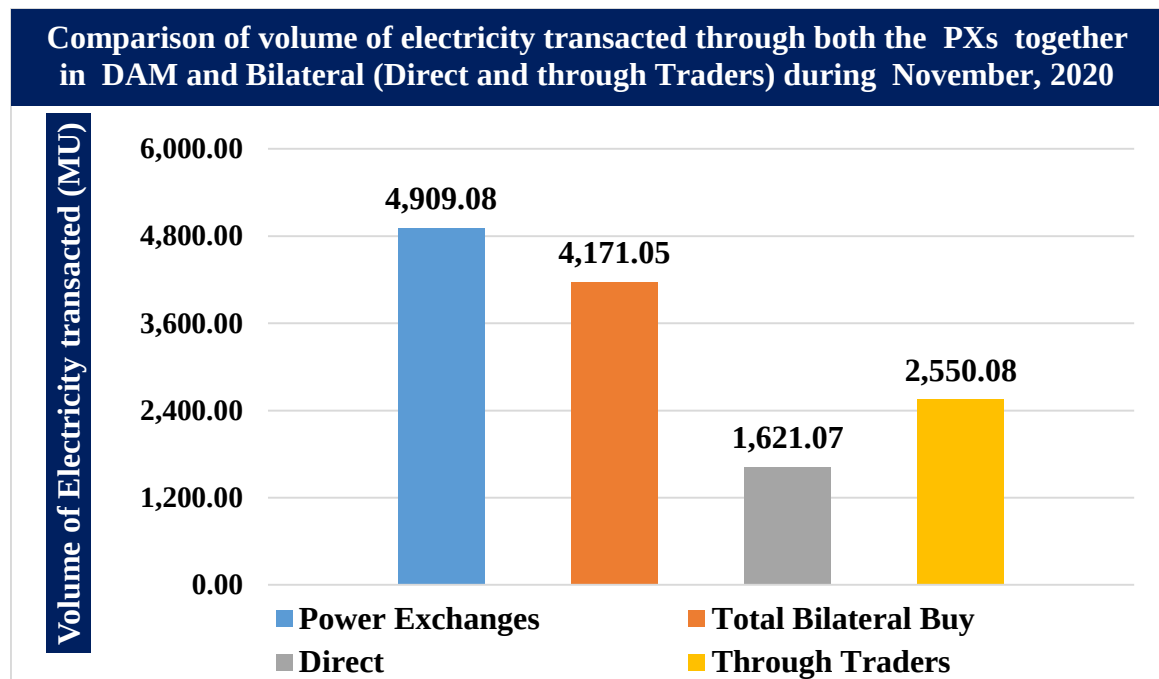


Figure -1

7. ANALYSIS OF MOVEMENT OF PRICES OBSERVED IN DAM DURING NOVEMBER, 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 November, 2020 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 and total sell bid, whereas all the other variables were found to be insignificant. Further, the regression analysis revealed that the elasticity of the Daily MCP with respect to total purchase bid was 0.41. 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 November, 2020.

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

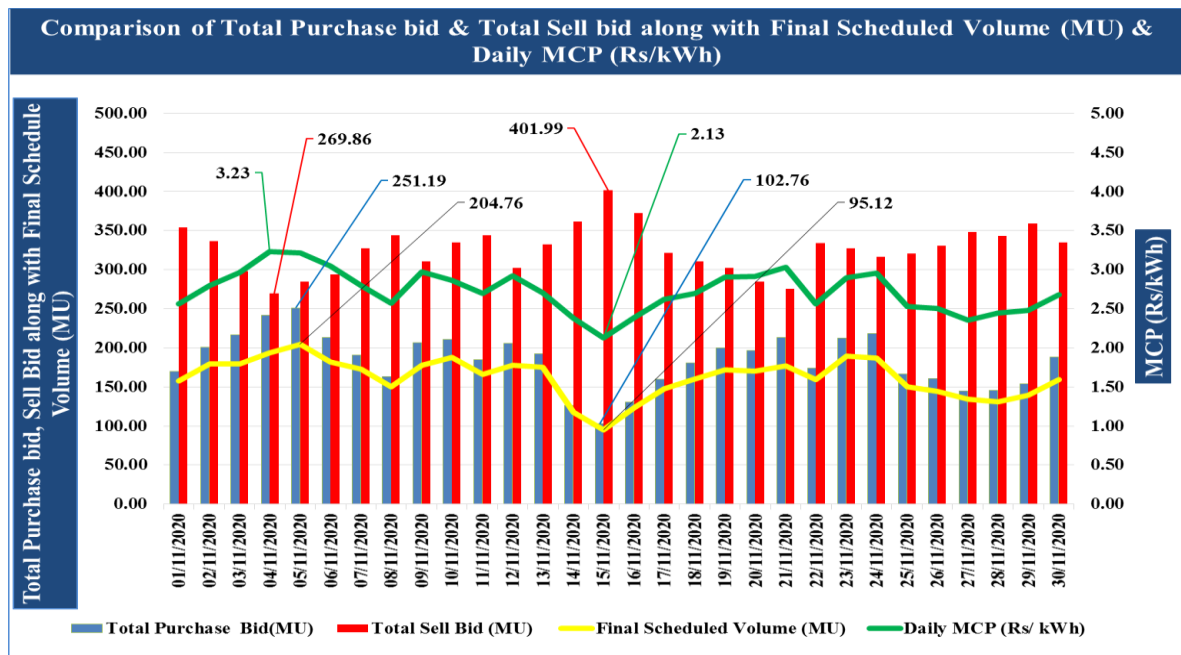


Figure -2

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, in the month of November, 2020, it is observed that on fifth Sunday (i.e. 29th November, 2020), FSV showed increasing trend in comparison to Saturday (i.e. 28th November, 2020). The detailed analysis on this is given at **Appendix-I**.

