

I/31496/2023



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

सेवा में /To

1. Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi- 110001.
2. Secretary, Ministry of New & Renewable Energy, Atal Akshay Urja Bhawan, CGO Complex, Lodhi Road, New Delhi- 110003.
3. Secretary, CERC, Chanderlok Building, Janpath, New Delhi- 110001.

**विषय: सितम्बर, 2023 माह की मार्केट मॉनिटरिंग रिपोर्ट।**

**Subject: Monthly Market Monitoring Report for the month of September, 2023.**

महोदय/ Sir,

सितम्बर, 2023 माह के लिए केंद्रीय विद्युत प्राधिकरण द्वारा तैयार की गई मासिक मार्केट मॉनिटरिंग रिपोर्ट (MMMR) की एक प्रति सूचना और अवलोकन के लिए संलग्न है। A copy of the monthly market monitoring report (MMMR) prepared by central Electricity Authority for the month of September, 2023 is enclosed herewith for kind information and perusal.

सितम्बर, 2023 माह के दौरान मार्केट के संचालन की मुख्य विशेषताएं इस प्रकार रही। Key highlights of the market operation during September, 2023 are as under:

- (i) सितम्बर, 2023 माह में देश में कुल 138,608 MU विद्युत का कारोबार किया गया, जिसमें से 70,649 MU का कारोबार अंतर्राज्यीय पारेषण प्रणाली (Inter State Transmission System) के माध्यम से किया गया था और शेष राज्य नियंत्रित उत्पादन स्टेशनों से अंतरराज्यीय पारेषण प्रणाली (Intra State Transmissions System) के माध्यम से किया गया। In the month of September, 2023 a total of 138,608 MU of electricity was transacted in the country out of which 70,649 MU was transacted through ISTS, and the remaining through state controlled generating stations through Intra State Transmissions System.
- (ii) अल्पावधि मार्केट के अंतर्गत कुल 25,878 MU का कारोबार किया गया था, जिसमें से 11,383 MU पावर एक्सचेंजों के माध्यम से कारोबार किया गया और शेष द्विपक्षीय कारोबार और विचलन (deviations) के रूप में हुआ। इस प्रकार अल्पावधि कारोबार, सितम्बर, 2023 माह में ट्रेड की गई विद्युत की कुल मात्रा का 16.11 % था और 8.21 % पावर

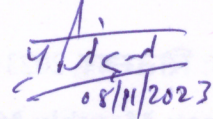


I/31496/2023

एक्सचेंजों के माध्यम से रहा। A total of 25,878 MU was transacted under Short Term Market, out of which 11,383 MU was transacted through Power Exchanges and remaining happened as bilateral transactions & deviations. Thus, the total short term trade in September, 2023 was 16.11 % of total volume of electricity traded in September, 2023 and 8.21 % was through Power Exchanges.

- (iii) यदि हम अंतर्राज्यीय पारेषण प्रणाली (ISTS) के माध्यम से आपूर्ति की गई विद्युत के संबंध में इन कारोबारों की तुलना करते हैं, तो अल्पावधि कारोबार अंतर्राज्यीय पारेषण प्रणाली (ISTS) कारोबार का लगभग 36.63 % रहा, जिसमें से पावर एक्सचेंजों के माध्यम से कारोबार 18.67 % रहा। If we compare these transactions with respect to the electricity supplied through ISTS, the short term transactions constitutes about 36.63 % of ISTS transactions, out of which transaction through the power exchanges constitutes 18.67 %.

भवदीय/ Yours faithfully,

  
08/11/2023

( प्रदीप जिंदल/ Pardeep Jindal )

मुख्य अभियंता (आर.ए.)/ Chief Engineer (RA)

प्रतिलिपि/ Copy for information, through email, to:

1. O/o Chairperson, CEA
2. O/o Member (E&C), CEA
3. Secretary (All SERCs and JERCs)
4. CMD, Grid Controller of India Limited (GRID-INDIA), B-9 (1st Floor), Qutab Institutional Area, Katwaria Sarai, New Delhi -110016.
5. CMD, Indian Energy Exchange (IEX), 9th Floor, Max Towers, Sector 16B, Noida-201301.
6. MD & CEO, Power Exchange India Limited (PXIL), Sumer Plaza, 9th floor, Unit no - 901, Marol Maroshi Road, Andheri (East), Mumbai-400 059.
7. COO, Hindustan Power Exchange Limited (HPX), World Trade Tower, 8th Floor, Sector 16, Noida, Uttar Pradesh – 201301.

CEA website (<https://cea.nic.in/market-monitoring-report/?lang=en>)





मासिक मार्केट मॉनिटरिंग रिपोर्ट - सितम्बर, 2023

## Monthly Market Monitoring Report September, 2023



भारत सरकार/ Government of India

विद्युत मंत्रालय/ Ministry of Power

केन्द्रीय विद्युत प्राधिकरण/ Central Electricity Authority

आर. ए. प्रभाग/ Regulatory Affairs Division





## TABLE OF CONTENTS

Sl. No.	Title	Page
1.	Table of Contents विषय सूची सारणी	1
2.	Summary of Report रिपोर्ट का सारांश	5
3.	Day Ahead Market (DAM) दिवस अग्रे मार्केट	13
4.	Real Time Market (RTM) रीयल टाइम मार्केट	16
5.	Green Day Ahead Market (GDAM) हरित दिवस अग्रे मार्केट	18
6.	Term Ahead Market (TAM) टर्म अहेड मार्केट	20
7.	Day Ahead Contingency & Intra Day (DAC & ID) डे अहेड आकस्मिकता और इंट्रा डे	22
8.	Green Term Ahead Market (GTAM) हरित टर्म अहेड मार्केट	24
9.	Green Day Ahead Contingency & Intra Day (G-DAC & ID) हरित डे अहेड आकस्मिकता और इंट्रा डे	34
10.	Bilateral Transactions द्विपक्षीय लेनदेन	40
11.	Analysis of movement of prices observed in DAM Transactions in September, 2023 सितम्बर, 2023 में DAM व्यापार में देखी गई कीमतों में उतार-चढ़ाव का विश्लेषण	42
12.	Analysis of movement of prices observed in RTM Transactions in September, 2023 सितम्बर, 2023 में RTM व्यापार में देखी गई कीमतों में उतार-चढ़ाव का विश्लेषण	46

## सारणियां / TABLES

1.	<b>Table: 1A</b>	FSV of PXs in DAM for September, 2023 vs August, 2023 and September, 2022	14
2.	<b>Table: 1B</b>	Daily Avg. MCP and ACP of PXs in DAM for September, 2023 vs August, 2023 and September, 2022	15
3.	<b>Table: 2A</b>	FSV of PXs in RTM for September, 2023 vs August, 2023 and September, 2022	16
4.	<b>Table: 2B</b>	Daily Avg. MCP and ACP of PXs in RTM for September, 2023 vs August, 2023 and September, 2022	16
5.	<b>Table: 3A</b>	FSV of GDAM in PXs for September, 2023	18
6.	<b>Table: 3B</b>	Daily Avg. MCP and ACP of GDAM in PXs for September, 2023	19
7.	<b>Table: 4A</b>	FSV of PXs in TAM for September, 2023 vs August, 2023 (on delivery date basis)	20
8.	<b>Table: 4B</b>	Average MCP of PXs in TAM for September, 2023 vs August, 2023 and September, 2022 (on delivery date basis)	21

## सारणियां / TABLES

9.	<b>Table: 5A</b>	FSV of PXs in DAC & ID for September, 2023 vs August, 2023 (on delivery date basis)	22
10.	<b>Table: 5B</b>	Average MCP of PXs in DAC & ID for September, 2023 vs August, 2023 and September, 2022 (on delivery date basis)	23
11.	<b>Table: 6A</b>	FSV of PXs in Solar Segment of GTAM for September, 2023 vs August, 2023 (on delivery date basis)	24
12.	<b>Table: 6B</b>	Daily Avg. MCP of PXs in Solar Segment of GTAM for September, 2023 vs August, 2023 (on delivery date basis)	25
13.	<b>Table: 6C</b>	FSV of PXs in Non-Solar Segment of GTAM for September, 2023 vs August, 2023 (on delivery date basis)	27
14.	<b>Table: 6D</b>	Daily Avg. MCP of PXs in Non-Solar Segment of GTAM for September, 2023 vs August, 2023 (on delivery date basis)	29
15.	<b>Table: 6E</b>	FSV of PXs in Hydro Segment of GTAM for September, 2023 vs August, 2023 (on delivery date basis)	30
16.	<b>Table: 6F</b>	Daily Avg. MCP of PXs in Hydro Segment of GTAM for September, 2023 vs August, 2023 (on delivery date basis)	32
17.	<b>Table: 7A</b>	FSV of PXs in Solar Segment of G-DAC & ID for September, 2023 vs August, 2023 (on delivery date basis)	34
18.	<b>Table: 7B</b>	Daily Avg. MCP of PXs in Solar Segment of G-DAC & ID for September, 2023 vs August, 2023 (on delivery date basis)	35
19.	<b>Table: 7C</b>	FSV of PXs in Non-Solar Segment of G-DAC & ID for September, 2023 vs August, 2023 (on delivery date basis)	36
20.	<b>Table: 7D</b>	Daily Avg. MCP of PXs in Non-Solar Segment of G-DAC & ID for September, 2023 vs August, 2023 (on delivery date basis)	37
21.	<b>Table: 7E</b>	FSV of PXs in Hydro Segment of G-DAC & ID for September, 2023 vs August, 2023 (on delivery date basis)	38
22.	<b>Table: 7F</b>	Daily Avg. MCP of PXs in Hydro Segment of G-DAC & ID for September, 2023 vs August, 2023 (on delivery date basis)	39
23.	<b>Table: 8A</b>	Total volume in Bilateral transaction for September, 2023	40
24.	<b>Table: 8B</b>	Region wise volume in Bilateral transaction for September, 2023	40

## चित्र/FIGURES

1.	<b>Figure: 1</b>	Comparison of electricity transacted through PXs together in DAM, GDAM, HP-DAM, RTM, TAM, HP-TAM, DAC & ID, HP-DAC & ID, GTAM and G-DAC & ID with Bilateral buy (Direct and through Traders)	41
2.	<b>Figure: 2</b>	Comparison of Total Purchase, Sell bids along with FSV and Daily Avg. MCP in DAM	43
3.	<b>Figure: 3</b>	Comparison of Maximum, Minimum, Daily, Evening Time MCP (₹/kWh) in DAM	43
4.	<b>Figure: 4</b>	MCP duration curve for 2880 Time Blocks in September, 2023 in DAM	44
5.	<b>Figure: 5</b>	Daily Avg. MCP duration curve for the period 1 <sup>st</sup> April, 2023 to 30 <sup>th</sup> September, 2023 in DAM	44



## चित्र/FIGURES

6.	<b>Figure: 6</b>	Comparison of Total Purchase, Sell bids along with FSV and Daily Avg. MCP in RTM	46
7.	<b>Figure: 7</b>	Comparison of Maximum, Minimum, Daily, Evening Time MCP (₹/kWh) in RTM	47
8.	<b>Figure: 8</b>	MCP duration curve for 2880 Time Blocks in September, 2023 in RTM	47
9.	<b>Figure: 9</b>	Daily Avg. MCP duration curve for the period 1 <sup>st</sup> April, 2023 to 30 <sup>th</sup> September, 2023 in RTM	48

## अनुलग्नक /ANNEXURES

1.	<b>Annexure I</b>	FSV and Average MCP in DAM for the months April, 2023 to September, 2023	50
2.	<b>Annexure II</b>	FSV in TAM for the months April, 2023 to September, 2023 (on delivery date basis)	51
3.	<b>Annexure-III</b>	Top Five Entity (Buyers and Sellers) in Bilateral transactions in September, 2023	52
4.	<b>Annexure-IV</b>	All MCPs vis: Evening, Day, Night, Morning, Maximum, Minimum, Average MCP (₹/kWh) and Final Schedule Volume (MU) in DAM in September, 2023	53
5.	<b>Annexure-V</b>	Comparison of MCP w.r.t. Purchase Bid for 2880 Time Blocks during the month of September, 2023 in DAM	54
6.	<b>Annexure-VI</b>	Max. FSV, Min FSV, Max MCP and Min MCP w.r.t. all Time blocks in DAM in September, 2023	55
7.	<b>Annexure-VII</b>	Sellers and Purchasers of Electricity in DAM in September, 2023	56
8.	<b>Annexure-VIII</b>	All MCPs vis: Evening, Day, Night, Morning, Maximum, Minimum, Average MCP (₹/kWh) and Final Schedule Volume (MU) in RTM in September, 2023	58
9.	<b>Annexure-IX</b>	Comparison of MCP w.r.t. Purchase Bid for 2880 Time Blocks during the month of September, 2023 in RTM	59
10.	<b>Annexure-X</b>	Max. FSV, Min FSV, Max MCP and Min MCP w.r.t. all Time blocks in September, 2023 in RTM	60
11.	<b>Annexure-XI</b>	Sellers and Purchasers of Electricity in RTM in September, 2023	61
12.	<b>Annexure-XII</b>	Cross Border Transactions of Electricity with Nepal and Bhutan in DAM in IEX in September, 2023	64

## अनुबंध /APPENDIX

1.	<b>Appendix-I</b>	Analysis for change in trend of Final Scheduled Volume in DAM on 1 <sup>st</sup> & 3 <sup>rd</sup> Sunday of September, 2023 (i.e. 3 <sup>rd</sup> & 17 <sup>th</sup> September, 2023)	65
2.	<b>Appendix-II</b>	Definitions/ Terminologies used in the Report	66





**सितम्बर, 2023 की मासिक मार्केट  
मॉनिटरिंग रिपोर्ट का सारांश**

**Summary of Market Monitoring Report  
For the month of September, 2023**





## सितम्बर, 2023 माह के लिए सारांश Summary for Month: September, 2023

### भारत में विद्युत एक्सचेंजों पर विद्युत के व्यापार का सारांश

#### Summary of Electricity Transactions on Power Exchanges in India

- सितम्बर, 2023 के दौरान विद्युत एक्सचेंजों (यानी आईईएक्स, पीएक्सआईएल और एचपीएक्स) के माध्यम से कुल **11,383 MU** विद्युत का कारोबार किया गया। विद्युत की यह मात्रा डिलीवरी की तारीख के आधार पर है और इसमें DAM, GDAM, HP-DAM, RTM, TAM, HP-TAM, DAC & ID, HP-DAC & ID, GTAM और G-DAC & ID मार्केट खंडों के माध्यम से कारोबार शामिल हैं।

A total volume of **11,383 MU** electricity was transacted through power exchanges i.e. IEX, PXIL & HPX, during the month of September, 2023. This volume of electricity is on delivery date basis and includes transactions through DAM, GDAM, HP-DAM, RTM, TAM, HP-TAM, DAC & ID, HP-DAC & ID, GTAM and G-DAC & ID market segments.

Segment	Transactions happened in the PXs (IEX, PXIL & HPX combined)			
	FSV (MU)	Average MCP (₹/kWh)	Congestion (MU)	Real Time Curtailment (MU)
DAM	3,436	5.91	0.00	0.00
GDAM	135	6.47	0.00	0.00
HP-DAM**	12	18.01	0.00	0.00
RTM	2,924	5.37	2.26	0.00
TAM	2,665	8.67	1.81	68.71
HP-TAM**	94	13.68	0.00	1.66
DAC & ID	1,875	7.19	0.00	2.23
HP-DAC & ID**	59	16.49	0.00	0.00
GTAM	13	7.67	0.00	0.00
G-DAC & ID	170	6.34	0.00	0.00
<b>Total in PXs</b>	<b>11,383</b>	<b>6.77*</b>	<b>4.07</b>	<b>72.60</b>

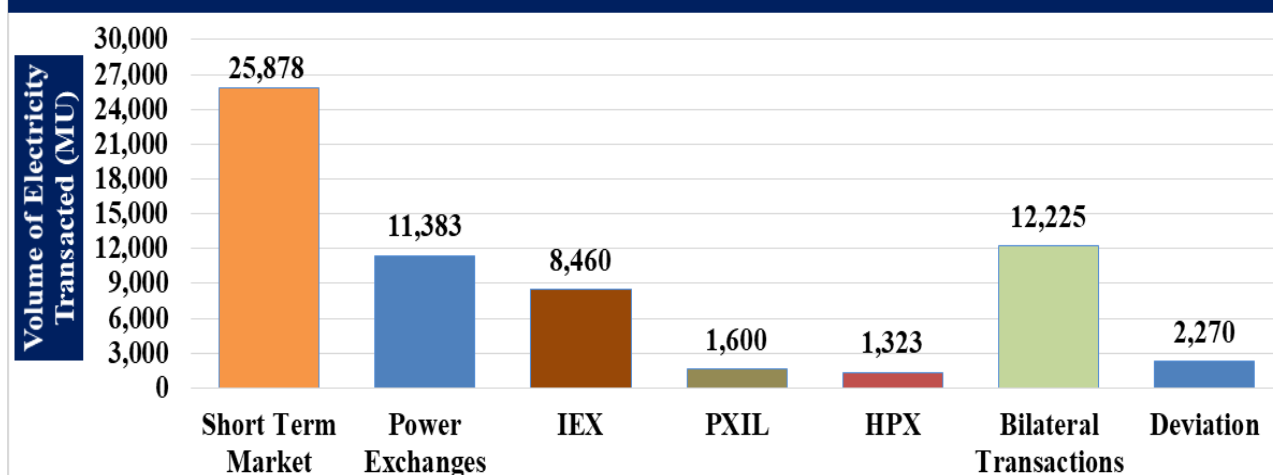
\* The total average is weighted average of all market segments.

\*\* The details of the High Price Segment, namely HP-DAM, HP-TAM, and HP-DAC & ID, have been included in DAM, TAM, and DAC & ID, respectively.

- द्विपक्षीय व्यापार के तहत कुल **12,225 MU** विद्युत का कारोबार किया गया और **2,270 MU** को विचलन के रूप में लेनदेन किया गया। इस प्रकार कुल **25,878 MU** विद्युत का कारोबार अल्पावधि व्यापार के रूप में किया गया था। सितम्बर, 2023 के महीने में देश में कुल **138,608 MU** विद्युत की आपूर्ति की गई थी, इस प्रकार सितम्बर, 2023 माह में कारोबार की गई विद्युत की कुल मात्रा में अल्पावधि बाजार का हिस्सा **18.67 %** था।

Under the Bilateral trade, a total of **12,225 MU** of electricity was transacted and **2,270 MU** was transacted as deviation. Thus, a total of **25,878 MU** of electricity was transacted as short term trade. In the month of September, 2023, a total of **138,608 MU** of electricity was supplied in the country, thus, the share of short term market in the total volume of electricity supplied in September, 2023 was **18.67 %**.

**Comparison of total volume of electricity transacted in Short Term Market, through the PXs together, IEX, PXIL, HPX, Bilateral Transactions and Deviations during September, 2023**



- सितम्बर, 2023 के दौरान संचरण जाम की कुल मात्रा **4.07 MU** थी, जो की विद्युत एक्सचेंजों में कारोबार की गई विद्युत की कुल मात्रा का केवल 0.04 % है और सितम्बर, 2023 के महीने के दौरान आपूर्ति की गई कुल ऊर्जा का 0.003 % है।

The total volume of transmission congestion that happened during the month of September, 2023 was **4.07 MU** which is only 0.04 % of the total volume of electricity transacted in the power exchanges and 0.003 % of total energy supplied during the month of September, 2023.

RTM में 8 दिन अर्थात् दिनांक 5 से 10, 12 एवं 18 सितम्बर, 2023 और TAM में 3 दिन अर्थात् दिनांक 8 से 10 सितम्बर, 2023 को संचरण जाम देखा गया। जबकि DAM, HP-DAM, GDAM, HP-TAM, DAC & ID, HP-DAC & ID, GTAM और G-DAC & ID में कोई संचरण जाम नहीं देखा गया। सितम्बर, 2023 माह के महीने में रिपोर्ट की गई वास्तविक समय में विद्युत कटौती की कुल मात्रा केवल **72.60 MU** थी।

Transmission congestion was observed in RTM on 8 days i.e. 5<sup>th</sup> to 10<sup>th</sup>, 12<sup>th</sup> & 18<sup>th</sup> September, 2023 and TAM on 3 days i.e. 8<sup>th</sup> to 10<sup>th</sup> September, 2023. There was no congestion in DAM, GDAM, HP-DAM, HP-TAM, DAC & ID, HP-DAC & ID, GTAM and G-DAC & ID. The total volume of real time curtailment reported in the month of September, 2023 was only **72.60 MU**.

- सितम्बर, 2023 माह के दौरान अंतर्राज्यीय पारेषण प्रणाली (ISTS) में निर्धारित अनुसूचित विद्युत की कुल मात्रा **70,649 MU** थी। सितम्बर, 2023 के महीने में अल्पावधि बाजार में विद्युत का लेन-देन अंतर्राज्यीय पारेषण प्रणाली (ISTS) के माध्यम से अनुसूचित की गई कुल विद्युत की मात्रा का **36.63 %** रहा।

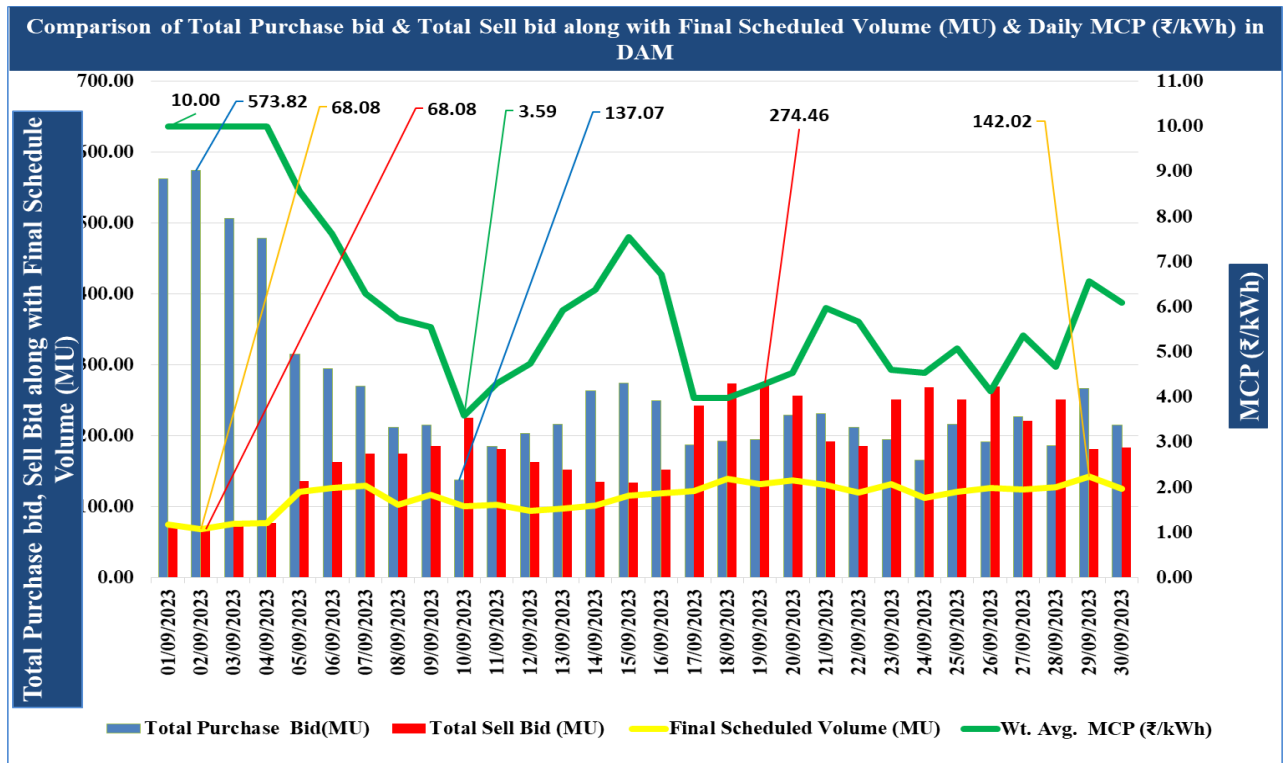
The total volume of electricity scheduled at ISTS during the month of September, 2023 was **70,649 MU**. The total volume of electricity transacted in the short term market was **36.63 %** of total volume schedule at ISTS in the month of September, 2023.

- सितम्बर, 2023 माह के दौरान DAM और RTM में विद्युत की खरीद और बिक्री बोलियों, अंतिम अनुसूचित मात्रा और दैनिक औसत MCP की भिन्नता निम्नलिखित चित्रों में दर्शाई गई है:

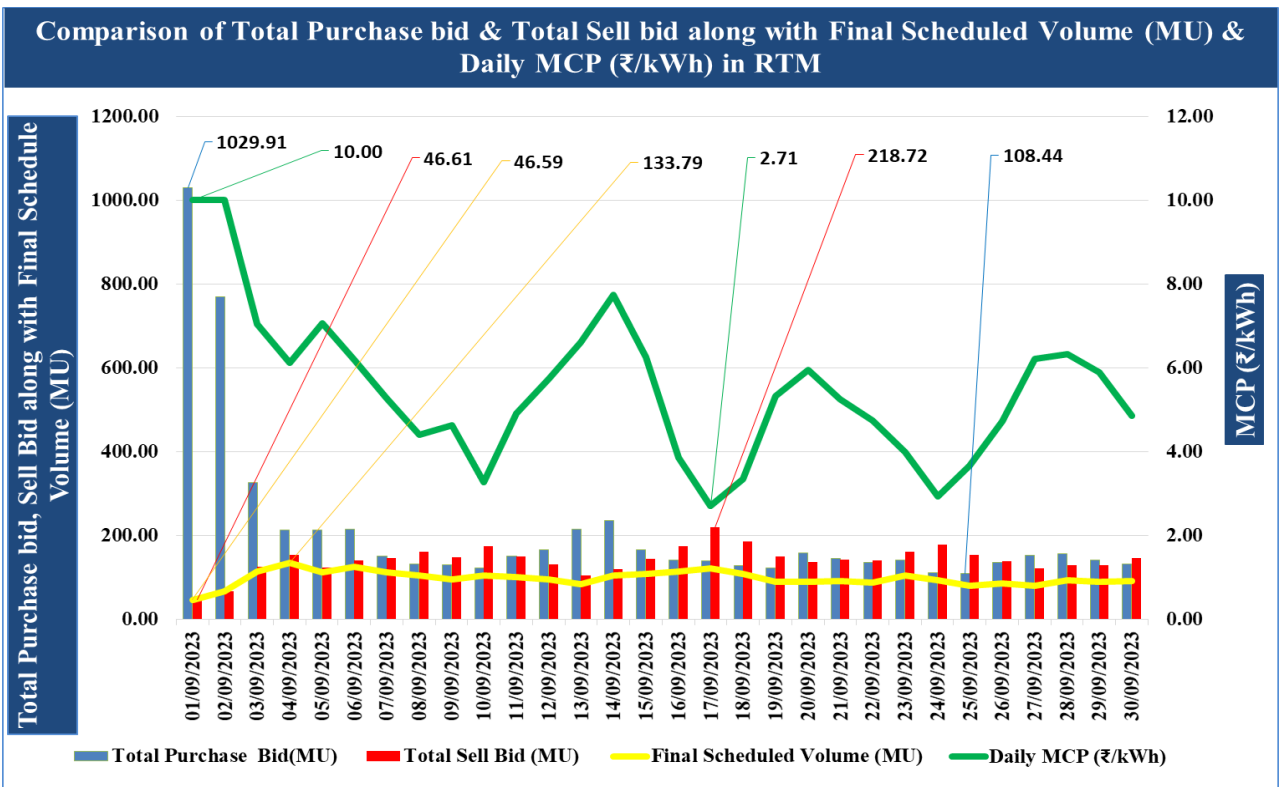
The variation of Purchase and Sell bids, Final Scheduled Volume and Daily Avg. MCP in DAM and RTM during the month of September, 2023 are shown in following figures:



## DAM Volume



## RTM Volume

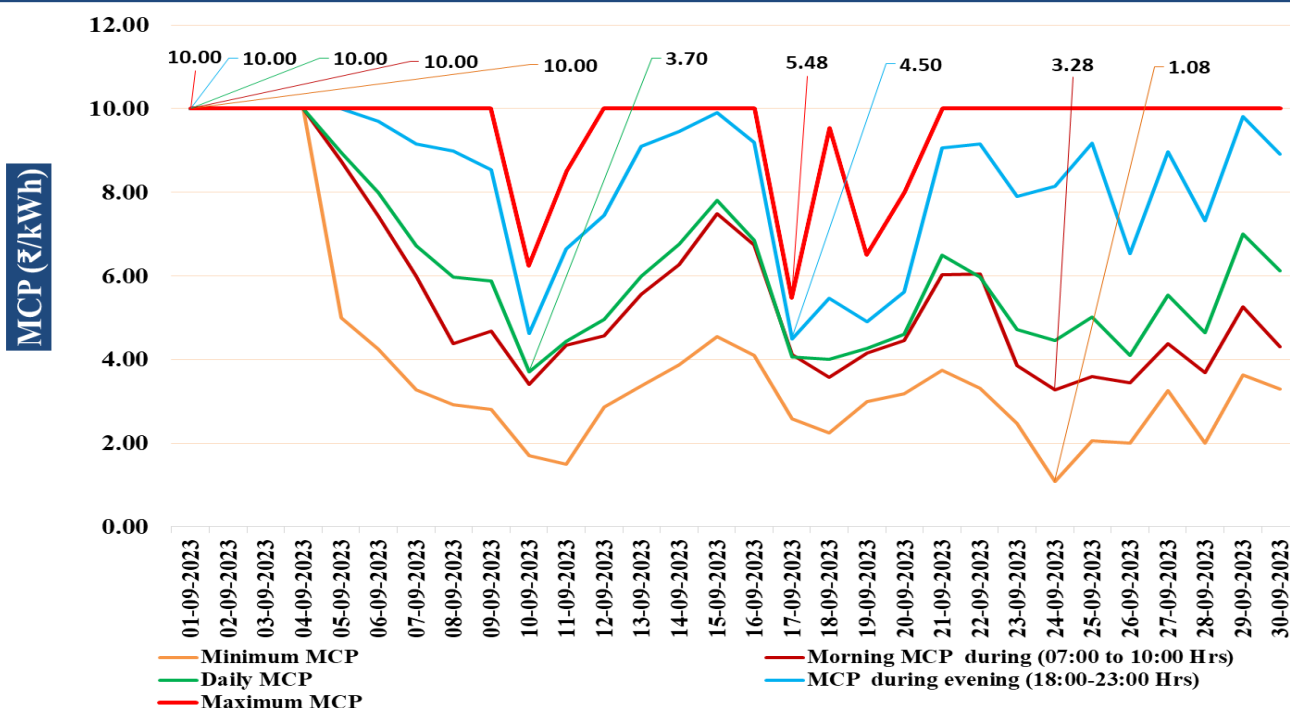


➤ सितम्बर, 2023 माह के दौरान DAM और RTM में अधिकतम, न्यूनतम, दैनिक, सुबह और शाम के समय MCP की भिन्नता निम्नलिखित चित्रों में दिखाई गई है:

The variation of Maximum, Minimum, Daily, Morning and Evening time MCPs in DAM and RTM during the month of September, 2023 are shown in following figures:

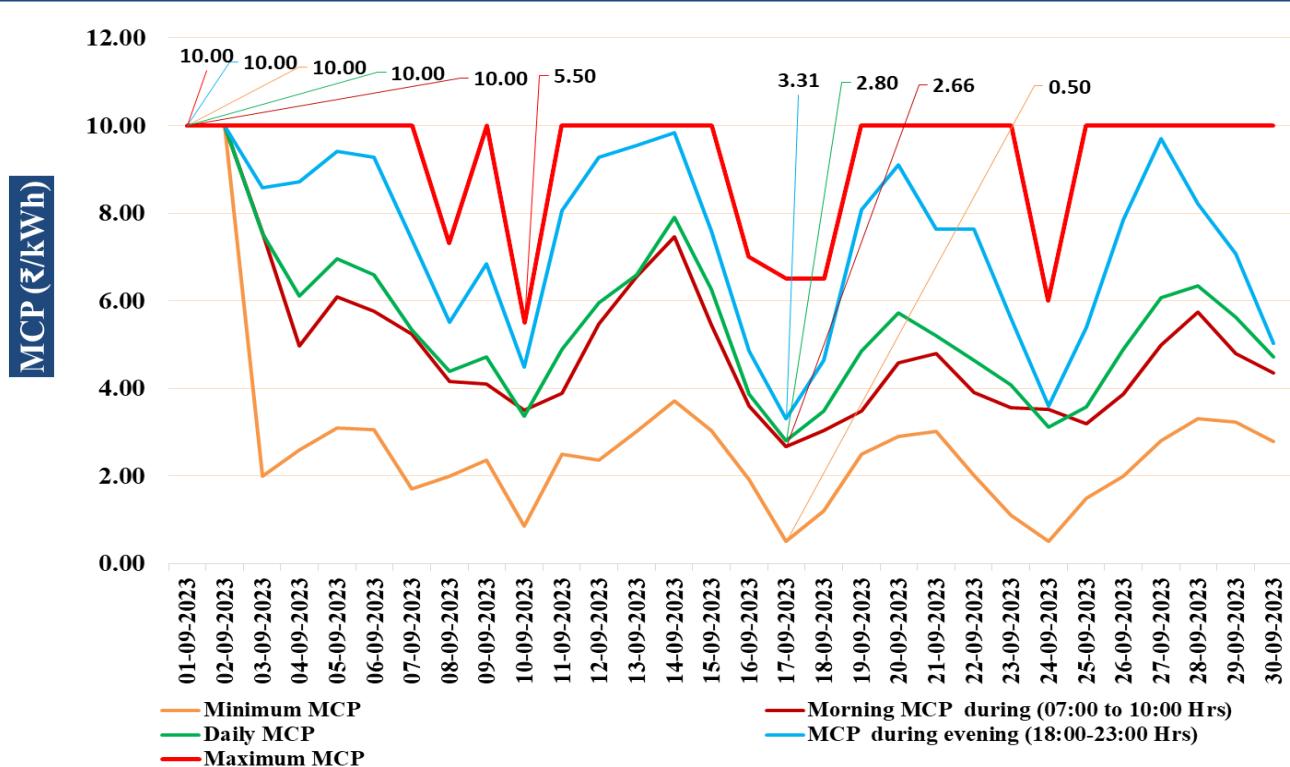
## DAM Prices

### Comparison of Maximum, Minimum, Daily, Morning time and Evening time MCP (₹/kWh) in DAM



## RTM Prices

### Comparison of Maximum, Minimum, Daily, Morning time and Evening time MCP (₹/kWh) in RTM



# **MARKET MONITORING REPORT DETAILS**





## Electricity Transactions on Power Exchanges in India

### **1. Day Ahead Market (DAM)**

- 1.1.** The total volume of electricity transacted on the power exchanges, viz., IEX, PXIL and HPX in the Day Ahead Market (DAM) in the month of September, 2023 was **3,435.60 MU**. The total energy supplied in the country during the month of September, 2023 was 138,608 MU. Thus, the volume of electricity transacted on the power exchanges in DAM during September, 2023 was 2.48 % of the total energy supplied in the country. Comparing with the total volume of electricity transacted in DAM during last month August, 2023 i.e. **3,898.02MU** which was 2.55 % of the total energy supplied (153,131 MU) in the country during August, 2023. Similarly, the total volume of electricity transacted in DAM during previous year i.e. September, 2022, was **4,062.54 MU** which was 3.20 % of the total energy supplied (126,914 MU) in the country during September, 2022.
- 1.2.** The volume of electricity transacted on IEX, PXIL and HPX during September, 2023 were **3405.42 MU, 11.67 MU and 18.51 MU**, respectively. The volume of electricity transacted on IEX, PXIL and HPX during August, 2023 were **3881.41 MU, 16.34 MU and 0.27 MU**, respectively. The volume of electricity transacted on IEX and PXIL during September, 2022 were **4049.65 MU and 12.89 MU**, respectively and no transaction of electricity took place in HPX during September, 2022.
- 1.3.** The DAM volume for September, 2023 in IEX is inclusive of Cross Border Transactions of Electricity with Nepal and Bhutan (details given at **Annexure XII**), which was **262.40 MU** (i.e. 262.40 MU sold by Nepal).
- 1.4.** The Average Market Clearing Price (MCP) on IEX during the month of September, 2023 was **₹ 5.87/kWh**, which shows a decrease of 8.71 % & an increase 2.44 % when compared with average MCP's for the month of August, 2023 and September, 2022, which were **₹ 6.43/kWh** and **₹ 5.73/kWh**, respectively. On PXIL, the average MCP during the month of September, 2023 was **₹ 10.00/kWh**, which shows an increase of 7.18 % & 50.73 % when compared with average MCP's for the month of August, 2023 and September, 2022, which were **₹ 9.33/kWh** and **₹ 6.19/kWh**, respectively. On HPX, the average MCP during the month of September, 2023 was **₹ 10.00/kWh**, which shows no change when compared with average MCP's for the month of August, 2023, which was **₹ 10.00/kWh** and no transaction of electricity took place in HPX during September, 2022.
- 1.5.** The maximum Area Clearing Price (ACP) of **₹ 10.00/kWh** in IEX was observed in all 13 regions during 907 time blocks on 1<sup>st</sup> to 9<sup>th</sup>, 12<sup>th</sup> to 16<sup>th</sup> & 21<sup>st</sup> to 30<sup>th</sup> September, 2023. As there was no congestion in transmission system, the MCP for these time blocks was also **₹ 10.00/kWh**. Whereas, in PXIL, the maximum ACP of **₹ 10.00/kWh** was observed in all 13 regions during 360 time blocks on 1<sup>st</sup> to 4<sup>th</sup>, 13<sup>th</sup> & 16<sup>th</sup> September, 2023. As there was no congestion in transmission system, the

MCP for these time blocks was also ₹ 10.00/kWh. Further, in HPX, the maximum ACP of ₹ 10.00/kWh was observed in all 13 regions during 528 time blocks on 1<sup>st</sup> to 8<sup>th</sup> & 15<sup>th</sup> September, 2023. As there was no congestion in transmission system, the MCP for these time blocks was also ₹ 10.00/kWh.

**1.6.** The minimum ACP of ₹ 1.08/kWh in IEX was observed in all 13 regions during the time block 13:15 - 13:30 Hrs on 24<sup>th</sup> September, 2023. As there was no congestion in transmission system, the MCP for this time-block was also ₹ 1.08/kWh. Whereas, in PXIL, the minimum ACP of ₹ 10.00/kWh was observed in all 13 regions during 360 time blocks on 1<sup>st</sup> to 4<sup>th</sup>, 13<sup>th</sup> & 16<sup>th</sup> September, 2023. As there was no congestion in transmission system, the MCP for these time blocks was also ₹ 10.00/kWh. Further, in HPX, the minimum ACP of ₹ 10.00/kWh was observed in all 13 regions during 528 time blocks on 1<sup>st</sup> to 8<sup>th</sup> & 15<sup>th</sup> September, 2023. As there was no congestion in transmission system, the MCP for these time blocks was also ₹ 10.00/kWh.

**1.7.** In the month of September, 2023, the transaction of electricity in **High Price Day Ahead Market (HP-DAM)** in IEX was **10.79 MU** at an average MCP of **₹ 18.26/kWh** and in PXIL was **0.91 MU** at an average MCP of ₹ 15.00/kWh. Whereas, no transaction took place in HPX in HP-DAM.