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

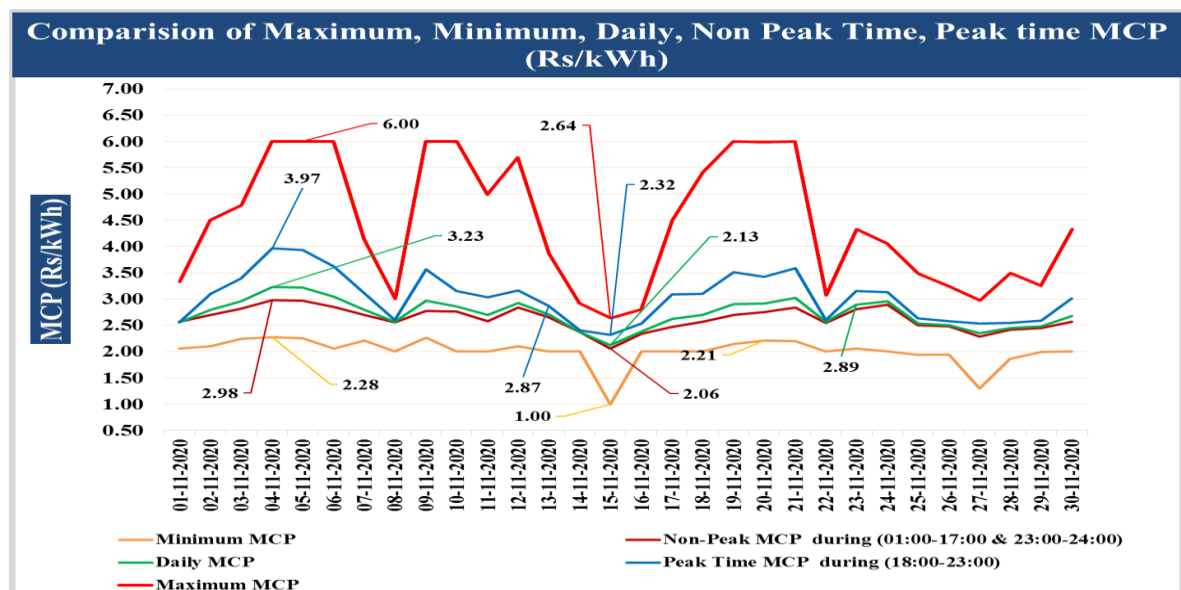


Figure -3

- 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 in at para 7.1 and 7.2 above.
- 7.7. On **18 days** during the month, the maximum FSV occurred during the **time period 17:45-19:15 i.e.,** six consecutive time blocks starting 17:45-18:00 Hrs. **[Annexure VI]**
- 7.8. On all **22 days** during the month, the maximum MCP occurred during the **time period 17:30-18:45 i.e.,** five consecutive time blocks starting 17:30-17:45 Hrs. **[Annexure VI]**
- 7.9. On **10 days** during the month, the minimum MCP occurred during the time period **03:30-04:15** and also on **9 days** the minimum MCP occurred during the time period **05:15 – 06:00. [Annexure VI]**
- 7.10. On **9 days** during the month, the minimum FSV occurred during the **time period 23:30-24:00. [Annexure VI]**
- 7.11. The maximum demand of **160.78 GW** was met during the month of November, 2020 in the country on **3rd November, 2020**, which is 5.37 % less than the maximum demand occurred during **October, 2020 [i.e. 169.90 GW on 8th October, 2020]** and is 3.34 % more than the maximum demand occurred during November, 2019 i.e. **[155.58 GW on 19th November, 2019]**.
- 7.12. One nation One Price was observed for all **30 days** in IEX in November, 2020, as there was **no** congestion in transmission system in IEX in November, 2020. In PXIL also, there was no congestion in transmission system in November, 2020, so one nation one price was observed on all 30 days during the month. In the month of October, 2020, there was congestion in transmission system to the tune of 2.01 MU in IEX on 28th and 29th October, 2020 , hence, one nation one price was observed for 29 days on IEX in October, 2020. In PXIL, there was no congestion in transmission system during October, 2020, so one nation one price was observed on all 31 days during the month. Similarly, in the month of November, 2019, there was congestion in transmission system to the tune of **13.75 MU** in IEX on 20th - 23rd November, 2019, hence, one nation one price was observed for **26 days** on IEX. In PXIL, there was no congestion in transmission system, so one nation one price was observed on all **7 days** during which transaction of electricity happened (23rd to 28th and 30th November, 2019).
- 7.13. There was **no** real time curtailment in IEX and PXIL in November, 2020. Further, there was real time curtailment of **0.16 MU** in IEX in October, 2020, whereas in PXIL, there was **no**

real time curtailment during October, 2020. In November, 2019 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 November, 2020 are **Jaypee Nigrie, Odisha, Chhattisgarh, Uttar Pradesh, Teesta -3, DB Power, Raipur Energen, Sembcorp Gayatri, Madhya Pradesh and Costal Energen**, which constituted **56.63%** of the market volume. [Annexure VII]

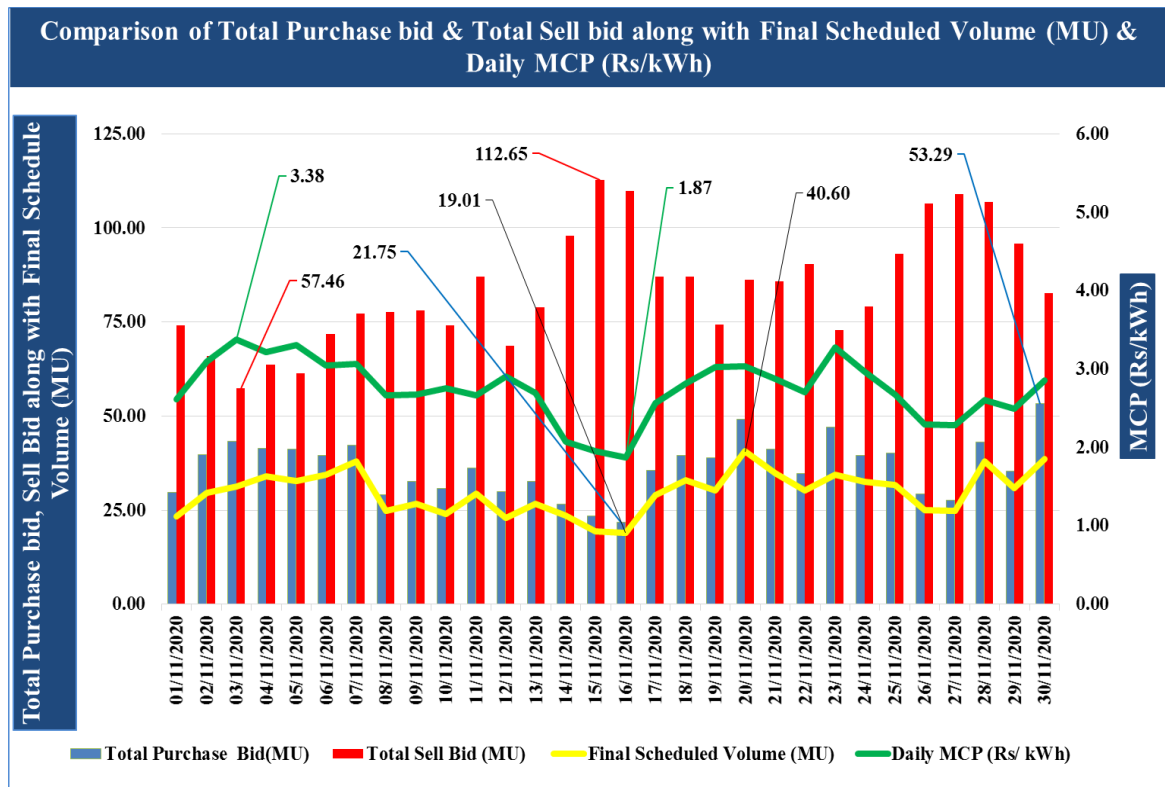
7.15. The **top 10 purchasers** on the power exchanges in DAM in the month of November, 2020 are **Andhra Pradesh, Punjab, Tamil Nadu, Rajasthan, Maharashtra, Uttarakhand, Gujarat, UT of J&K and Ladakh, Delhi and Haryana**, which constituted **82.62 %** of the market volume. [Annexure VII]