**1.8.** Final Scheduled Volume (FSV), Daily Avg. Market Clearing Prices (MCP), Area Clearing Prices (ACP) in Day Ahead Market during the month of September, 2023 as compared with August, 2023 and September, 2022 are shown in Table- 1A & 1B:

**(i) Final Scheduled Volume:**

Exchange	Period	Final Scheduled Volume (MU)			
		Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
IEX	September, 2023*	3405.42	68.08	142.02	113.51
	August, 2023*	3881.41	76.23	153.66	125.21
	%Change (Month over Month)	-12.26	-10.69	-7.58	-9.34
	September, 2022*	4049.65	107.43	192.24	134.99
	%Change (Year over Year)	-15.91	-36.63	-26.12	-15.91
PXIL	September, 2023	11.67	0.20	4.32	1.95
	August, 2023	16.34	0.04	3.39	0.63
	%Change (Month over Month)	-28.58	400.00	27.43	209.52
	September, 2022	12.89	0.01	1.80	0.52
	%Change (Year over Year)	-9.46	1900.00	140.00	275.00
HPX	September, 2023	18.51	0.27	6.40	2.06
	August, 2023	0.27	0.27	0.27	0.27
	%Change (Month over Month)	6755.56	0.00	2270.37	662.96
	September, 2022	-	-	-	-

Exchange	Period	Final Scheduled Volume (MU)			
		Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
	%Change (Year over Year)	NA	NA	NA	NA

∴ No transaction took place

NA: Not Applicable

**\* DAM Volume in IEX is inclusive of Cross Border Transactions of Electricity with Nepal and Bhutan**

**Table: 1A**

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

Exchange	Period	Prices (₹/kWh)				
		Daily MCP (₹/kWh)		ACP (₹/kWh)		Monthly Avg. MCP (₹/kWh)
		Minimum	Maximum	Minimum	Maximum	Average
IEX	September, 2023	3.59	10.00	1.08	10.00	5.87
	August, 2023	3.39	9.03	1.98	10.00	6.43
	%Change (Month over Month)	5.90	10.74	-45.45	0.00	-8.71
	September, 2022	3.41	8.89	1.20	12.00	5.73
	%Change (Year over Year)	5.28	12.49	-10.00	-16.67	2.44
PXIL	September, 2023	10.00	10.00	10.00	10.00	10.00
	August, 2023	5.96	10.00	5.00	10.00	9.33
	%Change (Month over Month)	67.79	0.00	100.00	0.00	7.18
	September, 2022	3.16	10.13	3.16	12.00	6.19
	%Change (Year over Year)	216.46	-1.28	216.46	-16.67	61.55
HPX	September, 2023	10.00	10.00	10.00	10.00	10.00
	August, 2023	10.00	10.00	10.00	10.00	10.00
	%Change (Month over Month)	0.00	0.00	0.00	0.00	0.00
	September, 2022	-	-	-	-	-
	%Change (Year over Year)	NA	NA	NA	NA	NA

∴ No transaction took place

NA: Not Applicable

**Table: 1B**

## 2. Real Time Market (RTM)

The total volume of electricity transacted on the power exchanges in Real Time Market in September, 2023 was **2,924.20 MU**, out of which **2,922.95 MU** (99.96 %) was transacted in IEX, **0.25 MU** (0.01 %) was transacted in PXIL and **1.00 MU** (0.03 %) was transacted in HPX. The Final Scheduled Volume (FSV), Daily Avg. Market Clearing Prices (MCP) and Area Clearing Prices (ACP) in Real Time Market during the month of September, 2023 as compared with August, 2023 and September, 2022 are shown in Table- 2A & 2B:

### (i) Final Scheduled Volume:

Exchange	Period	Final Scheduled Volume (MU)			
		Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
IEX	September, 2023	2922.95	46.59	133.79	97.43
	August, 2023	2738.05	45.50	135.28	88.32
	% Change (Month over Month)	6.75	2.40	-1.10	10.31
	September, 2022	2192.70	49.45	103.71	73.09
	% Change (Year over Year)	33.30	-5.78	29.00	33.30
PXIL	September, 2023	0.25	0.25	0.25	0.25
	August, 2023	0.63	0.63	0.63	0.63
	% Change (Month over Month)	-60.32	-60.32	-60.32	-60.32
	September, 2022	0.55	0.10	0.25	0.18
	% Change (Year over Year)	-54.55	150.00	0.00	38.89
HPX	September, 2023	1.00	0.29	0.40	0.33
	August, 2023	1.13	0.08	0.97	0.38
	% Change (Month over Month)	-11.50	262.50	-58.76	-13.16

-: No transaction took place

NA: Not Applicable

**Table-2A**

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

Exchange	Period	Prices (₹/kWh)				
		Daily MCP (₹/kWh)		ACP (₹/kWh)		Monthly Avg. MCP (₹/kWh)
		Minimum	Maximum	Minimum	Maximum	Average
IEX	September, 2023	2.71	10.00	0.50	10.00	5.37
	August, 2023	3.16	10.00	0.50	10.00	6.07
	% Change (Month over Month)	-14.24	0.00	0.00	0.00	-11.53
	September, 2022	2.52	8.21	0.12	12.00	4.79
	% Change (Year over Year)	7.54	21.80	316.67	-16.67	12.11



Exchange	Period	Prices (₹/kWh)				
		Daily MCP (₹/kWh)		ACP (₹/kWh)		Monthly Avg. MCP (₹/kWh)
		Minimum	Maximum	Minimum	Maximum	Average
PXIL	September, 2023	10.00	10.00	10.00	10.00	10.00
	August, 2023	10.00	10.00	10.00	10.00	10.00
	% Change (Month over Month)	0.00	0.00	0.00	0.00	0.00
	September, 2022	12.00	12.00	12.00	12.00	12.00
	% Change (Year over Year)	-16.67	-16.67	-16.67	-16.67	-16.67
HPX	September, 2023	10.00	10.00	10.00	10.00	10.00
	August, 2023	10.00	10.00	10.00	10.00	10.00
	% Change (Month over Month)	0.00	0.00	0.00	0.00	0.00

-: No transaction took place

NA: Not Applicable

**Table-2B**

### 3. Green Day Ahead Market (GDAM):

The volume of electricity transacted in GDAM in September, 2023 was **134.92 MU** (**33.81 MU** in Solar, **96.96 MU** in Non-Solar and **4.15 MU** in Hydro) in IEX at an average MCP of **₹ 6.47/kWh** and no transaction took place in PXIL & HPX in GDAM.

**3.1** There was no real time curtailment in the power exchanges in Green Day Ahead Market during the month of September, 2023, August, 2023 and September, 2022.

**3.2** The **top 10 sellers** on the power exchanges in **Green Day Ahead Market (GDAM)** in the month of September, 2023 were **Karnataka, J&K, Andhra Pradesh, Maharashtra, Renew Surya Ravi Private Limited (solar), Adani Power Limited-Raipur TPP, Telangana, Ostro Kannada Power Private Limited, Singoli Bhagwati and Sikkim**, which constituted **87.23 %** of the market volume.

**3.3** The **top 10 buyers** on the power exchanges in **Green Day Ahead Market (GDAM)** in the month of September, 2023 were **Kerala, DVC, Maharashtra, Bihar, Punjab, ArcelorMittal Nippon steel (ESIL), Tamil Nadu, Gujarat, Rajasthan and Karnataka**, which constituted **74.75 %** of the market volume.

**3.4** The Final Scheduled Volume (FSV), Daily Avg. Market Clearing Prices (MCP), Area Clearing Prices (ACP), Real Time Curtailment and details of Transmission Congestion under three segments (i.e. Solar, Non Solar and Hydro) in Green Day Ahead Market during the month of September, 2023 and its comparison with August, 2023 and September, 2022 are shown in Table- 3A & 3B:

#### (i) Final Scheduled Volume :

Exchange	Segment	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
IEX	Solar	September, 2023	33.81	0.24	3.52	1.13
		August, 2023	36.88	0.48	3.41	1.19
		% Change (Month over Month)	-8.32	-50.00	3.23	-5.04
		September, 2022	198.90	2.18	21.98	6.63
		%Change (Year over Year)	-83.00	-88.99	-83.99	-82.96
	Non Solar	September, 2023	96.96	2.12	5.58	3.23
		August, 2023	116.08	2.30	7.15	3.74
		% Change (Month over Month)	-16.47	-7.83	-21.96	-13.64
		September, 2022	125.50	2.30	8.64	4.18
		%Change (Year over Year)	-22.74	-7.83	-35.42	-22.73
	Hydro	September, 2023	4.15	0.07	1.15	0.38
		August, 2023	9.75	0.23	1.12	0.70
		% Change (Month over Month)	-57.44	-69.57	2.68	-45.71
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA

Exchange	Segment	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
PXIL	Solar, Non Solar and Hydro	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		% Change (Month over Month)	NA	NA	NA	NA
		September, 2022	0.25	0.25	0.25	0.25
		% Change (Year over Year)	NA	NA	NA	NA
HPX	Solar, Non Solar and Hydro	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		% Change (Month over Month)	NA	NA	NA	NA

-: No transaction took place

NA: Not Applicable

**Table-3A**

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

Exchange	Segment	Period	Prices (₹/kWh)				
			Daily MCP (₹/kWh)		ACP (₹/kWh)		Monthly Avg. MCP (₹/kWh)
			Minimum	Maximum	Minimum	Maximum	Average
IEX	Solar, Non Solar and Hydro	September, 2023	4.93	10.00	3.00	10.00	6.47
		August, 2023	3.76	10.00	1.83	10.00	6.19
		% Change (Month over Month)	31.12	0.00	63.93	0.00	4.52
		September, 2022	4.02	8.65	2.88	12.00	5.60
		% Change (Year over Year)	22.64	15.61	4.17	-16.67	15.54
PXIL	Solar, Non Solar and Hydro	September, 2023	-	-	-	-	-
		August, 2023	-	-	-	-	-
		% Change (Month over Month)	NA	NA	NA	NA	NA
		September, 2022	5.87	5.87	5.84	5.88	5.87
		% Change (Year over Year)	NA	NA	NA	NA	NA
HPX	Solar, Non Solar and Hydro	September, 2023	-	-	-	-	-
		August, 2023	-	-	-	-	-
		% Change (Month over Month)	NA	NA	NA	NA	NA

-: No transaction took place

NA: Not Applicable

**Table-3B**

#### 4. Term Ahead Market (TAM)

- 4.1.** The total volume of electricity transacted on the power exchanges in Term Ahead Market in September, 2023 on delivery date basis was **2664.96 MU**, out of which **1131.71 MU** (42.47 %) was transacted on IEX, **1017.15 MU** (38.17 %) was transacted on PXIL and **516.10 MU** (19.37 %) was transacted on HPX.
- 4.2.** The total volume of electricity transacted on the power exchanges in Term Ahead Market in August, 2023 on delivery date basis was **1411.30 MU**, out of which **768.73 MU** (54.47 %) was transacted on IEX, **287.36 MU** (20.36 %) was transacted on PXIL and **355.21 MU** (25.17 %) was transacted on HPX.
- 4.3.** Similarly, the total volume of electricity transacted on the power exchanges in Term Ahead Market in September, 2022 on delivery date basis was **31.92 MU**, out of which, **31.92 MU** (100 %) was transacted on IEX and no transaction took place in PXIL & HPX.
- 4.4.** With respect to the total energy supplied during the month of September, 2023 in the country, the volume of electricity traded on the power exchanges in TAM on delivery date basis represents **1.92 %** of the total energy supplied. The same was **0.92 %** in August, 2023 and **0.03 %** in September, 2022.
- 4.5.** In the month of September, 2023, there was transmission congestion of **1.81 MU** in IEX. Whereas, there was no transmission congestion in PXIL & HPX in TAM.
- 4.6.** In the month of September, 2023, there was real time curtailment of **68.71 MU** in TAM, Out of which **9.29 MU** was under Daily-Anyday contract and **17.88 MU** was under Anyday Single Sided contract in IEX. Whereas, in PXIL, there was real time curtailment of **4.51 MU** under Daily-Anyday contract, **2.48 MU** under Weekly contract and **20.49 MU** under Anyday Single Sided contract. Whereas, in HPX, there was real time curtailment of **3.40 MU** under Daily-Anyday contract and **10.66 MU** under Anyday Single Sided contract in TAM.
- 4.7.** In the month of September, 2023, the transaction of electricity in HPX in **High Price Term Ahead Market (HP-TAM)** under Daily-Anyday contract was **93.54 MU** at an average MCP of ₹ **13.68/kWh**. HP-TAM segment has not been introduced in IEX & PXIL.
- 4.8.** The comparison of total volume of electricity transacted and Average MCP in the power exchanges in Term Ahead Market (TAM) on delivery date basis during September, 2023 with August, 2023 and September, 2022 are shown in Table – 4A & 4B:

**(i) Final Scheduled Volume (MU), September, 2023 vis- a- vis August, 2023 and September, 2022**

Exchange	Period	Final Scheduled Volume (MU)				
		Daily or Any Day	Weekly	Monthly	Anyday Single Side	Total
IEX	September, 2023	534.89	-	-	596.82	1131.71
	August, 2023	229.99	-	72.06	466.68	768.73
	%Change (Month over Month)	132.57	NA	NA	27.89	47.22
	September, 2022	-	31.92	-	-	31.92



Exchange	Period	Final Scheduled Volume (MU)				
		Daily or Any Day	Weekly	Monthly	Anyday Single Side	Total
	%Change (Year over Year)	NA	NA	NA	NA	3445.46
PXIL	September, 2023	433.45	135.95	-	447.75	1017.15
	August, 2023	0.56	105.87	-	180.93	287.36
	%Change (Month over Month)	77301.79	28.41	NA	147.47	253.96
	September, 2022	-	-	-	-	-
	%Change (Year over Year)	NA	NA	NA	NA	NA
HPX	September, 2023	94.00	-	-	422.10	516.10
	August, 2023	113.44	-	-	241.77	355.21
	%Change (Month over Month)	-17.14	NA	NA	74.59	45.29
	September, 2022	-	-	-	-	-
	%Change (Year over Year)	NA	NA	NA	NA	NA

- : No transaction took place

NA: Not Applicable

**Table: 4A**

**(ii) Average MCP, September, 2023 vis- a- vis August, 2023 and September, 2022**

Exchange	Period	Average MCP (₹/kWh)			
		Daily or Any Day	Weekly	Monthly	Anyday Single Side
IEX	September, 2023	8.26	-	-	8.82
	August, 2023	7.07	-	5.04	7.18
	%Change (Month over Month)	16.83	NA	NA	22.84
	September, 2022	-	8.10	-	-
	%Change Year over Year)	NA	NA	NA	NA
PXIL	September, 2023	8.69	8.85	-	9.13
	August, 2023	10.00	6.45	-	6.53
	%Change (Month over Month)	-13.10	37.21	NA	39.82
	September, 2022	-	-	-	-
	%Change (Year over Year)	NA	NA	NA	NA
HPX	September, 2023	9.14	-	-	8.33
	August, 2023	6.10	-	-	7.16
	%Change (Month over Month)	49.84	NA	NA	16.34
	September, 2022	-	-	-	-
	%Change Year over Year)	NA	NA	NA	NA

-: No transaction took place

NA: Not Applicable

**Table: 4B**

## 5. Day Ahead Contingency & Intra Day (DAC & ID)

The total volume of electricity transacted in the IEX, PXIL & HPX in DAC & ID on delivery date basis during September, 2023 was **1,875.37 MU**.

**5.1.** In the month of September, 2023, there was no transmission congestion in IEX, PXIL and HPX under DAC & ID.

**5.2.** In the month of September, 2023, there was real time curtailment of **2.23 MU** in DAC & ID, Out of which **1.50 MU** happened under Day Ahead Contingency contract in IEX and **0.73 MU** happened under Day Ahead Contingency contract in HPX. Whereas, there was no real time curtailment in PXIL under DAC & ID.

**5.3.** In the month of September, 2023, the transaction of electricity in HPX in **High Price Day Ahead Contingency & Intra Day (HP- DAC & ID)** under Day Ahead Contingency contract was **48.47 MU** at an average MCP of ₹ **16.19/kWh** and Intra Day contract was **10.25 MU** at an average MCP of ₹ **17.93/kWh**. HP- DAC & ID segment has not been introduced in IEX & PXIL.

**5.4.** The total volume of electricity transacted in DAC & ID in Day Ahead Contingency & Intra Day contracts during September, 2023 and its comparison with August, 2023 and September, 2022 on delivery date basis are shown in Tables- 5A & 5B:

**(i) Final Scheduled Volume (MU), September, 2023 vis- a- vis August, 2023 and September, 2022**

Exchange	Period	Final Scheduled Volume (MU)		
		Day Ahead Contingency	Intra Day	Total
IEX	September, 2023	758.79	4.92	763.71
	August, 2023	896.59	8.82	905.41
	%Change (Month over Month)	-15.37	-44.22	-15.65
	September, 2022	726.12	6.23	732.35
	%Change (Year over Year)	4.50	-21.03	4.28
PXIL	September, 2023	524.93	10.99	535.92
	August, 2023	806.31	9.52	815.83
	%Change (Month over Month)	-34.90	15.44	-34.31
	September, 2022	451.95	6.79	458.74
	%Change (Year over Year)	16.15	61.86	16.82
HPX	September, 2023	571.04	4.70	575.74
	August, 2023	1012.32	9.96	1022.28
	%Change (Month over Month)	-43.59	-52.81	-43.68
	September, 2022	103.95	-	103.95
	%Change (Year over Year)	449.34	NA	453.86

- : No transaction took place

NA: Not Applicable

**Table: 5A**

(ii) Average MCP, September, 2023 vis- a- vis August, 2023 and September, 2022

Exchange	Period	Average MCP (₹/kWh)	
		Day Ahead Contingency	Intra Day
IEX	September, 2023	6.94	9.29
	August, 2023	7.53	9.89
	%Change (Month over Month)	-7.84	-6.07
	September, 2022	6.13	9.92
	%Change Year over Year)	13.21	-6.35
PXIL	September, 2023	7.89	9.59
	August, 2023	8.03	9.81
	%Change (Month over Month)	-1.74	-2.24
	September, 2022	5.79	9.08
	%Change (Year over Year)	36.27	5.62
HPX	September, 2023	6.81	9.57
	August, 2023	7.71	9.74
	%Change (Month over Month)	-11.67	-1.75
	September, 2022	7.16	-
	%Change Year over Year)	-4.89	NA

- : No transaction took place

NA: Not Applicable

**Table: 5B**

## 6. Green Term Ahead Market (GTAM):

The total volume of electricity transacted in the IEX, PXIL & HPX in GTAM on delivery date basis during September, 2023 was **12.58 MU** in Non-Solar only.

The total volume of electricity transacted in GTAM in Daily/ Anyday, Weekly, Monthly and Anyday Single Side contracts during September, 2023 and its comparison with August, 2023 and September, 2022 on delivery date basis are shown in tables 6A to 6F.

### 6.1. Solar Energy Segment in GTAM

The Final Scheduled Volume and the Price of electricity transacted in GTAM (Solar) in Power Exchanges during September, 2023 and its comparison with August, 2023 and September, 2022 are shown in Table- 6A & 6B:

#### (i) Final Scheduled Volume:

Exchange	Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
IEX	Daily/Anyday	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change Month over Month)	NA	NA	NA	NA
		September, 2022	3.90	0.30	0.40	0.35
		%Change (Year over Year)	NA	NA	NA	NA
	Weekly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Monthly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
PXIL	Daily/Anyday	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-



Exchange	Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
		%Change (Year over Year)	NA	NA	NA	NA
		September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
HPX	Daily/Anyday	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Weekly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Monthly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA

:- No transaction took place

NA: Not Applicable

**Table-6A**

**(ii) Daily Avg. Market Clearing Price (MCP):**

Exchange	Solar Energy Contract	Period	Prices(₹/kWh)		
			Minimum	Maximum	Average
IEX	Daily/Anyday	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	4.50	4.60	4.55

Exchange	Solar Energy Contract	Period	Prices(₹/kWh)		
			Minimum	Maximum	Average
		%Change (Year over Year)	NA	NA	NA
		September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
		September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
		September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
		September, 2023	-	-	-
		August, 2023	-	-	-
PXIL	Daily/Anyday	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Weekly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Monthly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
HPX	Daily/Anyday	September, 2023	-	-	-
		August, 2023	-	-	-

Exchange	Solar Energy Contract	Period	Prices(₹/kWh)		
			Minimum	Maximum	Average
		%Change (Month over Month)	NA	NA	NA
	Weekly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Monthly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA

-: No transaction took place

NA: Not Applicable

**Table-6B**

**6.1.1.** In September, 2023, there was no transaction under GTAM (Solar) in IEX, PXIL & HPX.

## 6.2. Non-Solar Energy Segment in GTAM

The Final Scheduled Volume and the Price of electricity transacted in GTAM (Non-Solar) in Power Exchanges during September, 2023 and its comparison with August, 2023 and September, 2022 are shown in Table- 6C & 6D:

### (i) Final Scheduled Volume:

Exchange	Non- Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
IEX	Daily/Anyday	September, 2023	0.77	0.05	0.05	0.05
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Weekly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	0.80	0.11	0.11	0.11
		%Change (Year over Year)	NA	NA	NA	NA
	Monthly	September, 2023	4.32	0.14	0.14	0.14
		August, 2023	3.72	0.12	0.12	0.12
		%Change (Month over Month)	16.13	16.67	16.67	16.67
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
		September, 2023	-	-	-	-

Exchange	Non- Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
	Anyday Single Side	August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
PXIL	Daily/Anyday	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Weekly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Monthly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Anyday Single Side	September, 2023	7.49	0.29	0.29	0.29
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
HPX	Daily/Anyday	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Weekly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Monthly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA

-: No transaction took place

NA: Not Applicable

**Table - 6C**

**(ii) Daily Avg. Market Clearing Price (MCP):**

Exchange	Non- Solar Energy Contract	Period	Prices(₹/kWh)		
			Minimum	Maximum	Average
IEX	Daily/Anyday	September, 2023	6.10	6.10	6.10
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Weekly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	5.70	5.70	5.70
		%Change (Year over Year)	NA	NA	NA
	Monthly	September, 2023	6.50	6.50	6.50
		August, 2023	6.20	6.20	6.20
		%Change (Month over Month)	4.84	4.84	4.84
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
PXIL	Daily/Anyday	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Weekly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Monthly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA



Exchange	Non- Solar Energy Contract	Period	Prices(₹/kWh)		
			Minimum	Maximum	Average
	Anyday Single Side	September, 2023	8.50	8.50	8.50
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
HPX	Daily/Anyday	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Weekly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Monthly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA

-: No transaction took place

NA: Not Applicable

**Table - 6D**

**6.2.1.** In September, 2023, there was no transmission congestion in IEX and PXIL. There was no transaction in HPX under GTAM (Non Solar).

**6.2.2.** In September, 2023, there was no real time curtailment in IEX and PXIL. There was no transaction in HPX under GTAM (Non Solar).

### **6.3 Hydro Energy Segment in GTAM**

The Final Scheduled Volume and the Price of electricity transacted in GTAM (Hydro) in Power Exchanges during September, 2023 and its comparison with August, 2023 and September, 2022 are shown in Table- 6E & 6F:

#### **(i) Final Scheduled Volume:**

Exchange	Hydro Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
IEX	Daily/Anyday	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA

Exchange	Hydro Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
		September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Monthly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
PXIL	Daily/Anyday	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Weekly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Monthly	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
HPX	Daily/Anyday	September, 2023	-	-	-	-

Exchange	Hydro Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2023	-	-	-	-
	Weekly	August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2023	-	-	-	-
	Monthly	August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2023	-	-	-	-
	Anyday Single Side	August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2023	-	-	-	-

∴ No transaction took place

NA: Not Applicable

**Table: 6E**

**(ii) Daily Avg. Market Clearing Price (MCP):**

Exchange	Hydro Energy Contract	Period	Prices(₹/kWh)		
			Minimum	Maximum	Average
IEX	Daily/Anyday	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Weekly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Monthly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-

Exchange	Hydro Energy Contract	Period	Prices(₹/kWh)		
			Minimum	Maximum	Average
		%Change (Year over Year)	NA	NA	NA
PXIL	Daily/Anyday	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Weekly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Monthly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
HPX	Daily/Anyday	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Weekly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Monthly	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
	Anyday Single Side	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA

-: No transaction took place

NA: Not Applicable

**Table – 6F**

**6.3.1.** In September, 2023, there was no transaction under GTAM (Hydro) in IEX, PXIL & HPX.

## 7. Green Day Ahead Contingency & Intra Day (G-DAC & ID):

The total volume of electricity transacted in the IEX, PXIL & HPX in G-DAC & ID on delivery date basis during September, 2023 was **170.44 MU** (**34.40 MU** in Solar, **79.09 MU** in Non-Solar and **56.95 MU** in Hydro), respectively.

The total volume of electricity transacted in G-DAC & ID in Day Ahead Contingency and Intra Day contracts during September, 2023 and its comparison with August, 2023 and September, 2022 on delivery date basis are shown in tables 7A to 7F.

### 7.1. Solar Energy Segment in G-DAC & ID

The Final Scheduled Volume and the Price of electricity transacted in G-DAC & ID (Solar) in Power Exchanges during September, 2023 and its comparison with August, 2023 and September, 2022 are shown in Table- 7A & 7B:

#### (i) Final Scheduled Volume:

Exchange	Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
IEX	Day Ahead Contingency	September, 2023	12.55	0.17	1.41	0.70
		August, 2023	8.91	0.11	0.80	0.45
		%Change Month over Month)	40.85	54.55	76.25	55.56
		September, 2022	11.71	0.10	4.00	1.67
		%Change (Year over Year)	7.17	70.00	-64.75	-58.08
	Intra Day	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
PXIL	Day Ahead Contingency	September, 2023	9.63	0.28	0.82	0.48
		August, 2023	5.27	0.18	0.67	0.41
		%Change (Month over Month)	82.73	55.56	22.39	17.07
		September, 2022	3.93	1.80	2.13	1.96
		%Change (Year over Year)	145.04	-84.44	-61.50	-75.51
	Intra Day	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
HPX	Day Ahead Contingency	September, 2023	12.22	0.01	1.07	0.47
		August, 2023	6.61	0.004	1.04	0.22



Exchange	Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
		%Change (Month over Month)	84.87	150.00	2.88	113.64
	Intra Day	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA

-: No transaction took place

NA: Not Applicable

**Table-7A**

**(ii) Daily Avg. Market Clearing Price (MCP):**

Exchange	Solar Energy Contract	Period	Prices(₹/kWh)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	September, 2023	3.70	10.00	5.72
		August, 2023	2.18	9.90	5.37
		%Change (Month over Month)	69.72	1.01	6.52
		September, 2022	3.50	7.04	4.95
		%Change (Year over Year)	5.71	42.05	15.56
	Intra Day	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
PXIL	Day Ahead Contingency	September, 2023	4.09	10.00	5.21
		August, 2023	2.18	8.20	5.42
		%Change (Month over Month)	87.61	21.95	-3.87
		September, 2022	3.50	3.50	3.50
		%Change (Year over Year)	16.86	185.71	48.86
	Intra Day	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
HPX	Day Ahead Contingency	September, 2023	2.20	10.00	5.64
		August, 2023	2.71	8.29	5.48
		%Change (Month over Month)	-18.82	20.63	2.92
	Intra Day	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA

-: No transaction took place

NA: Not Applicable

**Table-7B**

**7.1.1.** In September, 2023, there was no transmission congestion under G-DAC & ID (Solar) in IEX, PXIL & HPX.

**7.1.2.** In September, 2023, there was no real time curtailment under G-DAC & ID (Solar) in IEX, PXIL & HPX.

## 7.2. Non-Solar Energy Segment in G-DAC & ID

The Final Scheduled Volume and the Price of electricity transacted in G-DAC & ID (Non-Solar) in Power Exchanges during September, 2023 and its comparison with August, 2023 and September, 2022 are shown in Table- 7C & 7D:

### (i) Final Scheduled Volume:

Exchange	Non- Solar Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
IEX	Day Ahead Contingency	September, 2023	33.73	0.33	2.70	1.12
		August, 2023	61.38	0.79	7.35	1.98
		%Change (Month over Month)	-45.05	-58.23	-63.27	-43.43
		September, 2022	17.40	0.10	2.11	0.79
		%Change (Year over Year)	93.85	230.00	27.96	41.77
	Intra Day	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
PXIL	Day Ahead Contingency	September, 2023	16.68	0.14	2.52	0.58
		August, 2023	21.33	0.06	2.52	0.82
		%Change (Month over Month)	-21.80	133.33	0.00	-29.27
		September, 2022	21.55	0.12	2.31	0.74
		%Change (Year over Year)	-22.60	16.67	9.09	-21.62
	Intra Day	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
HPX	Day Ahead Contingency	September, 2023	28.68	0.37	3.23	0.96
		August, 2023	62.74	0.50	9.46	2.02
		%Change (Month over Month)	-54.29	-26.00	-65.86	-52.48
	Intra Day	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA

∴ No transaction took place

NA: Not Applicable

**Table - 7C**

**(ii) Daily Avg. Market Clearing Price (MCP):**

Exchange	Non- Solar Energy Contract	Period	Prices(₹/kWh)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	September, 2023	4.70	9.97	6.58
		August, 2023	3.79	9.65	6.49
		%Change (Month over Month)	24.01	3.32	1.39
		September, 2022	3.82	7.92	6.19
		%Change (Year over Year)	23.04	25.88	6.30
	Intra Day	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
PXIL	Day Ahead Contingency	September, 2023	4.76	10.00	6.51
		August, 2023	4.30	9.93	7.02
		%Change (Month over Month)	10.70	0.70	-7.26
		September, 2022	4.22	9.67	6.45
		%Change (Year over Year)	12.80	3.41	0.93
	Intra Day	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
HPX	Day Ahead Contingency	September, 2023	4.77	9.91	6.63
		August, 2023	4.75	9.90	6.44
		%Change (Month over Month)	0.42	0.10	2.95
	Intra Day	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA

-: No transaction took place

NA: Not Applicable

**Table - 7D**

**7.2.1.** In September, 2023, there was no transmission congestion in IEX, PXIL & HPX under G-DAC & ID (Non Solar).

**7.2.2.** In September, 2023, there was no real time curtailment under G-DAC & ID (Non Solar) in IEX, PXIL & HPX.

### 7.3. Hydro Energy Segment in G-DAC & ID

The Final Scheduled Volume and the Price of electricity transacted in G-DAC & ID (Hydro) in Power Exchanges during September, 2023 and its comparison with August, 2023 and September, 2022 are shown in Table- 7E & 7F:

#### (i) Final Scheduled Volume:

Exchange	Hydro Energy Contract	Period	Final Scheduled Volume (MU)			
			Total	Minimum (on a day)	Maximum (on a day)	Average (per day)
IEX	Day Ahead Contingency	September, 2023	38.14	0.80	2.11	1.32
		August, 2023	8.56	0.07	2.11	1.07
		%Change (Month over Month)	345.56	1042.86	0.00	23.36
		September, 2022	95.90	2.02	3.99	3.20
		%Change (Year over Year)	-60.23	-60.40	-47.12	-58.75
	Intra Day	September, 2023	0.26	0.06	0.20	0.13
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
PXIL	Day Ahead Contingency	September, 2023	-	-	-	-
		August, 2023	2.85	1.19	1.66	1.42
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
	Intra Day	September, 2023	-	-	-	-
		August, 2023	-	-	-	-
		%Change (Month over Month)	NA	NA	NA	NA
		September, 2022	-	-	-	-
		%Change (Year over Year)	NA	NA	NA	NA
HPX	Day Ahead Contingency	September, 2023	18.45	0.33	1.63	0.97
		August, 2023	9.52	0.07	2.11	0.79
		%Change (Month over Month)	93.80	371.43	-22.75	22.78
	Intra Day	September, 2023	0.10	0.10	0.10	0.10
		August, 2023	0.04	0.04	0.04	0.04
		%Change (Month over Month)	150.00	150.00	150.00	150.00

-: No transaction took place

NA: Not Applicable

**Table: 7E**

**(ii) Daily Avg. Market Clearing Price (MCP):**

Exchange	Hydro Energy Contract	Period	Prices(₹/kWh)		
			Minimum	Maximum	Average
IEX	Day Ahead Contingency	September, 2023	3.90	10.00	6.69
		August, 2023	7.40	9.90	8.53
		%Change (Month over Month)	-47.30	1.01	-21.57
		September, 2022	3.33	9.35	5.78
		%Change (Year over Year)	17.12	6.95	15.74
	Intra Day	September, 2023	7.97	10.00	9.53
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
PXIL	Day Ahead Contingency	September, 2023	-	-	-
		August, 2023	6.55	9.28	7.69
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
	Intra Day	September, 2023	-	-	-
		August, 2023	-	-	-
		%Change (Month over Month)	NA	NA	NA
		September, 2022	-	-	-
		%Change (Year over Year)	NA	NA	NA
HPX	Day Ahead Contingency	September, 2023	4.87	7.71	5.97
		August, 2023	4.04	9.51	8.25
		%Change (Month over Month)	20.54	-18.93	-27.64
	Intra Day	September, 2023	10.00	10.00	10.00
		August, 2023	10.00	10.00	10.00
		%Change (Month over Month)	0.00	0.00	0.00

-: No transaction took place

NA: Not Applicable

**Table – 7F**

**7.3.1.** In September, 2023, there was no transmission congestion in IEX and HPX under G-DAC & ID (Hydro). There was no transaction in PXIL under G-DAC & ID (Hydro).

**7.3.2.** In September, 2023, there was no real time curtailment in IEX and HPX under G-DAC & ID (Hydro). There was no transaction in PXIL under G-DAC & ID (Hydro).

## 8. **Bilateral Transactions:**

The total volume of electricity transacted through **bilateral transactions** in the month of September, 2023 was **12,224.66 MU**. The total buy volume of electricity transacted in bilateral market through direct and trader transactions in the month of September, 2023 were **3,614.48 MU** and **8,610.18 MU** respectively. The details of bilateral transactions of Electricity during September, 2023 are shown in table below:

September, 2023	Direct	Traders	Total Bilateral Transaction (MU)
<b>Total</b>	3,614.48	8,610.18	12,224.66
<b>Minimum</b>	0.94	1.94	-
<b>Maximum</b>	1,130.11	1,224.49	-

**Table -8A**

The region-wise maximum/ minimum volume of electricity transacted bilaterally during September, 2023 are given in table below:

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

Region-wise Volume (MU)	ER		WR		NR		SR		NER	
	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader
<b>Total</b>	249.62	771.96	578.18	1285.51	2085.70	4191.42	700.99	2274.68	-	86.61
<b>Minimum</b>	0.94	13.61	68.12	1.94	3.25	24.64	1.05	5.32	-	7.31
<b>Maximum</b>	135.97	594.94	234.94	471.08	1130.11	1224.49	378.00	1042.39	-	79.29

**Table-8B**

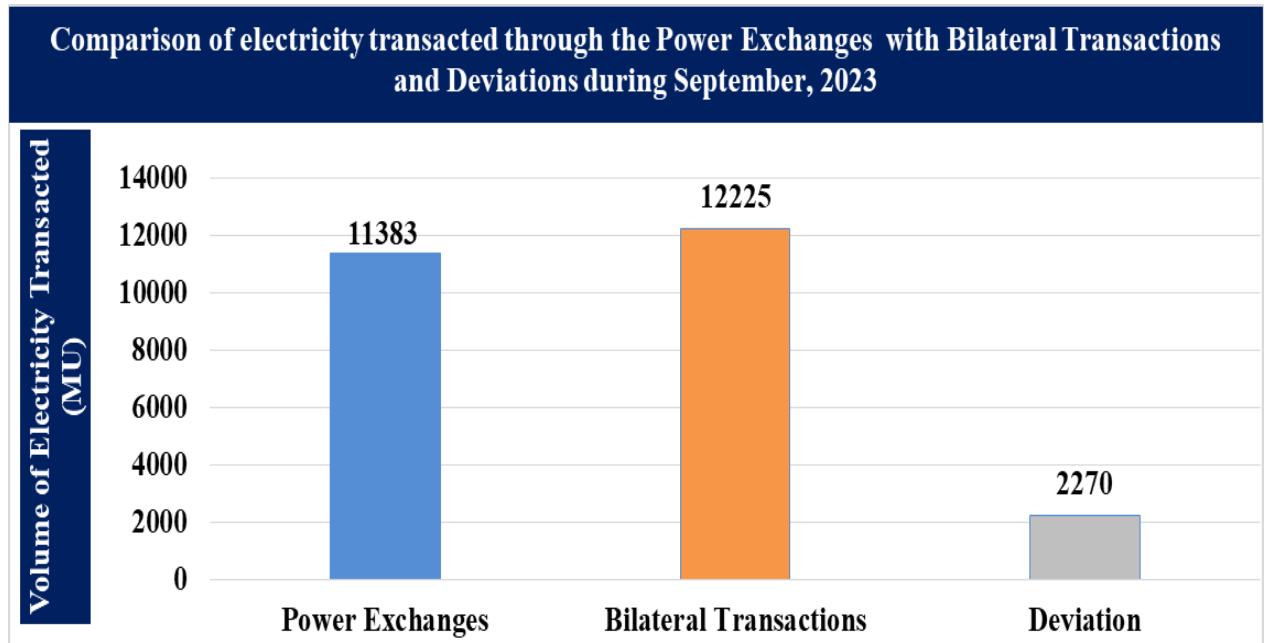
**8.1. The top 5 buyers** on bilateral transaction through direct transactions in the month of September, 2023 were **Punjab, Uttar Pradesh, Andhra Pradesh, Haryana** and **Maharashtra**, which constituted **69.94 %** of the market volume. Whereas **top 5 buyers** on bilateral transaction through traders in the month of September, 2023 were **Rajasthan, Haryana, Andhra Pradesh, Delhi** and **West Bengal**, which constituted **56.01 %** of the market volume. [Annexure III]

**8.2. The top 5 sellers** on bilateral transaction through direct transactions in the month of September, 2023 were **Karnataka, MP, SIMHAPURI, Rajasthan** and **AHEJ4LAHS**, which constituted **60.66 %** of the market volume. Whereas **top 5 sellers** on bilateral transaction through traders in the month of September, 2023 were **Adani Power Limited-Raipur TPP, Himachal Pradesh, TEESTA HEP, RKM POWER** and **JITPL**, which constituted **30.76 %** of the market volume. [Annexure III]

**8.3. Deviation Volume** -The volume of Deviation observed in the month of September, 2023 in import and export were **2,253.70 MU** and **2,286.30 MU** respectively. The total volume of Deviation observed in the month of September, 2023 can be taken as **2,270.00 MU**.