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

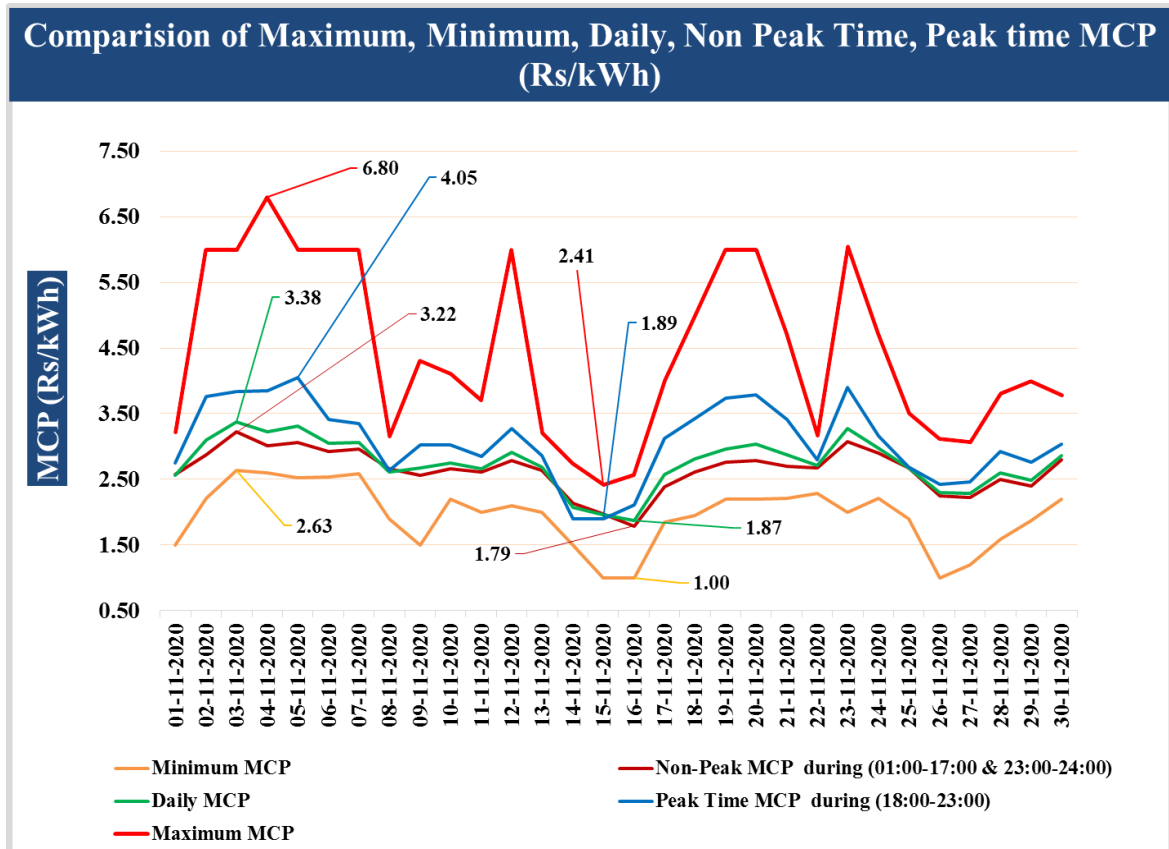
8.1. Similar to the regression analysis carried out for Day Ahead Market, the regression analysis for Real Time Market was also done. The regression analysis revealed that the significant variables were the total purchase bid and total sell bid, whereas all the other variables were found to be insignificant. Further, the regression analysis revealed that the elasticity of the Daily MCP with respect to total purchase bid was 0.30. 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 November, 2020 for RTM transactions also.

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 in at para 8.1 above

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



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



- 8.5. On **21 days** during the month, the maximum MCP occurred during the **time period 17:15-18:45 i.e., six** consecutive time blocks starting 17:15-17:30 Hrs. [**Annexure X**]
- 8.6. There was **no real time curtailment** in IEX in Real Time Market during November, 2020 and October, 2020, whereas, no transaction of electricity happened in PXIL during November, 2020 and October, 2020.
- 8.7. In the month of November, 2020, there was congestion of **0.01 MU** in transmission system in IEX in Real Time Market on two days , hence, one nation one price was observed for **28 days** in IEX in November, 2020. Whereas, in PXIL, no transaction of electricity happened in November, 2020 in Real Time Market. Further, in the month of October, 2020 there was congestion of **0.05 MU** in transmission system in IEX in Real Time Market on two days, hence, one nation one price was observed for **29 days** in IEX. Whereas, in PXIL, no transaction of electricity happened in October, 2020 in Real Time Market.
- 8.8. The **top 10 sellers** on the power exchanges in RTM in the month of November, 2020 are **Telangana, Odisha, NLC TPS-II, Sembcorp Gayatri, West Bengal, NLC TPS-II Stg2, RKM Power, Uttar Pradesh, GMR Warora and Kameng HEP**, which constituted **49.81%** of the market volume. [**Annexure XI**]
- 8.9. The **top 10 purchasers** on the power exchanges in RTM in the month of November, 2020 are **UT of J&K and Ladakh, Andhra Pradesh, Rajasthan, Maharashtra, Uttar Pradesh, Delhi, West Bengal, Bihar, Himachal Pradesh and Odisha**, which constituted **87.97%** of the market volume. [**Annexure XI**]