**8.4.** A comparison of volume of electricity transacted through the Power Exchanges together in DAM, GDAM, HP-DAM, RTM, TAM, HP-TAM, DAC & ID, HP-DAC & ID, GTAM and G-DAC & ID (on delivery date basis) with Bilateral transactions and Deviation in the month of September, 2023 is shown in **Figure 1**:

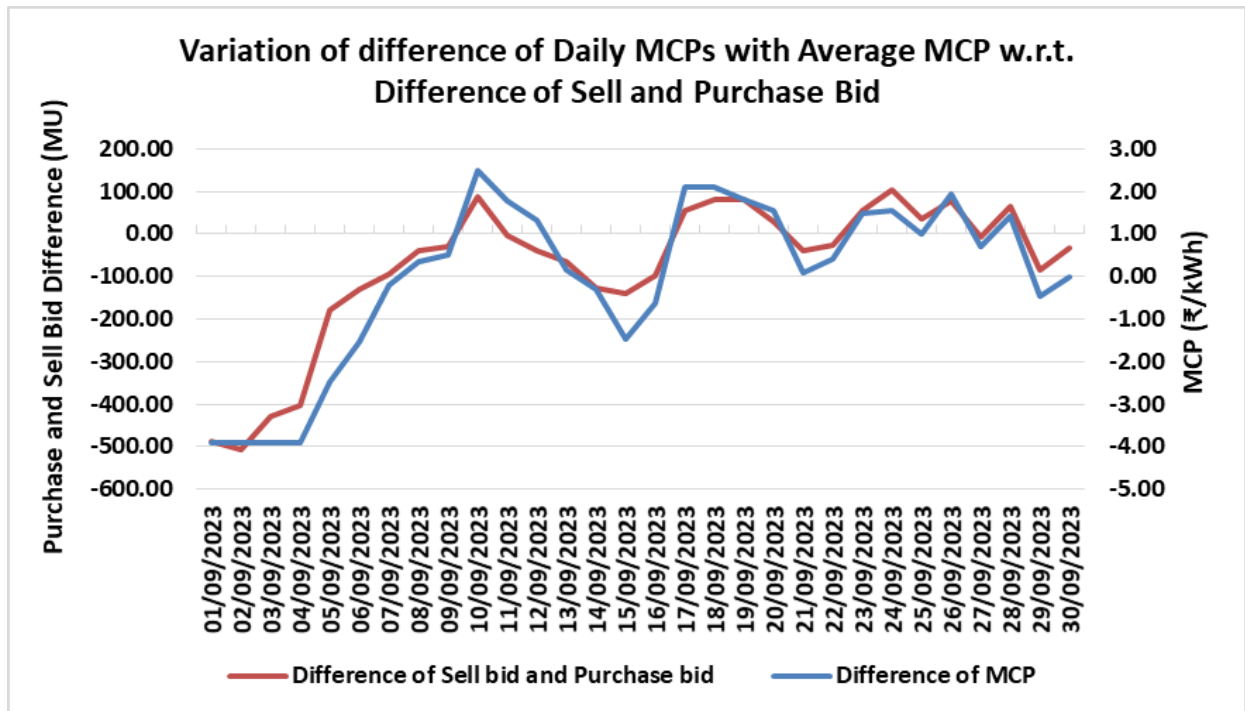


**Figure -1**

## 9. Analysis of movement of prices observed in DAM during September, 2023

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 September, 2023 month. The observations made are as under:

- 9.1. In order to find out the determinants which are responsible for the Daily Avg. MCP, a regression analysis has been carried out where the Daily Avg. 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.
- 9.2. A double log function was used so that elasticity of Daily Avg. MCP could be read off from the coefficients of independent variables. The regression analysis revealed that the most significant variable was the Peak Demand. Further, the regression analysis revealed that the elasticity of the Daily Avg. MCP with respect to Peak Demand was **4.24** in the month of September, 2023.
- 9.3. The variation of difference of Daily Avg. MCPs with Average MCP w.r.t Difference of Sell and Purchase bid is Shown below:



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

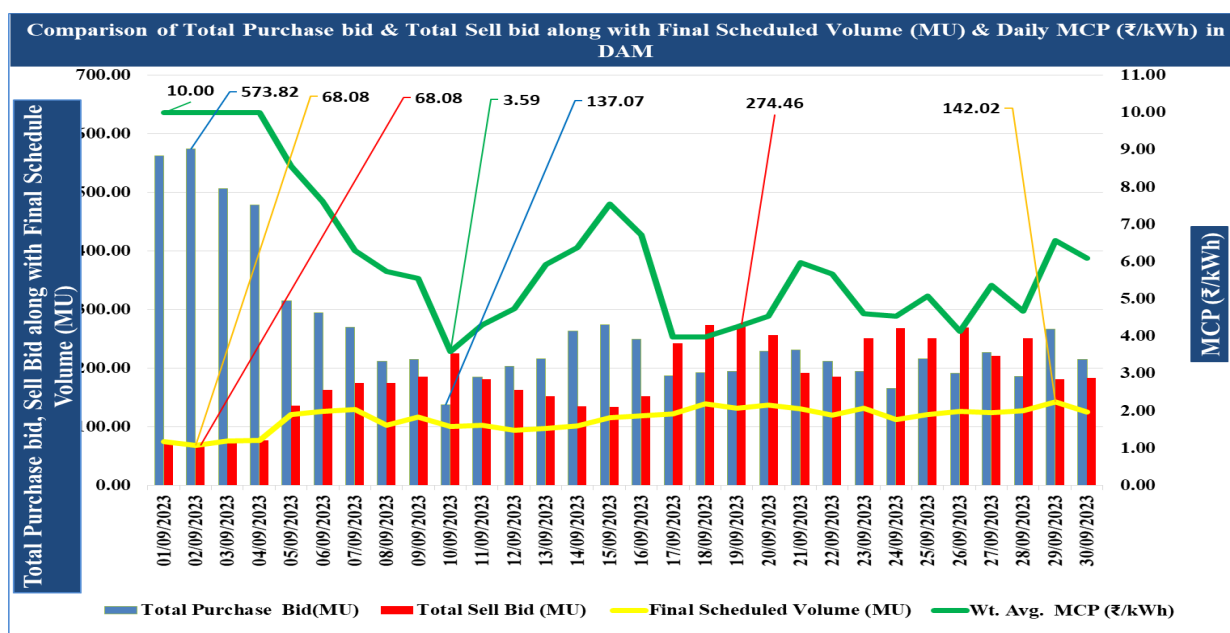


Figure – 2

9.5. Invariably, the Final Scheduled Volume (MU) and the Daily Avg. MCP (₹/kWh) showed decreasing trend on Sundays and increasing trend on Mondays as the demand of electricity in the country was less on Sundays as compared to other days of week. However, during the month of September, 2023, it is observed that on first Sunday (3<sup>rd</sup> September, 2023), FSV showed increasing trend in comparison to first Saturday (2<sup>nd</sup> September, 2023), on third Sunday (17<sup>th</sup> September, 2023), FSV showed increasing trend in comparison to third Saturday (16<sup>th</sup> September, 2023). The detailed analysis on this are shown at **Appendix-I**.

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

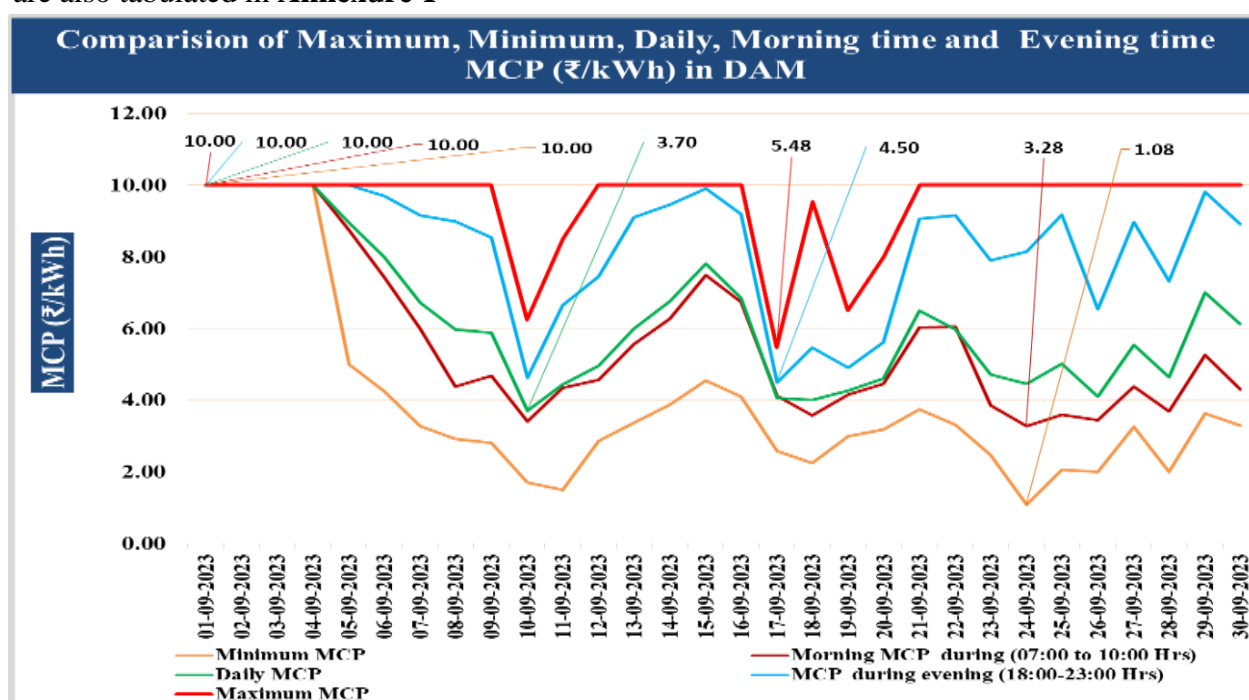
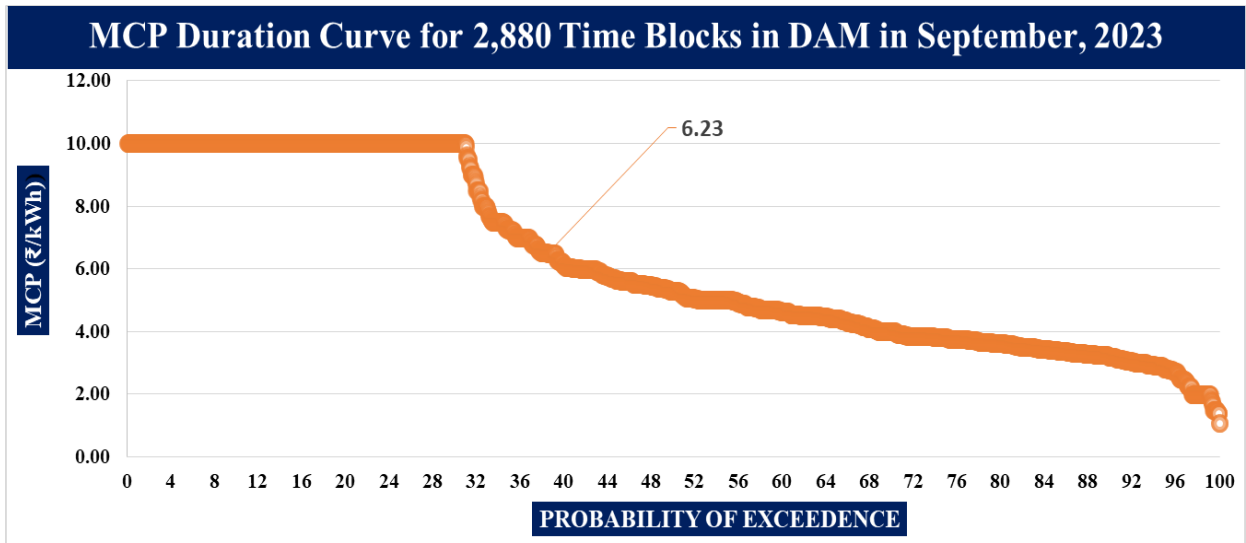
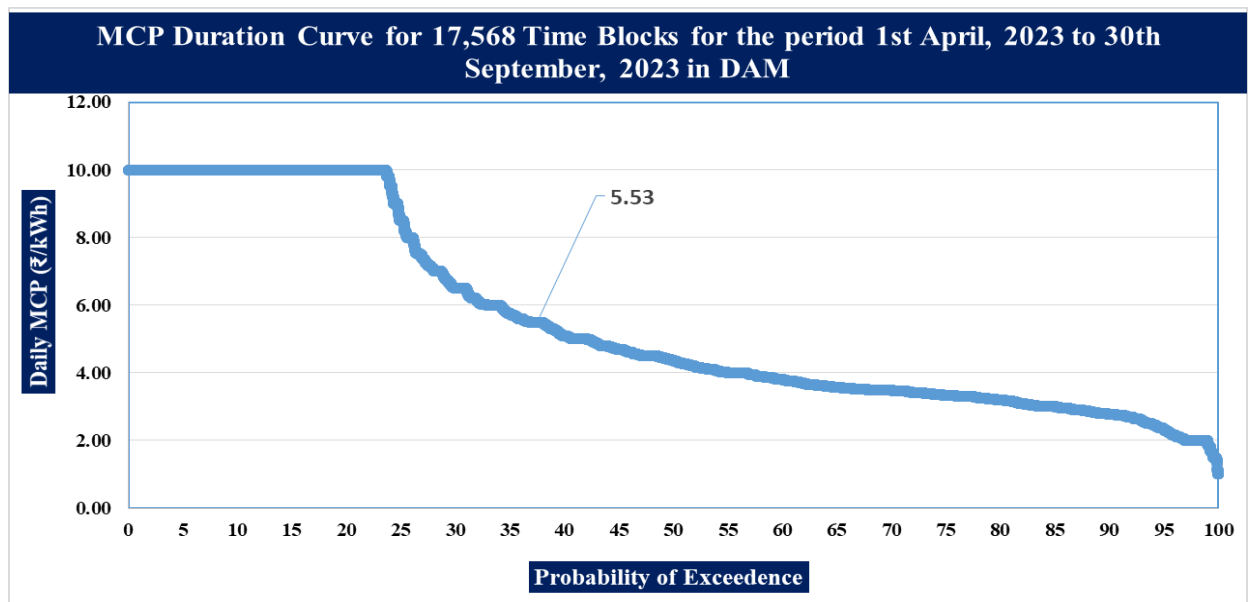


Figure-3

9.7. The Market Clearing Price duration curves for time block wise MCP for the month of September, 2023 is shown in **Figure 4**, whereas the time block wise MCP duration curve for the period 1<sup>st</sup> April, 2023 to 30<sup>th</sup> September, 2023 is shown in **Figure 5**.



**Figure – 4**



**Figure-5**

9.8. It can be seen in figure 4 above that in the MCP duration curve of September, 2023, for 39.00 % of the time MCP was above average MCP of the month (i.e. ₹ 6.23/kWh) and almost 61.00 % of the time MCP was below the average MCP of the month. Similarly, it can be seen in the MCP duration curve from 1<sup>st</sup> April, 2023 to 30<sup>th</sup> September, 2023 (figure-5), that for 38.00 % of the time the MCP was above the average MCP for the period (i.e. ₹ 5.53/kWh) and for 62.00 % of the time the Daily Avg. MCP was below the average MCP for the period.

9.9. The Purchase Bids and the MCP discovered in each of the 15-minute time block during the month almost followed the same trend [**Annexure V**]. This is also corroborated with the outcome of regression analysis mentioned at **para 7.1 and 7.2** above.

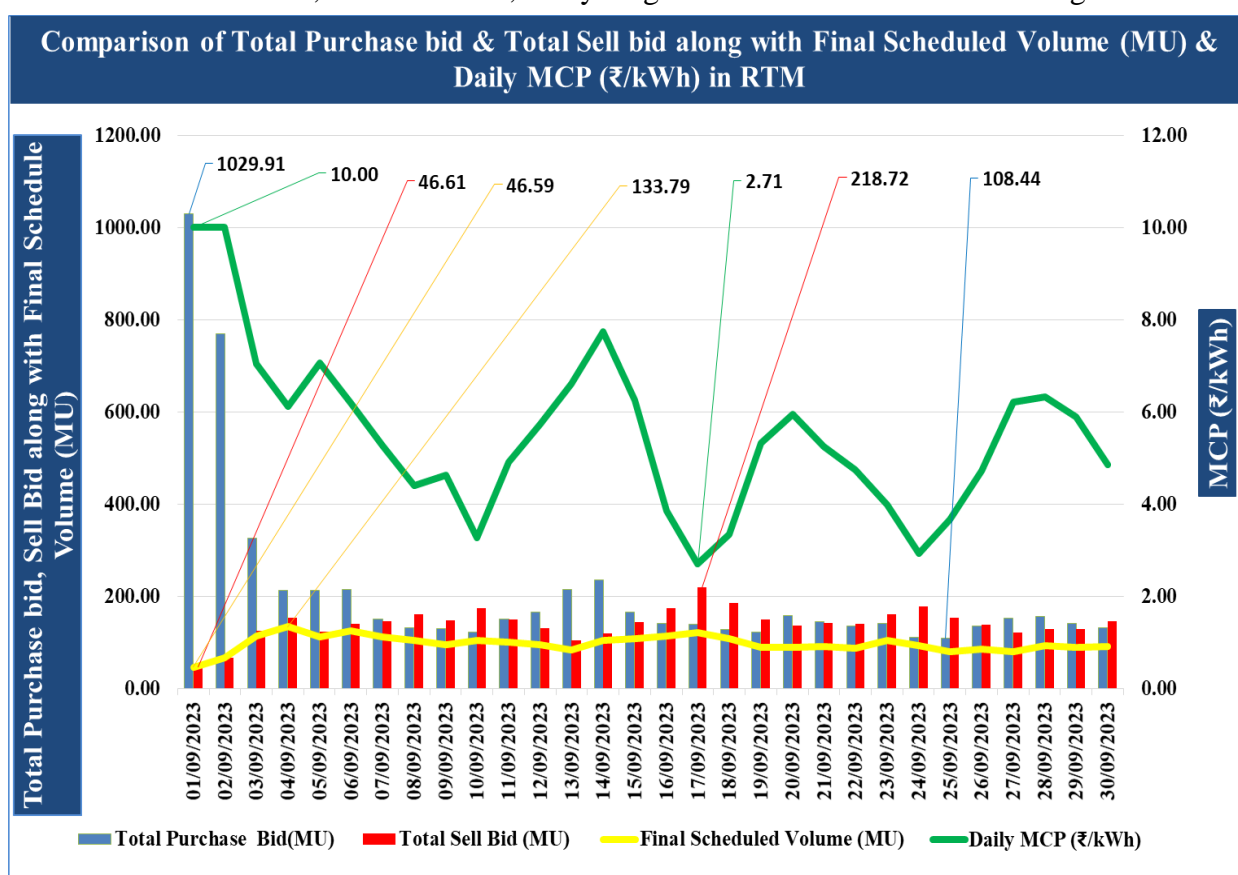
- 9.10.** In September, 2023, the maximum FSV occurred mostly during the **time period 07-08 Hrs** (on 18 no. of days). Whereas, the maximum MCP occurred mostly during the **time period 00-01 Hrs** (on 14 no. of days). Similarly, the minimum FSV occurred mostly during the **time period 19-21 Hrs** (on 8 no. of days). Whereas, the minimum MCP occurred mostly during the **time period 13-14 Hrs** (on 17 no. of days). [**Annexure VI**]
- 9.11.** In the month of September, 2023, there was no congestion in IEX, PXIL & HPX during September, 2023. Further, in the month of August, 2023, there was no congestion in IEX, PXIL & HPX. Further, in the month of September, 2022, there was no congestion in IEX & PXIL and no transaction of electricity took place in HPX.
- 9.12.** In the month of September, 2023, there was **no** real time curtailment in IEX, PXIL & HPX. Further, in the month of August, 2023, there was **no** real time curtailment in IEX, PXIL & HPX. Further in the month of September, 2022, there was **no** real time curtailment in IEX & PXIL and no transaction of electricity took place in HPX.
- 9.13.** The **top 10 sellers** on the power exchanges in **Day Ahead Market (DAM)** in the month of September, 2023 were **Chhattisgarh, NVVN (SNA) - NEA , Delhi, DB Power, Uttar Pradesh, Jaypee Nigrie, Madhya Pradesh, MB Power, JITPL and Tamil Nadu**, which constituted **54.10 %** of the market volume. [**Annexure VII**].
- 9.14.** The **top 10 purchasers** on the power exchanges in **Day Ahead Market (DAM)** in the month of September, 2023 were **Telangana, Gujarat, Maharashtra, West Bengal, Uttar Pradesh, Andhra Pradesh, Punjab, Haryana, Uttarakhand and Karnataka**, which constituted **84.87 %** of the market volume. [**Annexure VII**]
- 9.15.** The total volume of electricity purchased by Discoms/Licensees in DAM in the month of September, 2023 was **3,385.15 MU**, which constituted **98.53 %** of total volume of electricity purchased on the power exchanges.
- 9.16.** Similarly, the total volume of electricity sold by Discoms/Licensees in DAM in the month of September, 2023 was **1,875.76 MU**, which constituted **54.60 %** of total volume of electricity sold on the power exchanges.

## 10. Analysis of movement of prices observed in Real Time Market (RTM) transactions in September, 2023

10.1. 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 variable was the Peak Demand. Further, the regression analysis revealed that the elasticity of the Daily Avg. MCP with respect to Coal Generation was **4.87** in the month of September, 2023.

10.2. 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**.

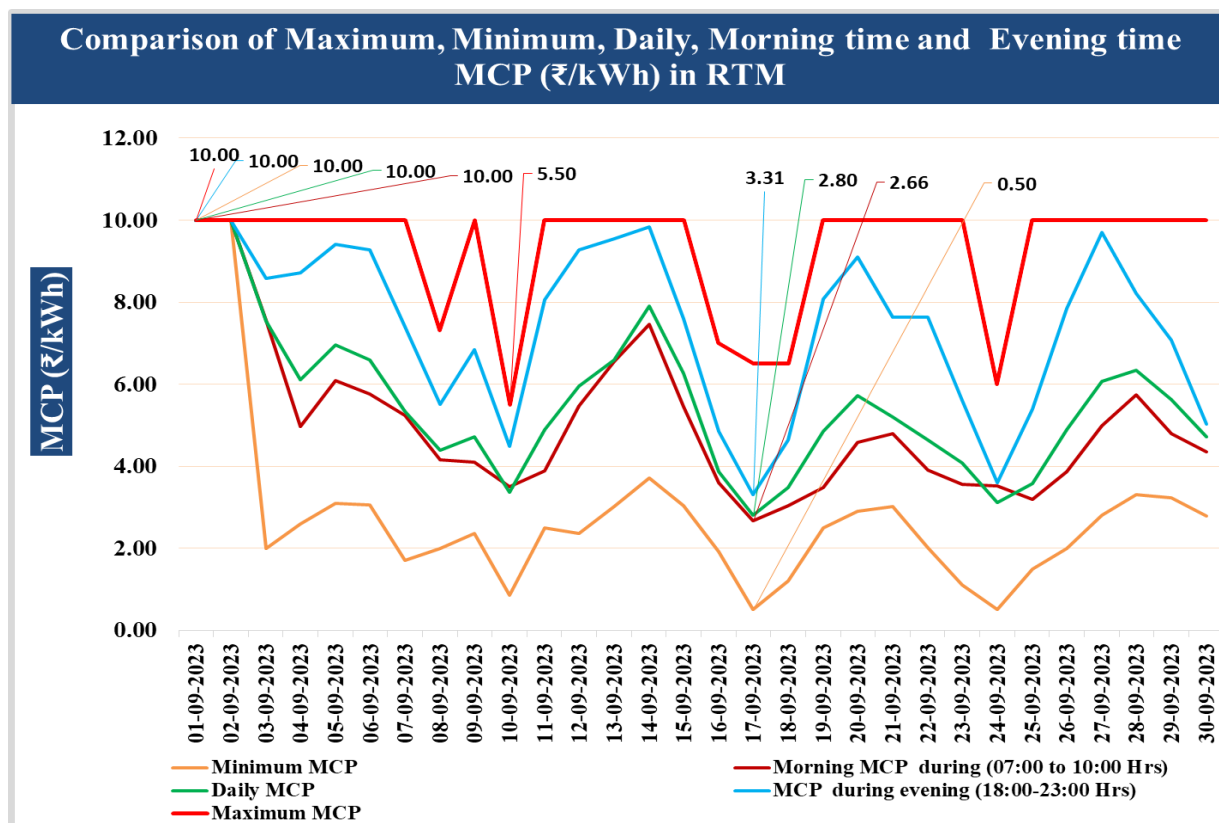
10.3. The Total Purchase Bid, Total Sell Bid, Daily Avg. MCP and FSV are shown in Figure-6 below:



**Figure-6**

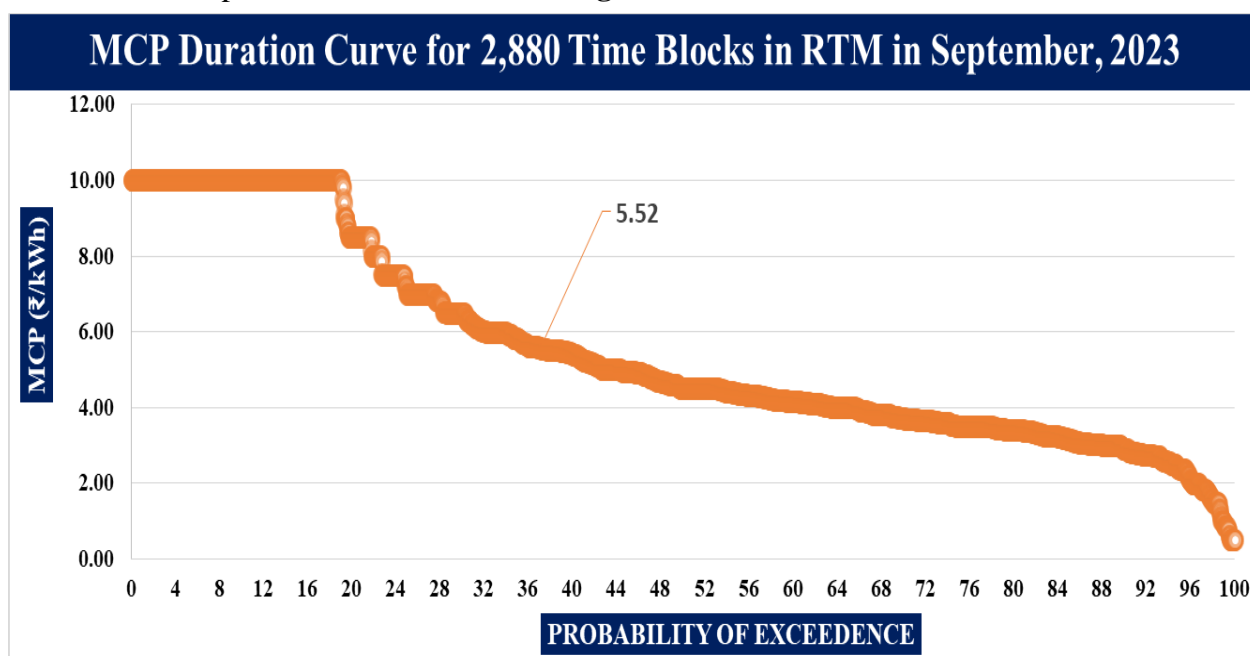
10.4. A comparison of maximum, minimum, daily, evening time MCP is shown in **Figure-7**. The same are also tabulated in **Annexure-VIII**.



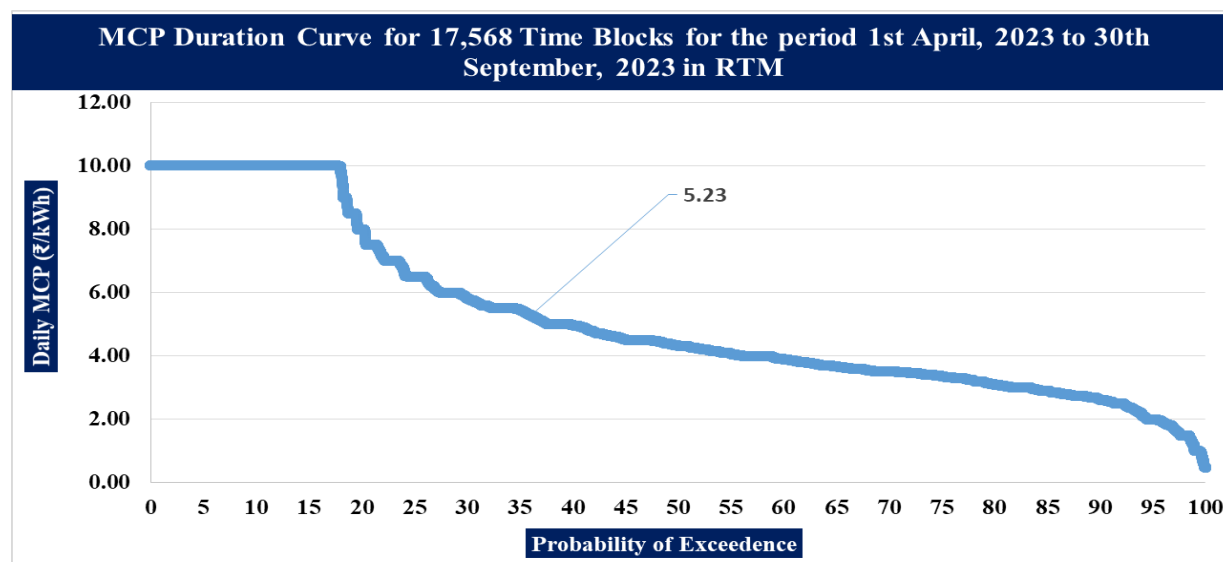


**Figure-7**

**10.5.** The Market Clearing Price duration curves for time block wise MCP for the month of September, 2023 is shown in **Figure 8**, whereas the day wise MCP duration curve for the period 1<sup>st</sup> April, 2023 to 30<sup>th</sup> September, 2023 is shown in **Figure 9**.



**Figure-8**



**Figure-9**

- 10.6.** It can be seen in figure 8 above that in the MCP duration curve of September, 2023, for 37.00 % of the time the MCP was above the average MCP of the month (i.e. ₹ 5.52/kWh) and for 63.00 % of the time the MCP was below the average MCP of the month. Similarly, it can be seen in the cumulative MCP duration curve from 1<sup>st</sup> April, 2023 to 30<sup>th</sup> September, 2023 (figure 9) that, for 36.00 % of the time the Daily Avg. MCP was above the average MCP for the period (i.e. ₹ 5.23/kWh) and for 64.00 % of the time the Daily Avg. MCP was below the average MCP for the period.
- 10.7.** In September, 2023, the maximum FSV occurred mostly during the **time period 22-24 Hrs** (on 8 no. of days). Whereas, the maximum MCP also occurred mostly during the **time period 00-01 Hrs** (on 12 no. of days). Similarly, the minimum FSV occurred mostly during the **time period 18-20 Hrs** (on 7 no. of days). Whereas, the minimum MCP occurred mostly during the **time period 13-14 Hrs** (on 14 no. of days).[Annexure X]
- 10.8.** There was **no** real time curtailment in IEX, PXIL and HPX in Real Time Market (RTM) during September, 2023. Further, in August, 2023 **no** real time curtailment occurred IEX, PXIL and HPX. Similarly, in September, 2022, there was no real time curtailment in IEX, PXIL and no transaction happened in HPX.
- 10.9.** In the month of September, 2023 there was congestion of **2.26 MU** in IEX and there was no congestion in PXIL & HPX. Further, in the month of August, 2023, there was congestion of **0.62 MU** in IEX and there was no congestion in PXIL & HPX. Similarly, in the month of September, 2022, there was **5.79 MU** congestion in the transmission system in IEX and there was no congestion in PXIL & no transaction took place in HPX.

**10.10.** The **top 10 sellers** on the power exchanges in **Real Time Market (RTM)** in the month of September, 2023 were **Madhya Pradesh, Bihar, Andhra Pradesh, Chhattisgarh, Rajasthan, Tamil Nadu, Odisha, Delhi, Punjab** and **Telangana**, which constituted **68.21 %** of the market volume. [Annexure XI]

**10.11.** The **top 10 buyers** on the power exchanges in **Telangana, Punjab, Maharashtra, Uttar Pradesh, Kerala, Haryana, West Bengal, Karnataka, Assam** and **Rajasthan**, which constituted **74.26 %** of the market volume. [Annexure XI]

**10.12.** The total volume of electricity purchased by Discoms/Licensees in RTM in the month of September, 2023 was **2,861.85 MU**, which constituted **97.87 %** of total volume of electricity purchased on the power exchanges.

**10.13.** Similarly, the total volume of electricity sold by Discoms/Licensees in RTM in the month of September, 2023 was **2,589.64 MU**, which constituted **88.56 %** of total volume of electricity sold on the power exchanges.

\*\*\*\*\*

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

**Annexure-I****Final Scheduled Volume, Average MCP and Real-Time Curtailment in Day Ahead Market (DAM) for the months of April, 2023 to September, 2023 of IEX, PXIL and HPX.**

Quarter	Months	Final Scheduled Volume (MU)			Market Clearing Price (₹/kWh)			Real Time Curtailment (MU)		
		IEX	PXIL	HPX	IEX	PXIL	HPX	IEX	PXIL	HPX
<b>Quarter -I</b>	April, 2023	4,408.93	0	0	5.08	0	0	0	0	0
	May, 2023	3,999.76	1.56	0	4.77	6.94	0	0	1.55	0
	June, 2023	4,123.34	0.03	0	5.16	10.00	0	0	0	0
<b>Total Quarter -I</b>	<b>April - June, 2023</b>	<b>12,532.03</b>	<b>1.59</b>	<b>0</b>	<b>5.01</b>	<b>7.00</b>	<b>0</b>	<b>0</b>	<b>1.55</b>	<b>0</b>
<b>Quarter -II</b>	July, 2023	3,966.20	0	0	4.52	0	0	0	0	0
	August, 2023	3,881.41	16.34	0.27	6.43	9.33	10.00	0	0	0
	September, 2023	3405.42	11.67	18.51	5.87	10.00	10.00	0	0	0
<b>Total Quarter -II</b>	<b>July - September, 2023</b>	<b>11,253.03</b>	<b>28.01</b>	<b>18.78</b>	<b>5.59</b>	<b>9.61</b>	<b>10.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Total April, 2023 – September, 2023</b>		<b>23,785.06</b>	<b>29.60</b>	<b>18.78</b>	<b>5.28</b>	<b>9.47</b>	<b>10.00</b>	<b>0.00</b>	<b>1.55</b>	<b>0.00</b>

**Annexure-II**

Final Scheduled Volume in Term Ahead Market (TAM) for the months of April, 2023 to September, 2023 of IEX, PXIL and HPX (Delivery date basis)					
Quarter	Months	Final Scheduled Volume (MU)			
		IEX	PXIL	HPX	Total
Quarter -I	April, 2023	317.91	111.30	321.83	751.04
	May, 2023	607.72	133.80	198.75	940.27
	June, 2023	322.49	172.80	95.24	590.53
<b>Total Quarter – I</b>	<b>April - June, 2023</b>	<b>1,248.12</b>	<b>417.90</b>	<b>615.82</b>	<b>2,281.84</b>
Quarter -II	July, 2023	287.60	20.40	154.02	462.02
	August, 2023	768.73	287.36	355.21	1,411.30
	September, 2023	1,131.71	1,017.15	516.10	2,664.96
<b>Total Quarter – II</b>	<b>July - September , 2023</b>	<b>2,188.04</b>	<b>1,324.91</b>	<b>1,025.33</b>	<b>4,538.28</b>
<b>Total April, 2023 – September, 2023</b>		<b>3,436.16</b>	<b>1,742.81</b>	<b>1,641.15</b>	<b>6,820.12</b>

## Top Five Entities (Buyers and Sellers) in Bilateral transactions in the month of September, 2023

### (i) Top five Buyers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
Punjab	1130.11	31.27%	Rajasthan	1224.49	14.22%
Uttar Pradesh	533.25	14.75%	Haryana	1158.36	13.45%
Andhra Pradesh	378.00	10.46%	Andhra Pradesh	1042.39	12.11%
Haryana	251.59	6.96%	Delhi	802.36	9.32%
Maharashtra	234.94	6.50%	West Bengal	594.94	6.91%
<b>Total Volume</b>	<b>2,527.89</b>	<b>69.94%</b>	<b>Total Volume</b>	<b>4,822.54</b>	<b>56.01%</b>
<b>Total Volume in Bilateral</b>	<b>3,614.48</b>		<b>Total Volume in Bilateral</b>	<b>8,610.18</b>	

### (ii) Top five Sellers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
Karnataka	642.31	17.77%	Adani Power Limited-Raipur TPP	610.46	10.64%
MP	553.87	15.32%	Himachal Pradesh	606.11	8.40%
SIMHAPURI	498.50	13.79%	TEESTA HEP	566.49	5.86%
Rajasthan	342.96	9.49%	RKM POWER	464.99	5.10%
AHEJ4LAHS	154.94	4.29%	JITPL	400.30	4.56%
<b>Total Volume</b>	<b>2,192.58</b>	<b>60.66%</b>	<b>Total Volume</b>	<b>2,648.36</b>	<b>30.76%</b>
<b>Total Volume in Bilateral</b>	<b>3,614.48</b>		<b>Total Volume in Bilateral</b>	<b>8,610.18</b>	



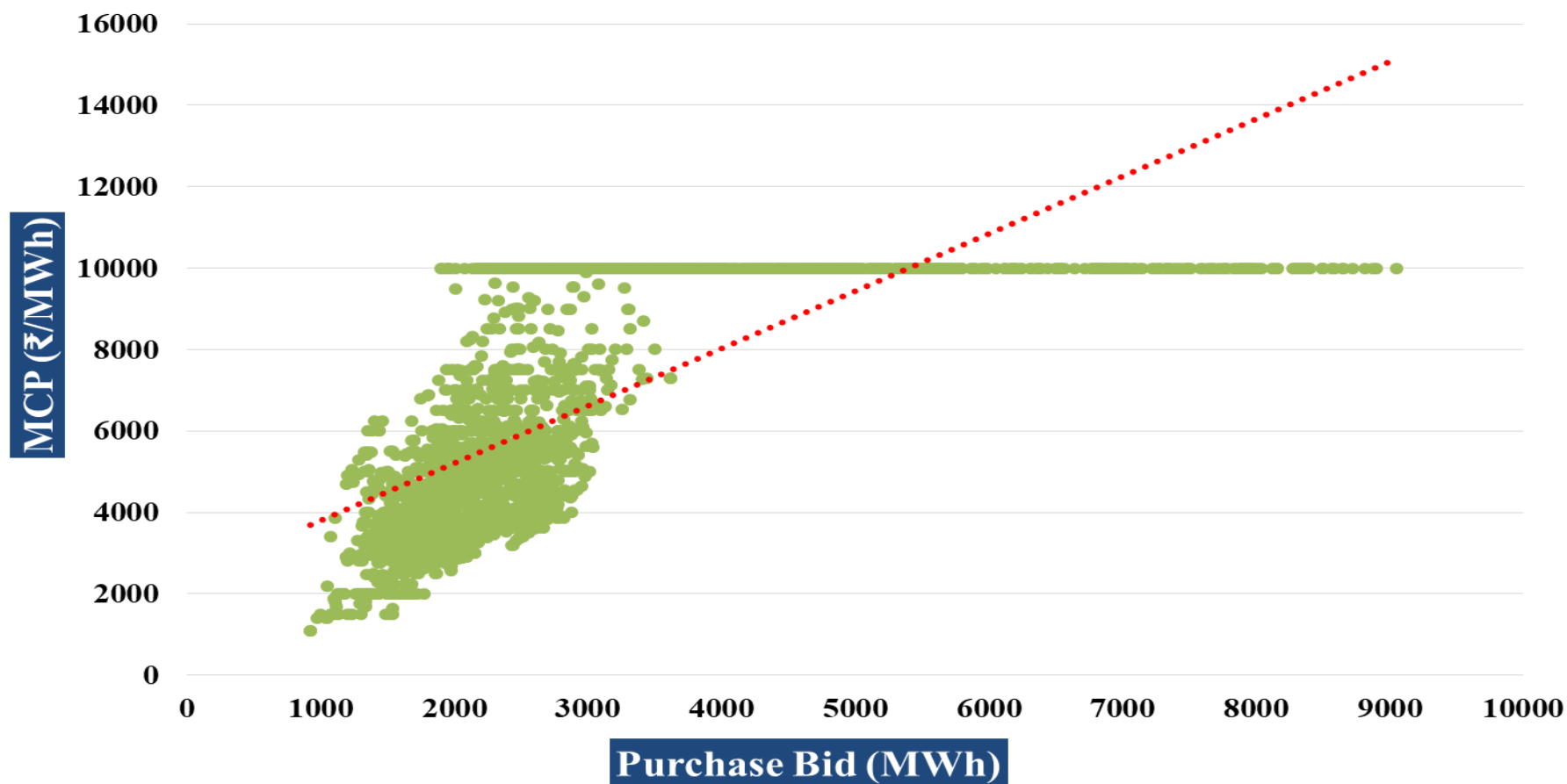
**Evening, Day, Night, Morning, Maximum, Minimum, Average MCP (₹/kWh) and Final Scheduled Volume (MU) in DAM**