-
- Source DAM, TAM, RTM and GTAM 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 November, 2020 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, 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 Quarter -I	April - June, 2020	13,440.11	37.27			0	0
Quarter-II	July, 2020	4486.71	-	2.47	NA	0	NA
	August, 2020	4,484.36	14.10	2.43	2.64	0	0
	September, 2020	4,780.99	60.20	2.69	2.70	0	0
Total Quarter -II	July – September, 2020	13,752.06	74.30			0	0
Quarter-III	October, 2020	5,500.53	49.57	2.74	2.80	0.16	0
	November, 2020	4,860.46	48.62	2.73	2.87	0	0
Total April - November, 2020		37,553.16	209.76			0.16	0

- : No Transaction happened

NA: Not Applicable

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

Quarter	Months	Final Scheduled Volume (MU)		
		IEX	PXIL	Total
Quarter -I	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 Quarter -I	April - June, 2020	857.30	550.56	1,407.86
Quarter-II	July, 2020	60.75	28.29	89.04
	August, 2020	151.09	321.22	472.31
	October, 2020	98.30	472.44	570.74
Total Quarter -II	July – September, 2020	310.14	821.95	1,132.09
Quarter-III	October, 2020	276.80	791.06	1,067.86
	November, 2020	189.00	872.60	1,061.60
Total April - November, 2020		1,633.24	3,036.17	4,669.41

Top Five Entities (Buyers and Sellers) in Bilateral transactions in the month of November, 2020

(i) Top five Buyers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent (%)		(MU)	Percent
Madhya Pradesh	1,099.12	67.80%	Tamil Nadu	779.20	30.56%
Chhattisgarh	99.82	6.16%	Punjab	688.59	27.00%
Jharkhand	91.49	5.64%	Himachal Pradesh	291.46	11.43%
Rajasthan	73.09	4.51%	West Bengal	127.19	4.99%
Haryana	53.17	3.28%	Rajasthan	120.66	4.73%
Total Volume	1,416.68	87.39%	Total Volume	2,007.09	78.71%
Total Volume in Bilateral	1,621.07		Total Volume in Bilateral	2,550.08	

(ii) Top five Sellers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
Punjab	517.07	31.82%	Gujarat	580.48	22.88%
Uttar Pradesh	236.85	14.57%	Raipur Energen	363.18	14.31%
Chhattisgarh	198.49	12.21%	SEIL Project-2	328.07	12.93%
DVC	195.39	12.02%	Raigarh Energy	199.19	7.85%
Bangladesh	91.49	5.63%	Punjab	182.43	7.19%
Total Volume	1,239.29	76.26%	Total Volume	1,653.35	65.15%
Total Volume in Bilateral	1,625.15		Total Volume in Bilateral	2,537.60	

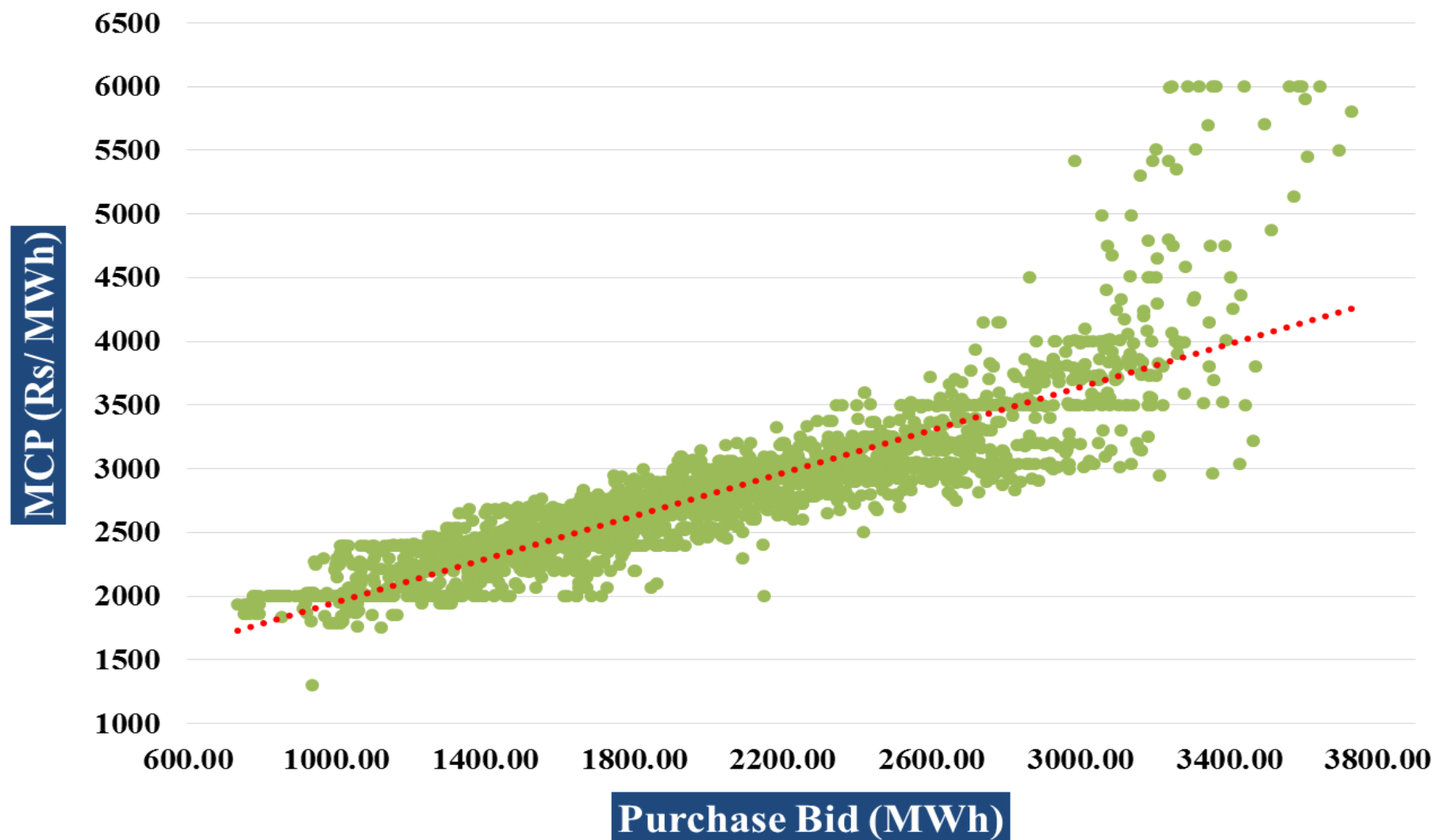
Annexure-IV**Peak Time MCP, Non-Peak MCP, Maximum MCP, Minimum MCP, Average MCP and Final Scheduled Volume (MU) in DAM**

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)
01/11/2020	2.44	2.80	2.55	2.55	2.57	3.33	2.06	2.56	157.79
02/11/2020	2.31	2.94	2.95	3.10	2.70	4.50	2.10	2.80	179.39
03/11/2020	2.44	3.20	2.99	3.39	2.82	4.79	2.24	2.96	179.68
04/11/2020	2.57	3.42	3.15	3.97	2.98	6.00	2.28	3.23	193.36
05/11/2020	2.52	3.49	3.13	3.94	2.97	6.00	2.25	3.22	204.76
06/11/2020	2.43	3.13	3.11	3.63	2.85	6.00	2.06	3.04	181.74
07/11/2020	2.42	2.92	2.84	3.11	2.70	4.15	2.21	2.80	172.89
08/11/2020	2.46	2.77	2.53	2.61	2.56	3.01	2.00	2.57	150.23
09/11/2020	2.47	3.00	2.94	3.57	2.77	6.00	2.26	2.97	177.53
10/11/2020	2.46	3.01	2.93	3.16	2.77	6.00	2.00	2.87	187.89
11/11/2020	2.29	2.79	2.77	3.04	2.58	4.99	2.01	2.70	166.37
12/11/2020	2.32	3.31	3.10	3.17	2.84	5.70	2.10	2.92	177.66
13/11/2020	2.24	3.06	2.83	2.87	2.65	3.86	2.00	2.70	175.07
14/11/2020	2.16	2.77	2.35	2.41	2.37	2.92	2.00	2.38	117.57
15/11/2020	1.90	2.17	2.16	2.32	2.06	2.64	1.00	2.13	95.12
16/11/2020	2.05	2.56	2.51	2.54	2.34	2.80	2.00	2.39	123.75
17/11/2020	2.05	2.71	2.75	3.09	2.47	4.50	2.00	2.62	147.86
18/11/2020	2.23	2.71	2.82	3.10	2.57	5.42	2.00	2.70	159.92
19/11/2020	2.35	2.94	2.92	3.51	2.70	6.00	2.15	2.90	171.88
20/11/2020	2.40	3.07	2.91	3.42	2.75	5.99	2.21	2.92	169.87
21/11/2020	2.42	3.24	3.03	3.59	2.84	6.00	2.20	3.03	176.84
22/11/2020	2.33	2.82	2.61	2.60	2.55	3.07	2.00	2.56	158.99
23/11/2020	2.32	3.27	3.03	3.15	2.81	4.32	2.06	2.89	189.31
24/11/2020	2.25	3.40	3.24	3.13	2.89	4.06	2.00	2.95	187.05
25/11/2020	2.00	2.94	2.74	2.63	2.50	3.49	1.94	2.53	150.22
26/11/2020	2.04	2.83	2.72	2.58	2.48	3.25	1.94	2.50	144.60
27/11/2020	1.84	2.50	2.62	2.53	2.29	2.97	1.30	2.35	134.13
28/11/2020	1.96	2.83	2.63	2.55	2.41	3.50	1.86	2.45	130.80
29/11/2020	2.03	2.76	2.68	2.59	2.44	3.26	2.00	2.48	139.21
30/11/2020	2.05	3.10	2.77	3.02	2.57	4.33	2.00	2.68	158.99
Maximum	2.57	3.49	3.24	3.97	2.98	6.00	2.28	3.23	204.76
Minimum	1.84	2.17	2.16	2.32	2.06	2.64	1.00	2.13	95.12
Average	2.26	2.95	2.81	3.03	2.63	4.43	2.01	2.73	162.02