Date	Morning MCP (07:00-10:00)	Day MCP (11:00-17:00)	Evening MCP (18:00- 23:00)	Night MCP (01:00- 06:00, 23:00-24:00)	Maximum MCP	Minimum MCP	Average MCP	Final Scheduled Volume (MU)
01-09-2023	10.00	10.00	10.00	10.00	10.00	10.00	10.00	74.08
02-09-2023	10.00	10.00	10.00	10.00	10.00	10.00	10.00	68.08
03-09-2023	10.00	10.00	10.00	10.00	10.00	10.00	10.00	75.45
04-09-2023	10.00	10.00	10.00	10.00	10.00	10.00	10.00	76.31
05-09-2023	8.75	7.13	10.00	10.00	10.00	5.00	8.96	120.60
06-09-2023	7.42	5.34	9.70	9.50	10.00	4.25	7.99	126.65
07-09-2023	5.99	4.16	9.16	7.62	10.00	3.28	6.72	129.16
08-09-2023	4.37	3.94	8.99	6.34	10.00	2.92	5.98	102.07
09-09-2023	4.68	3.86	8.54	6.28	10.00	2.81	5.87	116.86
10-09-2023	3.41	2.23	4.61	4.56	6.25	1.70	3.70	100.42
11-09-2023	4.33	3.26	6.64	3.77	8.50	1.50	4.43	102.94
12-09-2023	4.56	3.57	7.44	4.42	10.00	2.86	4.95	93.50
13-09-2023	5.56	4.28	9.10	5.30	10.00	3.36	5.99	96.86
14-09-2023	6.27	4.82	9.46	6.65	10.00	3.87	6.75	101.26
15-09-2023	7.49	5.82	9.91	8.20	10.00	4.54	7.81	115.40
16-09-2023	6.73	5.46	9.20	6.33	10.00	4.09	6.86	118.41
17-09-2023	4.11	3.13	4.50	4.56	5.48	2.58	4.05	122.26
18-09-2023	3.58	2.87	5.47	4.15	9.53	2.25	4.01	139.12
19-09-2023	4.16	3.55	4.90	4.48	6.51	3.00	4.26	131.64
20-09-2023	4.45	3.77	5.61	4.64	8.00	3.19	4.60	136.45
21-09-2023	6.03	4.26	9.05	6.78	10.00	3.75	6.49	130.82
22-09-2023	6.05	3.81	9.15	5.36	10.00	3.32	5.97	119.94
23-09-2023	3.85	3.13	7.89	4.08	10.00	2.46	4.72	131.12
24-09-2023	3.28	1.91	8.14	4.50	10.00	1.08	4.45	111.80
25-09-2023	3.59	3.09	9.17	4.18	10.00	2.06	5.01	120.39
26-09-2023	3.45	2.73	6.54	3.74	10.00	2.00	4.10	125.68
27-09-2023	4.37	3.60	8.97	5.24	10.00	3.26	5.55	123.58
28-09-2023	3.69	2.85	7.32	4.71	10.00	2.00	4.65	127.27
29-09-2023	5.26	5.20	9.81	7.37	10.00	3.62	7.00	142.02
30-09-2023	4.30	4.20	8.91	6.68	10.00	3.30	6.12	125.27
Maximum	10.00	10.00	10.00	10.00	10.00	10.00	10.00	142.02
Minimum	3.28	1.91	4.50	3.74	5.48	1.08	3.70	68.08
Average	5.66	4.73	8.27	6.31	9.48	3.94	6.23	113.51

MCP: Market Clearing Price (₹/kWh)

FSV: Final Scheduled Volume (MU)

## Comparison of MCP w.r.t. Purchase Bid for 2,880 Time Blocks during the month of September, 2023 in DAM



**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 (₹/kWh)		Min FSV (MU)		Min. MCP (₹/kWh)	
	Time Block	Value	Time Block	Value	Time Block	Value	Time Block	Value
01-09-2023	08:00 - 08:15	1.22	00:00 - 00:15	10.00	19:30 - 19:45	0.52	00:00 - 00:15	10.00
02-09-2023	08:00 - 08:15	0.99	00:00 - 00:15	10.00	23:00 - 23:15	0.49	00:00 - 00:15	10.00
03-09-2023	09:00 - 09:15	1.25	00:00 - 00:15	10.00	23:30 - 23:45	0.43	00:00 - 00:15	10.00
04-09-2023	13:15 - 13:30	1.21	00:00 - 00:15	10.00	21:45 - 22:00	0.39	00:00 - 00:15	10.00
05-09-2023	15:00 - 15:15	2.16	00:00 - 00:15	10.00	23:15 - 23:30	0.51	13:00 - 13:15	5.00
06-09-2023	14:45 - 15:00	2.18	00:00 - 00:15	10.00	23:00 - 23:15	0.60	13:00 - 13:15	4.25
07-09-2023	14:45 - 15:00	2.09	00:00 - 00:15	10.00	19:30 - 19:45	0.79	10:45 - 11:00	3.28
08-09-2023	14:45 - 15:00	1.63	18:45 - 19:00	10.00	19:00 - 19:15	0.70	08:45 - 09:00	2.92
09-09-2023	15:00 - 15:15	1.77	19:00 - 19:15	10.00	20:00 - 20:15	0.87	10:45 - 11:00	2.81
10-09-2023	07:15 - 07:30	1.37	22:45 - 23:00	6.25	19:30 - 19:45	0.77	12:00 - 12:15	1.70
11-09-2023	08:00 - 08:15	1.58	19:00 - 19:15	8.50	01:45 - 02:00	0.64	13:00 - 13:15	1.50
12-09-2023	07:15 - 07:30	1.40	19:00 - 19:15	10.00	01:15 - 01:30	0.67	13:00 - 13:15	2.86
13-09-2023	07:15 - 07:30	1.46	18:30 - 18:45	10.00	02:30 - 02:45	0.66	13:00 - 13:15	3.36
14-09-2023	07:15 - 07:30	1.64	00:00 - 00:15	10.00	20:15 - 20:30	0.59	10:30 - 10:45	3.87
15-09-2023	08:00 - 08:15	1.66	00:00 - 00:15	10.00	19:00 - 19:15	0.76	12:15 - 12:30	4.54
16-09-2023	07:15 - 07:30	1.95	00:00 - 00:15	10.00	02:00 - 02:15	0.70	13:00 - 13:15	4.09
17-09-2023	07:00 - 07:15	1.74	06:30 - 06:45	5.48	03:00 - 03:15	0.97	13:15 - 13:30	2.58
18-09-2023	07:15 - 07:30	1.90	19:15 - 19:30	9.53	23:30 - 23:45	1.16	11:30 - 11:45	2.25
19-09-2023	07:15 - 07:30	2.00	19:30 - 19:45	6.51	17:45 - 18:00	1.08	13:15 - 13:30	3.00
20-09-2023	07:15 - 07:30	2.16	19:45 - 20:00	8.00	23:00 - 23:15	1.02	13:00 - 13:15	3.19
21-09-2023	07:15 - 07:30	2.02	00:00 - 00:15	10.00	19:15 - 19:30	0.79	13:00 - 13:15	3.75
22-09-2023	07:15 - 07:30	1.91	00:00 - 00:15	10.00	02:00 - 02:15	0.80	13:00 - 13:15	3.32
23-09-2023	07:15 - 07:30	1.87	19:00 - 19:15	10.00	02:30 - 02:45	0.95	13:00 - 13:15	2.46
24-09-2023	07:00 - 07:15	2.15	19:00 - 19:15	10.00	13:15 - 13:30	0.78	13:15 - 13:30	1.08
25-09-2023	07:00 - 07:15	2.21	18:00 - 18:15	10.00	01:15 - 01:30	0.82	13:15 - 13:30	2.06
26-09-2023	07:00 - 07:15	2.07	19:00 - 19:15	10.00	02:15 - 02:30	0.87	13:00 - 13:15	2.00
27-09-2023	07:15 - 07:30	2.13	18:45 - 19:00	10.00	00:00 - 00:15	0.88	11:45 - 12:00	3.26
28-09-2023	07:15 - 07:30	1.80	19:00 - 19:15	10.00	01:30 - 01:45	0.95	13:15 - 13:30	2.00
29-09-2023	16:30 - 16:45	2.16	00:00 - 00:15	10.00	00:30 - 00:45	0.90	08:45 - 09:00	3.62
30-09-2023	07:45 - 08:00	1.72	00:00 - 00:15	10.00	05:45 - 06:00	0.94	13:00 - 13:15	3.30

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

**Annexure-VII****Sellers and Buyers in Day Ahead Market (DAM) in the month of September, 2023**

S. No.	Entity Name	Sell		Entity Name	Purchase	
		(MU)	Percent (%)		(MU)	Percent (%)
1	Chhattisgarh	295.36	8.60%	Telangana	551.52	16.05%
2	NVVN (SNA) -	240.22	6.99%	Gujarat	463.87	13.50%
3	Delhi	223.90	6.52%	Maharashtra	428.96	12.49%
4	DB Power	199.83	5.82%	West Bengal	335.94	9.78%
5	Uttar Pradesh	197.69	5.75%	Uttar Pradesh	270.43	7.87%
6	Jaypee Nigrie	151.45	4.41%	Andhra Pradesh	252.91	7.36%
7	Madhya Pradesh	150.43	4.38%	Punjab	211.21	6.15%
8	MB Power	139.13	4.05%	Haryana	175.55	5.11%
9	JITPL	130.95	3.81%	Uttarakhand	128.69	3.75%
10	Tamil Nadu	129.85	3.78%	Karnataka	96.57	2.81%
11	Haryana	120.50	3.51%	Tamil Nadu	95.25	2.77%
12	Bihar	112.47	3.27%	Rajasthan	86.86	2.53%
13	Rajasthan	89.36	2.60%	Odisha	61.01	1.78%
14	Jindal Power	75.16	2.19%	Kerala	53.18	1.55%
15	Jindal Steel	71.34	2.08%	Madhya Pradesh	43.11	1.25%
16	IL&FS	69.65	2.03%	Bihar	29.77	0.87%
17	Telangana	65.54	1.91%	ArcelorMittal Nippon	25.21	0.73%
18	Gujarat	64.64	1.88%	Railways	22.16	0.65%
19	Himachal Pradesh	56.27	1.64%	Assam	20.41	0.59%
20	MASAYA SOLAR	49.45	1.44%	DVC	18.45	0.54%
21	ADANI WIND	46.43	1.35%	Meghalaya	13.49	0.39%
22	Karnataka	45.25	1.32%	Daman & Diu - Dadra &	10.35	0.30%
23	Odisha	42.23	1.23%	Delhi	8.07	0.23%
24	Maharashtra	41.47	1.21%	Jharkhand	7.75	0.23%
25	SKS Power	36.35	1.06%	Chandigarh	5.31	0.15%
26	Andhra Pradesh	33.85	0.99%	Tripura	4.84	0.14%
27	Karcham Wangtoo	32.50	0.95%	Chhattisgarh	3.74	0.11%
28	Sembcorp Gayatri	31.67	0.92%	BHARAT ALUMINIUM	3.08	0.09%
29	Pondicherry	28.77	0.84%	Goa WR	2.84	0.08%
30	Punjab	26.12	0.76%	J&K	2.46	0.07%
31	AD Hydro	23.50	0.68%	Goa SR	1.56	0.05%
32	Chandigarh	22.71	0.66%	Himachal Pradesh	1.02	0.03%
33	NEA-NR	22.18	0.65%			
34	Sainj HEP	21.53	0.63%			
35	Raigarh Energy Ltd.	21.32	0.62%			
36	Jharkhand	20.59	0.60%			
37	Sikkim Urja Limited	20.56	0.60%			
38	Shree Cement	20.28	0.59%			
39	West Bengal	20.12	0.59%			
40	Mizoram	17.67	0.51%			
41	Arunachal Pradesh	16.96	0.49%			
42	GMR Warora	15.67	0.46%			
43	DVC	11.99	0.35%			
44	Mahan Energy	10.77	0.31%			
45	Adani Green Energy	10.18	0.30%			
46	Maruti Clean Coal	10.15	0.30%			
47	Jhabua Power	10.13	0.29%			
48	J&K	10.09	0.29%			

49	ACBIL	9.81	0.29%			
50	Renew Surya Ravi	9.40	0.27%			
51	Sikkim	8.60	0.25%			
52	Sembcorp Energy	8.04	0.23%			
53	Meghalaya	7.23	0.21%			
54	Chuzachen	7.18	0.21%			
55	RKM Power	7.11	0.21%			
56	Ramagundam	6.53	0.19%			
57	Bongaigaon	5.78	0.17%			
58	Goa WR	5.33	0.16%			
59	Nagaland	4.76	0.14%			
60	Simhapuri Energy	4.17	0.12%			
61	Lanco Budhil	3.61	0.10%			
62	NTPC Kudgi	3.47	0.10%			
63	Kerala	3.35	0.10%			
64	BALCO 2	3.19	0.09%			
65	Dadri TPS	2.99	0.09%			
66	Dadri Stg-2	2.94	0.09%			
67	NTPC SOLAPUR	2.70	0.08%			
68	Kameng HEP	2.46	0.07%			
69	Barh Stg-2	2.40	0.07%			
70	Unchahar-IV	2.36	0.07%			
71	Sipat Stg-2	1.92	0.06%			
72	Khargone STPP	1.71	0.05%			
73	Ostro Kannada	1.67	0.05%			
74	Singoli Bhagwati	1.53	0.04%			
75	Manipur	1.31	0.04%			
76	Unchahar-I	1.18	0.03%			
77	Assam	1.04	0.03%			
78	DHARIWAL STU	1.02	0.03%			
79	GMR Kamalanga	0.94	0.03%			
80	Costal Energen	0.86	0.03%			
81	NTPC Sholapur	0.84	0.02%			
82	NTPC Kawas Solar	0.76	0.02%			
83	Unchahar-III	0.61	0.02%			
84	Kahalgaon	0.53	0.02%			
85	Farakka	0.53	0.02%			
86	Uttarakhand	0.31	0.01%			
87	Unchahar-II	0.30	0.01%			
88	Korba	0.27	0.01%			
89	Singrauli	0.22	0.01%			
90	Palatana	0.20	0.01%			
91	DGEN Mega Power	0.06	0.00%			
92	Adhunik Power	0.05	0.00%			
93	Jindal Power Ltd.	0.04	0.00%			
94	NTPC Gadarwara	0.03	0.00%			
95	Farakka Stg 3	0.01	0.00%			
<b>Total Volume of top 10</b>		<b>1,858.81</b>	<b>54.10%</b>	<b>Total Volume of top 10</b>	<b>2,915.67</b>	<b>84.87%</b>
<b>Total Volume in PXs</b>		<b>3,435.60</b>		<b>Total Volume in PXs</b>	<b>3,435.60</b>	

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

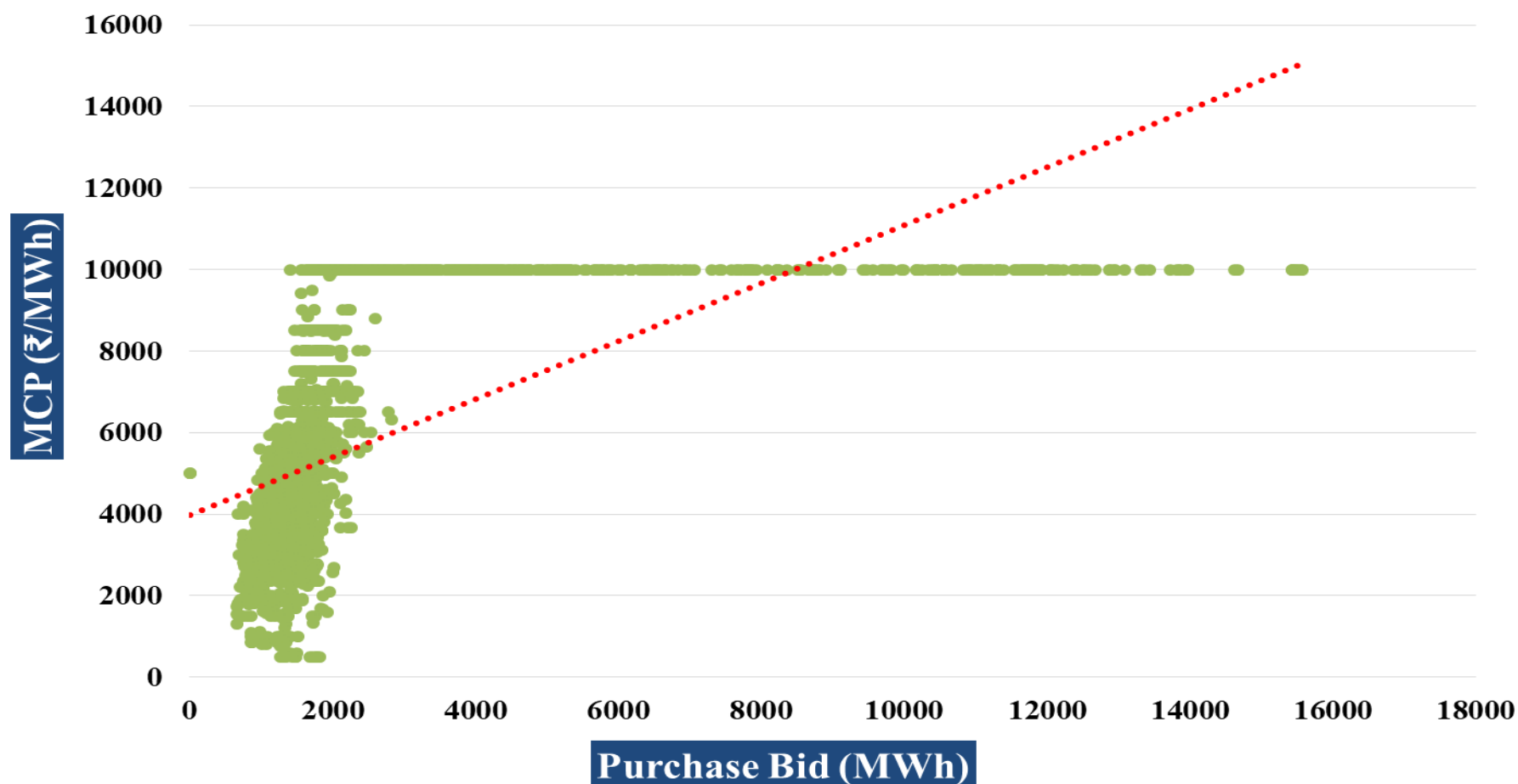
Date	Morning MCP (07:00-10:00)	Day MCP (11:00-17:00)	Evening MCP (18:00- 23:00)	Night MCP (01:00- 06:00, 23:00-24:00)	Maximum MCP	Minimum MCP	Average MCP	Final Scheduled Volume (MU)
01-09-2023	10.00	10.00	10.00	10.00	10.00	10.00	10.00	46.59
02-09-2023	10.00	10.00	10.00	10.00	10.00	10.00	10.00	67.16
03-09-2023	7.56	4.20	8.57	10.00	10.00	2.00	7.55	113.62
04-09-2023	4.96	4.69	8.71	5.91	10.00	2.59	6.11	133.79
05-09-2023	6.10	5.54	9.41	6.80	10.00	3.10	6.97	112.51
06-09-2023	5.76	4.62	9.27	6.72	10.00	3.06	6.58	124.77
07-09-2023	5.24	3.40	7.40	5.55	10.00	1.70	5.33	111.72
08-09-2023	4.16	3.16	5.50	4.80	7.32	2.00	4.39	103.88
09-09-2023	4.09	3.20	6.85	4.78	10.00	2.36	4.72	94.74
10-09-2023	3.50	1.91	4.49	3.76	5.50	0.85	3.36	104.50
11-09-2023	3.90	3.56	8.06	4.05	10.00	2.50	4.88	99.92
12-09-2023	5.48	3.98	9.27	5.34	10.00	2.36	5.95	94.64
13-09-2023	6.56	4.52	9.54	6.16	10.00	3.02	6.59	84.29
14-09-2023	7.46	5.56	9.83	8.87	10.00	3.72	7.91	103.91
15-09-2023	5.45	3.90	7.59	7.96	10.00	3.05	6.27	107.98
16-09-2023	3.60	3.23	4.84	3.81	7.00	1.91	3.86	112.94
17-09-2023	2.66	1.03	3.31	4.21	6.50	0.50	2.80	121.94
18-09-2023	3.04	2.68	4.65	3.53	6.50	1.20	3.48	108.69
19-09-2023	3.49	3.79	8.07	3.92	10.00	2.50	4.85	89.24
20-09-2023	4.59	4.26	9.10	4.90	10.00	2.90	5.71	89.85
21-09-2023	4.80	3.91	7.64	4.65	10.00	3.02	5.21	91.63
22-09-2023	3.90	3.27	7.63	3.85	10.00	2.01	4.63	88.24
23-09-2023	3.56	3.08	5.61	4.04	10.00	1.11	4.08	104.22
24-09-2023	3.52	1.84	3.60	3.73	6.00	0.50	3.11	93.44
25-09-2023	3.20	3.08	5.40	2.75	10.00	1.50	3.58	80.60
26-09-2023	3.87	3.54	7.84	4.32	10.00	2.00	4.90	85.51
27-09-2023	4.98	4.02	9.71	5.65	10.00	2.80	6.08	79.17
28-09-2023	5.74	4.82	8.22	6.62	10.00	3.30	6.35	92.47
29-09-2023	4.79	4.05	7.08	6.43	10.00	3.23	5.63	89.06
30-09-2023	4.35	3.40	5.02	6.00	10.00	2.78	4.72	91.93
Maximum	10.00	10.00	10.00	10.00	10.00	10.00	10.00	133.79
Minimum	2.66	1.03	3.31	2.75	5.50	0.50	2.80	46.59
Average	5.01	4.07	7.41	5.64	9.29	2.79	5.52	97.43