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 November, 2020



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

Annexure-VI**The details of 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
01/11/2020	07:15 - 07:30	2.68	18:15 - 18:30	3.33	23:30 - 23:45	1.06	19:45 - 20:00	2.06
02/11/2020	17:45 - 18:00	2.85	18:15 - 18:30	4.50	03:30 - 03:45	1.04	01:45 - 02:00	2.10
03/11/2020	17:45 - 18:00	2.62	18:00 - 18:15	4.79	23:45 - 24:00	1.14	23:45 - 24:00	2.24
04/11/2020	19:00 - 19:15	2.73	18:15 - 18:30	6.00	03:45 - 04:00	1.32	23:45 - 24:00	2.28
05/11/2020	07:15 - 07:30	2.88	18:30 - 18:45	6.00	03:00 - 03:15	1.32	23:45 - 24:00	2.25
06/11/2020	18:45 - 19:00	2.64	17:30 - 17:45	6.00	03:45 - 04:00	1.19	05:15 - 05:30	2.06
07/11/2020	18:30 - 18:45	2.55	17:45 - 18:00	4.15	04:00 - 04:15	1.26	23:45 - 24:00	2.21
08/11/2020	07:30 - 07:45	2.26	17:45 - 18:00	3.01	23:30 - 23:45	1.24	19:00 - 19:15	2.00
09/11/2020	16:45 - 17:00	2.63	17:45 - 18:00	6.00	03:45 - 04:00	1.20	04:30 - 04:45	2.26
10/11/2020	18:30 - 18:45	2.75	17:45 - 18:00	6.00	23:45 - 24:00	1.36	19:45 - 20:00	2.00
11/11/2020	18:30 - 18:45	2.55	17:45 - 18:00	4.99	04:30 - 04:45	1.18	05:45 - 06:00	2.01
12/11/2020	18:30 - 18:45	2.69	17:45 - 18:00	5.70	03:45 - 04:00	1.17	04:45 - 05:00	2.10
13/11/2020	18:30 - 18:45	2.66	17:45 - 18:00	3.86	04:45 - 05:00	1.24	05:45 - 06:00	2.00
14/11/2020	08:00 - 08:15	1.95	08:00 - 08:15	2.92	23:30 - 23:45	0.85	04:00 - 04:15	2.00
15/11/2020	18:15 - 18:30	1.51	17:45 - 18:00	2.64	01:45 - 02:00	0.68	05:45 - 06:00	1.00
16/11/2020	08:30 - 08:45	1.88	08:30 - 08:45	2.80	02:00 - 02:15	0.74	05:45 - 06:00	2.00
17/11/2020	18:15 - 18:30	2.53	17:45 - 18:00	4.50	04:45 - 05:00	0.87	04:00 - 04:15	2.00
18/11/2020	18:15 - 18:30	2.52	17:45 - 18:00	5.42	02:15 - 02:30	1.13	05:45 - 06:00	2.00
19/11/2020	18:30 - 18:45	2.54	17:45 - 18:00	6.00	02:30 - 02:45	1.18	05:45 - 06:00	2.15
20/11/2020	18:00 - 18:15	2.67	17:45 - 18:00	5.99	01:45 - 02:00	1.27	04:00 - 04:15	2.21
21/11/2020	18:00 - 18:15	2.62	17:45 - 18:00	6.00	02:30 - 02:45	1.30	05:30 - 05:45	2.20
22/11/2020	08:15 - 08:30	2.26	17:45 - 18:00	3.07	23:30 - 23:45	1.25	20:00 - 20:15	2.00
23/11/2020	18:00 - 18:15	2.86	17:45 - 18:00	4.32	04:45 - 05:00	1.29	04:00 - 04:15	2.06
24/11/2020	18:00 - 18:15	2.71	09:00 - 09:15	4.06	23:45 - 24:00	1.35	04:00 - 04:15	2.00
25/11/2020	08:15 - 08:30	2.19	08:45 - 09:00	3.49	23:45 - 24:00	1.02	04:00 - 04:15	1.94
26/11/2020	07:45 - 08:00	2.13	08:45 - 09:00	3.25	23:45 - 24:00	1.04	04:00 - 04:15	1.94
27/11/2020	10:30 - 10:45	2.04	08:45 - 09:00	2.97	05:30 - 05:45	0.85	05:45 - 06:00	1.30
28/11/2020	09:45 - 10:00	2.19	08:45 - 09:00	3.50	05:30 - 05:45	0.89	03:30 - 03:45	1.86
29/11/2020	08:00 - 08:15	2.29	08:45 - 09:00	3.26	04:45 - 05:00	0.90	03:45 - 04:00	2.00
30/11/2020	18:00 - 18:15	2.72	18:15 - 18:30	4.33	05:00 - 05:15	0.96	04:00 - 04:15	2.00

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

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

Entity Name	Sell		Entity Name	Purchase	
	(MU)	Percent (%)		(MU)	Percent
Jaypee Nigrie	393.64	8.02%	Andhra Pradesh	903.25	18.40%
Orissa	384.62	7.83%	Punjab	536.16	10.92%
Chhattisgarh	378.61	7.71%	Tamil Nadu	526.75	10.73%
Uttar Pradesh	268.63	5.47%	Rajasthan	434.13	8.84%
Teesta -3	251.81	5.13%	Maharashtra	394.11	8.03%
DB Power	251.40	5.12%	Uttarakhand	359.54	7.32%
Raipur Energen	238.17	4.85%	Gujarat	350.67	7.14%
Sembcorp Gayatri	226.70	4.62%	J&K	189.68	3.86%
Madhya Pradesh	214.29	4.37%	Delhi	185.63	3.78%
Costal Energen	171.89	3.50%	Haryana	175.82	3.58%
Total	2,779.77	56.63%	Total	4,055.74	82.62%
Total Volume in PXs	4,909.08		Total Volume in	4,909.08	

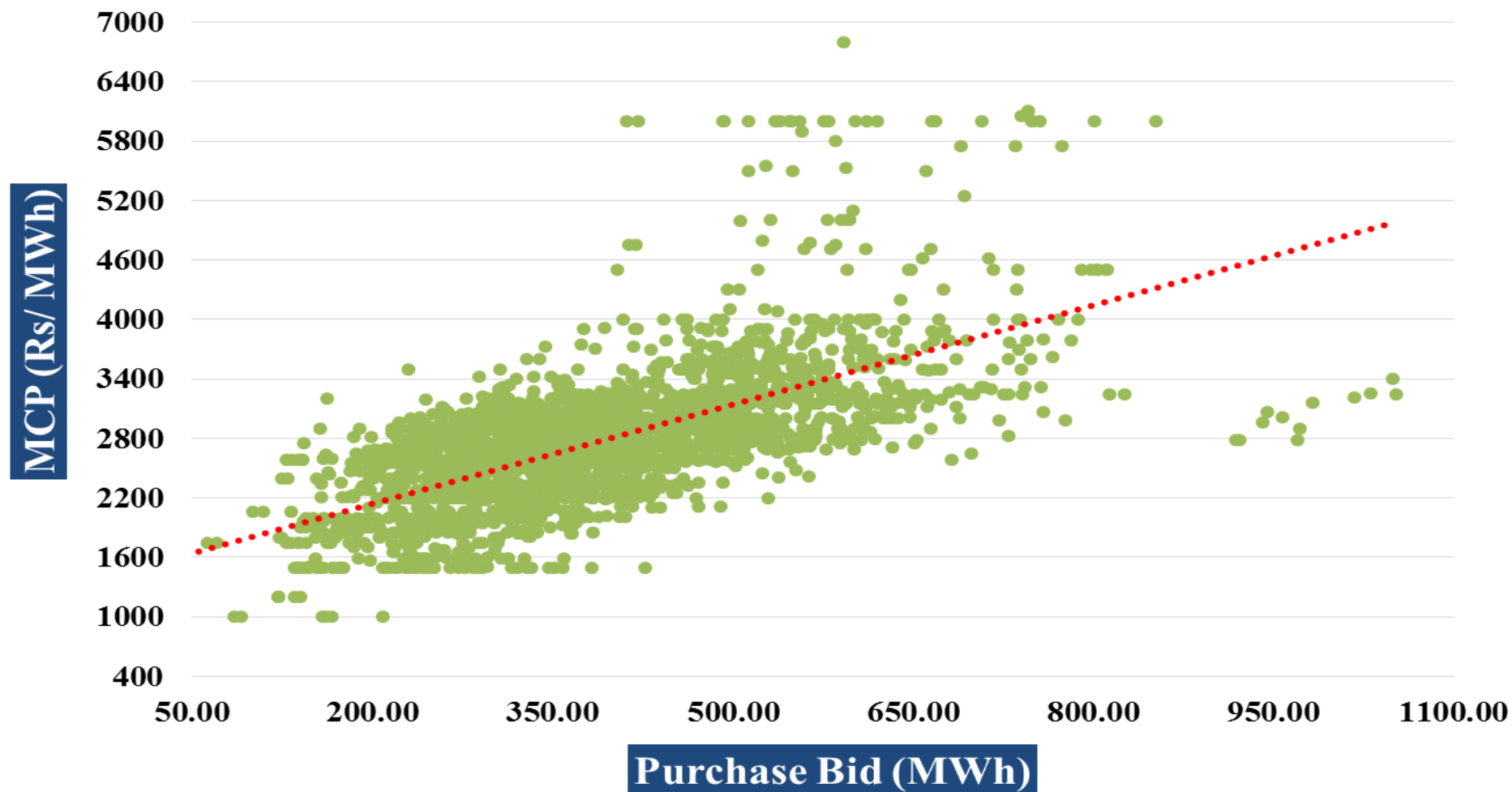
Annexure-VIII**Peak Time MCP, Non-Peak MCP, Maximum MCP, Minimum MCP, Average MCP and Final Scheduled Volume (MU) in RTM**