MCP: Market Clearing Price (₹/kWh)

FSV: Final Scheduled Volume (MU)



## Comparison of MCP w.r.t. Purchase Bid for 2,880 Time Blocks during the month of September, 2023 in RTM



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

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

Date	Max. FSV (MU)		Max. MCP (₹/kWh)		Min FSV (MU)		Min. MCP (₹/kWh)	
	Time Block	Value	Time Block	Value	Time Block	Value	Time Block	Value
01-09-2023	09:00 - 09:15	0.88	00:00 - 00:15	10.00	23:00 - 23:15	0.21	00:00 - 00:15	10.00
02-09-2023	15:45 - 16:00	1.19	00:00 - 00:15	10.00	00:15 - 00:30	0.24	13:30 - 13:45	10.00
03-09-2023	23:45 - 24:00	1.85	00:00 - 00:15	10.00	06:15 - 06:30	0.66	12:00 - 12:15	2.00
04-09-2023	15:30 - 15:45	2.16	00:00 - 00:15	10.00	02:15 - 02:30	0.85	10:15 - 10:30	2.59
05-09-2023	23:45 - 24:00	1.87	00:00 - 00:15	10.00	18:45 - 19:00	0.84	10:15 - 10:30	3.10
06-09-2023	13:15 - 13:30	1.69	00:00 - 00:15	10.00	19:00 - 19:15	0.56	13:00 - 13:15	3.06
07-09-2023	13:45 - 14:00	1.64	19:15 - 19:30	10.00	07:45 - 08:00	0.81	13:30 - 13:45	1.70
08-09-2023	11:45 - 12:00	1.47	21:30 - 21:45	7.32	09:45 - 10:00	0.62	13:15 - 13:30	2.00
09-09-2023	11:15 - 11:30	1.26	19:30 - 19:45	10.00	20:00 - 20:15	0.60	12:00 - 12:15	2.36
10-09-2023	16:30 - 16:45	1.79	18:45 - 19:00	5.50	07:15 - 07:30	0.50	13:00 - 13:15	0.85
11-09-2023	23:15 - 23:30	1.43	18:30 - 18:45	10.00	19:30 - 19:45	0.58	03:15 - 03:30	2.50
12-09-2023	23:45 - 24:00	1.35	18:15 - 18:30	10.00	18:45 - 19:00	0.33	13:00 - 13:15	2.36
13-09-2023	22:00 - 22:15	1.12	05:30 - 05:45	10.00	19:00 - 19:15	0.45	04:00 - 04:15	3.02
14-09-2023	15:30 - 15:45	1.64	00:00 - 00:15	10.00	18:45 - 19:00	0.54	12:15 - 12:30	3.72
15-09-2023	17:00 - 17:15	1.42	00:00 - 00:15	10.00	08:45 - 09:00	0.78	13:30 - 13:45	3.05
16-09-2023	23:00 - 23:15	1.49	19:30 - 19:45	7.00	05:45 - 06:00	0.65	07:45 - 08:00	1.91
17-09-2023	16:30 - 16:45	1.91	00:45 - 01:00	6.50	08:45 - 09:00	0.54	14:15 - 14:30	0.50
18-09-2023	11:30 - 11:45	1.47	19:00 - 19:15	6.50	20:15 - 20:30	0.65	12:30 - 12:45	1.20
19-09-2023	22:45 - 23:00	1.68	19:00 - 19:15	10.00	05:45 - 06:00	0.62	13:00 - 13:15	2.50
20-09-2023	17:45 - 18:00	1.39	18:30 - 18:45	10.00	05:30 - 05:45	0.60	13:00 - 13:15	2.90
21-09-2023	17:45 - 18:00	1.34	18:30 - 18:45	10.00	05:15 - 05:30	0.65	08:00 - 08:15	3.02
22-09-2023	20:45 - 21:00	1.24	18:30 - 18:45	10.00	03:30 - 03:45	0.61	13:00 - 13:15	2.01
23-09-2023	12:00 - 12:15	1.62	19:15 - 19:30	10.00	18:00 - 18:15	0.71	08:30 - 08:45	1.11
24-09-2023	14:00 - 14:15	1.51	00:45 - 01:00	6.00	06:00 - 06:15	0.56	13:30 - 13:45	0.50
25-09-2023	19:30 - 19:45	1.24	18:15 - 18:30	10.00	06:00 - 06:15	0.42	00:15 - 00:30	1.50
26-09-2023	16:15 - 16:30	1.18	18:15 - 18:30	10.00	23:45 - 24:00	0.51	13:00 - 13:15	2.00
27-09-2023	22:00 - 22:15	1.22	17:30 - 17:45	10.00	03:15 - 03:30	0.44	13:00 - 13:15	2.80
28-09-2023	14:45 - 15:00	1.39	00:00 - 00:15	10.00	03:30 - 03:45	0.61	13:00 - 13:15	3.30
29-09-2023	19:45 - 20:00	1.61	18:30 - 18:45	10.00	05:30 - 05:45	0.57	08:30 - 08:45	3.23
30-09-2023	20:00 - 20:15	1.38	00:00 - 00:15	10.00	09:00 - 09:15	0.48	08:45 - 09:00	2.78

MCP: Market Clearing Price (₹/kWh)

FSV: Final Scheduled Volume (MU)

Sellers and Buyers in Real Time Market (RTM) in the month of September, 2023						
S. No.	Entity Name	Sell		Entity Name	Purchase	
		(MU)	Percent (%)		(MU)	Percent (%)
1	Madhya Pradesh	404.66	13.84%	Telangana	468.04	16.01%
2	Bihar	304.93	10.43%	Punjab	302.01	10.33%
3	Andhra Pradesh	203.84	6.97%	Maharashtra	278.75	9.53%
4	Chhattisgarh	203.43	6.96%	Uttar Pradesh	227.81	7.79%
5	Rajasthan	186.31	6.37%	Kerala	220.46	7.54%
6	Tamil Nadu	161.74	5.53%	Haryana	151.09	5.17%
7	Odisha	152.43	5.21%	West Bengal	138.34	4.73%
8	Delhi	142.69	4.88%	Karnataka	135.46	4.63%
9	Punjab	117.46	4.02%	Assam	131.03	4.48%
10	Telangana	117.13	4.01%	Rajasthan	118.62	4.06%
11	West Bengal	99.80	3.41%	Gujarat	87.01	2.98%
12	Himachal Pradesh	74.85	2.56%	Uttarakhand	85.97	2.94%
13	Jharkhand	73.29	2.51%	Odisha	81.36	2.78%
14	J&K	72.69	2.49%	DVC	79.17	2.71%
15	Uttar Pradesh	56.65	1.94%	Andhra Pradesh	59.69	2.04%
16	Maharashtra	41.85	1.43%	Tamil Nadu	52.51	1.80%
17	Karnataka	30.35	1.04%	Madhya Pradesh	51.65	1.77%
18	Haryana	26.69	0.91%	Delhi	43.80	1.50%
19	Sasan UMPP	24.86	0.85%	Bihar	39.02	1.33%
20	Sikkim Urja	24.55	0.84%	J&K	29.41	1.01%
21	RKM Power	21.33	0.73%	Himachal Pradesh	25.95	0.89%
22	Gujarat	18.11	0.62%	BHARAT ALUMINIUM	24.41	0.83%
23	Manipur	18.00	0.62%	Daman & Diu - Dadra &	21.73	0.74%
24	Pondicherry	13.30	0.45%	ArcelorMittal Nippon	16.71	0.57%
25	Nabinagar Power	13.22	0.45%	Meghalaya	10.40	0.36%
26	Tripura	12.16	0.42%	Railways	8.82	0.30%
27	Uttarakhand	11.56	0.40%	Tripura	5.58	0.19%
28	MB Power	10.65	0.36%	Jharkhand	5.25	0.18%
29	DVC	10.43	0.36%	Jaypee Nigrie	3.56	0.12%
30	Mahan Energy	10.06	0.34%	Simhapuri Energy	3.02	0.10%
31	Jhabua Power	10.04	0.34%	Arunachal Pradesh	2.92	0.10%
32	Sikkim	9.71	0.33%	Chhattisgarh	2.51	0.09%
33	Raigarh Energy	9.15	0.31%	Goa WR	2.13	0.07%
34	TRN Energy	7.45	0.25%	Jindal Power	2.07	0.07%
35	NTPC Gadarwara	7.19	0.25%	Manipur	1.84	0.06%
36	Assam	6.26	0.21%	Goa SR	1.40	0.05%
37	Sembcorp Gayatri	6.22	0.21%	Ratnagiri Gas & Power	1.04	0.04%
38	Simhapuri Energy	6.04	0.21%	Gandhar	0.80	0.03%
39	BALCO 2	5.78	0.20%	Singoli Bhagwati	0.69	0.02%
40	NTPC Kudgi	5.70	0.20%	Chandigarh	0.57	0.02%
41	Karcham	5.48	0.19%	Kawas	0.48	0.02%
42	AD Hydro	5.36	0.18%	Sainj HEP	0.40	0.01%
43	ACBIL	5.30	0.18%	Mahan Energy Limited	0.28	0.01%
44	Khargone STPP	5.26	0.18%	Pondicherry	0.20	0.01%
45	Singrauli	5.16	0.18%	Sikkim	0.19	0.01%

46	Dikchu	4.66	0.16%	ACBIL	0.07	0.00%
47	IL&FS	4.37	0.15%			
48	Barh STPS Stg - I	4.33	0.15%			
49	Adhunik Power	4.31	0.15%			
50	Goa WR	4.24	0.14%			
51	Kahalgaon-II	4.09	0.14%			
52	IGSTPS	4.02	0.14%			
53	Mouda Stg-2	3.97	0.14%			
54	NTPC Sholapur	3.96	0.14%			
55	MASAYA	3.85	0.13%			
56	Barh Stg-2	3.84	0.13%			
57	Daman & Diu -	3.80	0.13%			
58	Kerala	3.67	0.13%			
59	Rihand-III	3.61	0.12%			
60	Sorang HEP,	3.56	0.12%			
61	DHARIWAL	3.33	0.11%			
62	Rihand-I	3.22	0.11%			
63	Palatana	3.17	0.11%			
64	Neyveli New	3.14	0.11%			
65	DGEN Mega	3.08	0.11%			
66	Dadri TPS	3.05	0.10%			
67	Kahalgaon	2.84	0.10%			
68	NTPL	2.81	0.10%			
69	Mouda Stg-1	2.74	0.09%			
70	Ramagundam Stg-	2.70	0.09%			
71	Farakka	2.68	0.09%			
72	Arunachal	2.63	0.09%			
73	SKS Power	2.62	0.09%			
74	Sainj HEP	2.60	0.09%			
75	Ostro Kannada	2.51	0.09%			
76	Tanda Stg-2	2.48	0.08%			
77	Dadri Stg-2	2.47	0.08%			
78	Simhadri Stg-1	2.28	0.08%			
79	Rihand-II	2.25	0.08%			
80	Vindhyachal stg-1	2.25	0.08%			
81	Simhadri Stg-2	2.25	0.08%			
82	Nagaland	2.24	0.08%			
83	Bongaigaon	1.90	0.06%			
84	Chandigarh	1.87	0.06%			
85	Sembcorp Energy	1.82	0.06%			
86	Unchahar-IV	1.79	0.06%			
87	JITPL	1.76	0.06%			
88	Vindhyachal stg-3	1.64	0.06%			
89	Singoli Bhagwati	1.60	0.05%			
90	Vindhyachal stg-2	1.60	0.05%			
91	Maruti Clean Coal	1.57	0.05%			
92	Kameng HEP	1.56	0.05%			
93	Korba	1.49	0.05%			
94	NTPC Lara	1.46	0.05%			

95	Jorethang	1.44	0.05%			
96	Jindal Power	1.41	0.05%			
97	Talcher Stg-2	1.40	0.05%			
98	Darlipalli	1.37	0.05%			
99	GMR Warora	1.37	0.05%			
100	Sipat Stg-2	1.22	0.04%			
101	NLC	1.13	0.04%			
102	Vindhyachal stg-5	1.12	0.04%			
103	Tashiding HEP	1.11	0.04%			
104	Vindhyachal stg-4	1.10	0.04%			
105	Unchahar-II	1.08	0.04%			
106	Farakka Stg 3	0.96	0.03%			
107	Sipat Stg-1	0.95	0.03%			
108	Jindal Power Ltd.	0.88	0.03%			
109	Meghalaya	0.87	0.03%			
110	Adani Power	0.87	0.03%			
111	Jindal Steel	0.82	0.03%			
112	Shree Cement	0.74	0.03%			
113	Talcher	0.74	0.03%			
114	Unchahar-I	0.65	0.02%			
115	DB Power	0.64	0.02%			
116	Renew Surya Ravi	0.64	0.02%			
117	Lanco Budhil	0.62	0.02%			
118	Ramagundam Stg-	0.62	0.02%			
119	KBUNL(MTPS-	0.58	0.02%			
120	Unchahar-III	0.47	0.02%			
121	Korba Stg 3	0.23	0.01%			
122	Chuzachen	0.13	0.00%			
123	AGBPP	0.10	0.00%			
124	Simhadri FSP 15	0.04	0.00%			
125	Jaypee Nigrie	0.04	0.00%			
126	GMR Kamalanga	0.03	0.00%			
127	AGTPP	0.03	0.00%			
<b>Total Volume of top 10</b>		<b>1,994.62</b>	<b>68.21%</b>	<b>Total Volume of top 10</b>	<b>2,171.61</b>	<b>74.26%</b>
<b>Total Volume in PXs</b>		<b>2,924.20</b>		<b>Total Volume in PXs</b>	<b>2,924.20</b>	

Cross Border Electricity Transactions in Day Ahead Market (DAM) in IEX with Nepal and Bhutan during the month of September, 2023			
S. No	Delivery Date	Buy Volume By Nepal (MU)	Sell Volume By Nepal (MU)
1	01-09-2023	-	9.17
2	02-09-2023	-	10.14
3	03-09-2023	-	9.61
4	04-09-2023	-	9.10
5	05-09-2023	-	8.95
6	06-09-2023	-	9.12
7	07-09-2023	-	9.01
8	08-09-2023	-	7.58
9	09-09-2023	-	9.09
10	10-09-2023	-	9.22
11	11-09-2023	-	7.27
12	12-09-2023	-	7.77
13	13-09-2023	-	8.94
14	14-09-2023	-	7.78
15	15-09-2023	-	7.00
16	16-09-2023	-	7.44
17	17-09-2023	-	7.32
18	18-09-2023	-	4.65
19	19-09-2023	-	7.55
20	20-09-2023	-	7.87
21	21-09-2023	-	7.68
22	22-09-2023	-	8.51
23	23-09-2023	-	9.95
24	24-09-2023	-	10.45
25	25-09-2023	-	11.44
26	26-09-2023	-	10.08
27	27-09-2023	-	9.97
28	28-09-2023	-	9.70
29	29-09-2023	-	10.11
30	30-09-2023	-	9.92
<b>Total</b>		-	<b>262.40</b>
<b>Grand Total</b>		<b>262.40</b>	

-: No transaction took place

**Note:** Cross Border Transactions of Electricity of **262.40 MU** (i.e. **262.40 MU sold by Nepal**) happened during September, 2023 in IEX, which is included in DAM Volume of September, 2023 in IEX. No Cross Border Transactions of Electricity happened with **Bhutan** for the month of September, 2023.

**Analysis for change in trend of Final Scheduled Volume in DAM on 1<sup>st</sup> & 3<sup>rd</sup> Sunday of September, 2023 (i.e. 3<sup>rd</sup> & 17<sup>th</sup> September, 2023)**

Final Scheduled Volume (MU) and the Daily Avg. MCP (₹/kWh) invariably shows decreasing trend on Sundays and increasing trend on Mondays as the demand of electricity in the country is less on Sundays as compared to other days of week. However, during the month of September, 2023, it is observed that on first Sunday (3<sup>rd</sup> September, 2023), FSV showed increasing trend in comparison to first Saturday (2<sup>nd</sup> September, 2023), on third Sunday (17<sup>th</sup> September, 2023), FSV showed increasing trend in comparison to third Saturday (16<sup>th</sup> September, 2023).

- (i) On first Sunday (3<sup>rd</sup> September, 2023), although there was decrease in purchase on power exchange by some of the States in comparison to first Saturday (2<sup>nd</sup> September, 2023) by **19.05 MU** [i.e. Karnataka (4.12 MU), Maharashtra (2.69 MU), Tamil Nadu (2.17 MU), Kerala (2.15 MU) and West Bengal (2.06 MU), etc.], there was also increase in purchase on power exchange by some of the States by **25.82 MU** [i.e. Gujarat (7.59 MU), Telangana (6.72 MU), Madhya Pradesh (4.25 MU), Haryana (4.06 MU) and Jharkhand (1.11 MU), etc.]. This resulted in an overall increase in FSV by **6.77 MU** on Sunday (3<sup>rd</sup> September, 2023) as compared to Saturday (2<sup>nd</sup> September, 2023).
- (ii) On third Sunday (17<sup>th</sup> September, 2023), although there was decrease in purchase on power exchange by some of the States in comparison to third Saturday (16<sup>th</sup> September, 2023) by **44.24 MU** [i.e. Gujarat (35.52 MU), Uttarakhand (2.47 MU), Rajasthan (1.73 MU), Bihar (1.24 MU) and Assam (1.06 MU), etc.], there was also increase in purchase on power exchange by some of the States by **47.90 MU** [i.e. Punjab (12.76 MU), Telangana (8.96 MU), Maharashtra (6.42 MU), Uttar Pradesh (5.16 MU) and Tamil Nadu (4.03 MU), etc.]. This resulted in an overall increase in FSV by **3.65 MU** on Sunday (17<sup>th</sup> September, 2023) as compared to Saturday (16<sup>th</sup> September, 2023).



## **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.

**The 13 Bid areas 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 Avg. 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 Average MCP** is the average of MCP of all 96 Time Blocks of the day during which transaction happened.
5. **Day-Ahead Market (DAM)** means a market where Day Ahead Contracts are transacted on the Power Exchanges, wherein Collective Transactions occur on day (T) and delivery of electricity is on the next day (T+1).
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 for Solar, Non-Solar and Hydro Renewable Energy (RE) generation.

- 10. Green Day Ahead Market (GDAM)** is based on the principles of current Day Ahead Market (DAM), where market participants purchase and sell electricity generated from renewable sources.
- 11. Long Duration Contracts** on the power exchanges is a product segment under which the participants are allowed to trade for delivery of power upto 90 Days (Delivery Starting from T+2 to T+90 Days).
- 12. 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.
- 13. Real Time Market (RTM)** means a market where Real-Time Contracts are transacted on the Power Exchange(s), i.e. a contract other than Day Ahead Contract or Intraday Contract or Contingency Contract. In RTM collective transactions occur on day (T) or day (T-1) and delivery of electricity is on day (T) for a specified delivery period.
- 14. Term Ahead Market (TAM)** means a market where Term Ahead Contracts are transacted on the Power Exchange(s), i.e. a contract wherein transactions occur on day (T) and physical delivery of electricity is on a day more than one day ahead (T + 2 or more).