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)
01/11/2020	2.60	2.76	2.44	2.75	2.57	3.22	1.50	2.56	23.35
02/11/2020	2.41	3.07	3.23	3.76	2.88	6.00	2.21	3.10	29.55
03/11/2020	2.79	3.65	3.41	3.84	3.22	6.00	2.63	3.38	31.27
04/11/2020	2.80	3.17	3.12	3.85	3.01	6.80	2.60	3.22	34.00
05/11/2020	2.66	3.38	3.28	4.05	3.06	6.00	2.52	3.31	32.82
06/11/2020	2.67	3.22	3.00	3.41	2.92	6.00	2.54	3.04	34.42
07/11/2020	2.68	3.30	3.06	3.35	2.97	6.00	2.58	3.06	38.00
08/11/2020	2.59	2.92	2.60	2.64	2.67	3.15	1.90	2.61	24.79
09/11/2020	2.19	2.67	2.85	3.03	2.56	4.30	1.50	2.67	26.69
10/11/2020	2.42	2.87	2.78	3.03	2.66	4.11	2.20	2.75	23.95
11/11/2020	2.24	2.96	2.77	2.85	2.61	3.70	2.00	2.67	29.41
12/11/2020	2.44	2.95	3.04	3.27	2.78	6.00	2.10	2.91	22.94
13/11/2020	2.32	2.65	2.94	2.87	2.63	3.20	2.00	2.69	26.74
14/11/2020	2.31	2.36	1.82	1.90	2.13	2.75	1.50	2.07	23.62
15/11/2020	1.81	1.95	2.15	1.89	1.98	2.41	1.00	1.95	19.43
16/11/2020	1.63	1.71	1.98	2.11	1.79	2.56	1.00	1.87	19.01
17/11/2020	2.07	2.43	2.67	3.12	2.38	4.00	1.84	2.57	29.04
18/11/2020	2.20	2.68	2.98	3.43	2.61	5.00	1.94	2.82	33.01
19/11/2020	2.40	3.21	2.89	3.73	2.76	6.00	2.20	2.96	30.23
20/11/2020	2.37	3.13	2.99	3.78	2.78	6.00	2.20	3.03	40.60
21/11/2020	2.35	2.97	2.90	3.41	2.70	4.72	2.21	2.88	34.88
22/11/2020	2.50	2.94	2.71	2.80	2.68	3.16	2.28	2.71	30.28
23/11/2020	2.30	3.66	3.52	3.89	3.08	6.05	2.00	3.28	34.33
24/11/2020	2.38	3.21	3.25	3.16	2.90	4.72	2.21	2.97	32.57
25/11/2020	2.12	3.00	3.04	2.69	2.67	3.50	1.90	2.68	31.62
26/11/2020	1.74	2.60	2.56	2.42	2.25	3.12	1.00	2.29	25.01
27/11/2020	1.69	2.54	2.60	2.45	2.23	3.07	1.20	2.29	24.74
28/11/2020	1.98	2.89	2.79	2.92	2.50	3.80	1.59	2.60	37.92
29/11/2020	2.06	2.70	2.57	2.76	2.40	4.00	1.87	2.49	30.93
30/11/2020	2.30	3.29	3.02	3.04	2.80	3.78	2.20	2.86	38.48
Maximum	2.80	3.66	3.52	4.05	3.22	6.80	2.63	3.38	40.60
Minimum	1.63	1.71	1.82	1.89	1.79	2.41	1.00	1.87	19.01
Average	2.30	2.89	2.83	3.07	2.64	4.44	1.95	2.74	29.79

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 November, 2020



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

Annexure-X**The details of 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
01/11/2020	14:15 - 14:30	0.37	18:15 - 18:30	3.22	19:00 - 19:15	0.16	13:15 - 13:30	1.50
02/11/2020	16:45 - 17:00	0.51	18:00 - 18:15	6.00	05:30 - 05:45	0.11	02:15 - 02:30	2.21
03/11/2020	18:45 - 19:00	0.48	18:00 - 18:15	6.00	07:15 - 07:30	0.15	02:30 - 02:45	2.63
04/11/2020	11:30 - 11:45	0.59	17:45 - 18:00	6.80	08:15 - 08:30	0.21	23:45 - 24:00	2.60
05/11/2020	16:30 - 16:45	0.55	17:45 - 18:00	6.00	07:00 - 07:15	0.11	01:00 - 01:15	2.52
06/11/2020	19:30 - 19:45	0.59	17:45 - 18:00	6.00	07:45 - 08:00	0.16	00:30 - 00:45	2.54
07/11/2020	16:45 - 17:00	0.63	17:45 - 18:00	6.00	22:45 - 23:00	0.22	23:15 - 23:30	2.58
08/11/2020	05:00 - 05:15	0.43	17:45 - 18:00	3.15	20:45 - 21:00	0.12	23:15 - 23:30	1.90
09/11/2020	11:30 - 11:45	0.47	17:45 - 18:00	4.30	23:00 - 23:15	0.14	05:45 - 06:00	1.50
10/11/2020	16:30 - 16:45	0.45	17:30 - 17:45	4.11	23:00 - 23:15	0.13	05:45 - 06:00	2.20
11/11/2020	09:15 - 09:30	0.59	18:15 - 18:30	3.70	22:15 - 22:30	0.12	02:45 - 03:00	2.00
12/11/2020	20:00 - 20:15	0.36	17:30 - 17:45	6.00	06:15 - 06:30	0.14	00:45 - 01:00	2.10
13/11/2020	16:00 - 16:15	0.50	14:30 - 14:45	3.20	00:00 - 00:15	0.17	00:45 - 01:00	2.00
14/11/2020	11:45 - 12:00	0.40	07:30 - 07:45	2.75	18:45 - 19:00	0.13	21:45 - 22:00	1.50
15/11/2020	13:00 - 13:15	0.36	11:00 - 11:15	2.41	19:45 - 20:00	0.12	19:15 - 19:30	1.00
16/11/2020	01:45 - 02:00	0.32	19:30 - 19:45	2.56	10:15 - 10:30	0.06	13:15 - 13:30	1.00
17/11/2020	18:00 - 18:15	0.51	17:45 - 18:00	4.00	00:30 - 00:45	0.18	02:00 - 02:15	1.84
18/11/2020	11:00 - 11:15	0.52	17:45 - 18:00	5.00	01:30 - 01:45	0.21	04:30 - 04:45	1.94
19/11/2020	19:00 - 19:15	0.47	17:45 - 18:00	6.00	23:45 - 24:00	0.18	03:15 - 03:30	2.20
20/11/2020	10:30 - 10:45	0.73	18:30 - 18:45	6.00	00:00 - 00:15	0.21	02:45 - 03:00	2.20
21/11/2020	17:15 - 17:30	0.61	18:00 - 18:15	4.72	23:30 - 23:45	0.23	01:30 - 01:45	2.21
22/11/2020	11:45 - 12:00	0.44	08:30 - 08:45	3.16	19:00 - 19:15	0.18	23:45 - 24:00	2.28
23/11/2020	11:15 - 11:30	0.61	17:30 - 17:45	6.05	23:45 - 24:00	0.13	23:45 - 24:00	2.00
24/11/2020	13:30 - 13:45	0.52	17:45 - 18:00	4.72	06:00 - 06:15	0.19	23:45 - 24:00	2.21
25/11/2020	12:45 - 13:00	0.55	19:30 - 19:45	3.50	05:45 - 06:00	0.16	23:15 - 23:30	1.90
26/11/2020	20:45 - 21:00	0.41	10:45 - 11:00	3.12	04:30 - 04:45	0.11	04:30 - 04:45	1.00
27/11/2020	09:15 - 09:30	0.35	09:15 - 09:30	3.07	03:30 - 03:45	0.13	03:30 - 03:45	1.20
28/11/2020	19:45 - 20:00	0.71	17:15 - 17:30	3.80	05:45 - 06:00	0.21	04:00 - 04:15	1.59
29/11/2020	19:45 - 20:00	0.52	17:45 - 18:00	4.00	06:15 - 06:30	0.20	02:15 - 02:30	1.87
30/11/2020	15:30 - 15:45	0.62	09:45 - 10:00	3.78	00:15 - 00:30	0.28	03:00 - 03:15	2.20

MCP: Market Clearing Price (Rs/kWh)

FSV: Final Scheduled Volume (MU)

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

Entity Name	Sell		Entity Name	Purchase	
	(MU)	Percent (%)		(MU)	Percent (%)
Telangana	81.76	9.15%	UT of J&K and Ladakh	400.55	44.82%
Odisha	64.76	7.25%	Andhra Pradesh	97.24	10.88%
NLC TPS-II	51.03	5.71%	Rajasthan	90.81	10.16%
Sembcorp Gayatri	50.30	5.63%	Maharashtra	36.16	4.05%
West Bengal	41.14	4.60%	Uttar Pradesh	35.24	3.94%
NLC TPS-II Stg-2	40.22	4.50%	Delhi	31.42	3.52%
RKM Power	30.99	3.47%	West Bengal	26.55	2.97%
Uttar Pradesh	29.45	3.30%	Bihar	24.00	2.69%
GMR Warora	29.06	3.25%	Himachal Pradesh	22.25	2.49%
Kameng HEP	26.41	2.96%	Odisha	21.86	2.45%
Total Volume	445.13	49.81%	Total Volume	786.09	87.97%
Total Volume in PXs	893.62		Total Volume in PXs	893.62	

Appendix-I**Analysis for change in trend of Final Scheduled Volume in DAM on 5th Sunday of November, 2020 (i.e. 29th November, 2020)**

During the month of November, 2020, it is observed that on fifth Sunday (i.e. 29th November, 2020), FSV showed increasing trend in comparison to fourth Saturday (i.e. 28th November, 2020). On analysis of this variation in trends of FSV on above days during November, 2020, it has been observed as under:

- On Sunday (29th November, 2020), although there was increase in purchase on power exchange by some of the States in comparison to Saturday (28th November, 2020) by **28.61 MU** [i.e. Andhra Pradesh (9.25 MU), Gujarat (6.69 MU), Rajasthan (6.06 MU), Punjab (6.04 MU), Odisha (0.31 MU), etc.], there was also decrease in purchase on power exchange by some of the States by **20.20 MU** [i.e. Maharashtra (4.13 MU), Uttarakhand (4.00 MU), Uttar Pradesh (2.21 MU), West Bengal (2.09 MU), etc.] This resulted in an overall increase in FSV by **8.41 MU** on Sunday (29th November, 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. **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.