

Monthly Report on Short-term Transactions of Electricity in India

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Abbreviations

Abbreviation

ABSP_ANTP
ACBIL
ACP
ACV
ACME_SLR
ACME_RUMS
ADANI GREEN
ADANIHB_SLR
ADANI_SLR 4
ADANIHB_WIND
ADY1_PVGD
ADY2_PVGD
ADY3_PVGD
ADY6_PVGD
ADY10_PVGD
ADY13_PVGD
AGEMPL BHUJ
AHEJOL_S_FTG2
AHEJOL_W_FTG2
AHEJ2L_SOLAR
AHEJ3L_SOLAR
AHEJ4L_SOLAR
AHEJ4L_WIND
AHSP_ANTP
AKS_PVGD
AKSP_ANTP
ALFANAR_BHUJ
AMPS Hazira
APTEL
ARERJL_SLR
ARINSUM_RUMS
ARS_PVGD
ASEJTL_SLR
AVAADA1_PVGD
AVAADA2_PVGD
AVADARJHN_SLR
AYANA_NPKUNTA
AZURE_ANTP
AZURE_PVGD
AZURE_SLR
AZURE34_SLR
AZURE43_SLR
BALCO
BARC
BBMB
BETAM_TCN
BHADRAVATHI HVDC
BRBCL
CEA
CERC
CGPL
CHUKHA HEP

Expanded Version

Acme Bhiwadi Solar Power Private Limited, Anantpur
ACB (India) Limited
Area Clearing Price
Area Clearing Volume
ACME Solar Power Project
Acme Rewa Ultra Mega Solar Project
Adani Green Energy Limited
Adani Hybrid Energy Jaisalmer One Limited (Solar)
Adani Solar Energy Four Private Limited
Adani Hybrid Energy Jaisalmer One Limited (Wind)
Adyah Solar Energy Pvt Ltd., Block 1 Pavagada Solar Park
Adyah Solar Energy Pvt Ltd., Block 2 Pavagada Solar Park
Adyah Solar Energy Pvt Ltd., Block 3 Pavagada Solar Park
Adyah Solar Energy Pvt Ltd., Block 6 Pavagada Solar Park
Adyah Solar Energy Pvt Ltd., Block 10 Pavagada Solar Park
Adyah Solar Energy Pvt Ltd., Block 13 Pavagada Solar Park
Adani Green Energy (MP) Ltd., Bhuj
Adani Hybrid Energy Jaisalmer One Limited (SOLAR)
Adani Hybrid Energy Jaisalmer One Limited (WIND)
Adani Hybrid Energy Jaisalmer Two Limited (Solar)
Adani Hybrid Energy Jaisalmer Three Limited (Solar)
Adani Hybrid Energy Jaisalmer Four Limited-Hybrid Solar
Adani Hybrid Energy Jaisalmer Four Limited-Hybrid Wind
Acme Hisar Solar Power Private Limited, Anantpur
ACME Kurukshetra Solar Energy Pvt. Ltd
Acme Karnal Solar Power Private Limited, Anantpur
Alfanar Group Wind Project, Bhuj, Gujarat
Arcelor Mittal Nippon Steel, Hazira
Appellate Tribunal for Electricity
Adani Renewable Energy Park Rajasthan Ltd.
Solenergi Rewa Ultra Mega Solar Project
ACME REWARI Solar Power Pvt Ltd.
Adani Solar Energy Jodhpur Two Ltd.
Avaada Solar Energy Private Ltd., Pavagada Project 1
Avaada Solar Energy Private Ltd., Pavagada Project 2
Avaada Rjhn Private Limited_Solar
Ayana Power, NP Kunta
Azure Power, Anantpur
Azure Power, Pavagada
Azure Power Solar Power Project
Azure Power 34 Pvt. Ltd. Solar Power Project
Azure Power Forty Three Private Limited
Bharat Aluminum Company Limited
Bhabha Atomic Research Centre
Bhakra Beas Management Board
Betam Wind Energy Private Limited, Tuticorin
Bhadravathi High Voltage Direct Current Link
Bhartiya Rail Bijlee Company Limited
Central Electricity Authority
Central Electricity Regulatory Commission
Coastal Gujarat Power Limited
Chhukha Hydroelectric Project, Bhutan

CHUZACHEN HEP	ChuzachenHydro Electric Power Project
CLEAN_SLR	Clean Solar Power Pvt. Ltd
CLEANSPL_SLR	Clean Solar Jodhpur Pvt Ltd
COASTGEN	Coastal Energen Private Limited
DAGACHU	Dagachhu Hydro Power Corporation
DAM	Day Ahead Market
DB POWER	Diligent Power Pvt. Ltd.
DCPP	Donga Mahua Captive Power Plant
DD&DNH	Daman and Diu & Dadar Nagar Haveli
DGEN MEGA POWER	DGEN Mega Power Project
DGPCL Bhutan	Druk Green Power Corporation Ltd., Bhutan
DHARIWAL POWER	Dhariwal Power Station
DIKCHU HEP	Dikchu Hydro-electric Project, Sikkim
DOYANG HEP	DoyangHydro Electric Project
DSM	Deviation Settlement Mechanism
DVC	Damodar Valley Corporation
EDEN_SLR	Eden RE Cite Private limited
EMCO	EMCO Energy Limited
ESPL_RADHANESDA	Electro Solaire Private Limited, Radhanesda
ESSAR POWER	Essar Power Limited
ESSAR STEEL	Essar Steel Ltd
FORTUM1_PVGD	Fortum Finnsurya Energy Private Ltd, Pavagada Project 1
FORTUM2_PVGD	Fortum Finnsurya Energy Private Ltd, Pavagada Project 2
FRV_ANTP	Fotowatio Renewable Ventures, Anantapur
FRV_NPK	Fotowatio Renewable Ventures, NP Kunta
GIPCL_RADHANESDA	Gujarat Industries Power Company Ltd, Radhanesda
GIWEL_BHUJ	Green infra wind energy Limited, Bhuj
GIWEL_TCN	Green Infra Wind Energy Limited,Tuticorin
GMR CHHATTISGARH	GMR Chhattisgarh Energy Limited
GMR KAMALANGA	GMR Kamalanga Energy Ltd.
G-DAM	Green Day Ahead Market
G-TAM	Green Term Ahead Market
HPX	Hindustan Power Exchange Limited
HP-DAM	High Price Day Ahead Market
HVDC ALPD	Alipurduar High Voltage Direct Current Link
HVDC CHAMPA	Champa-Kurukshetra High Voltage Direct Current Link
HVDC PUS	PasauliHigh Voltage Direct Current Link
HVDC RAIGARH	Raigarh-Pugalur High Voltage Direct Current Link
IEX	Indian Energy Exchange Limited
IGSTPS	Indira Gandhi Super Thermal Power Station Jhajjar
IL&FS	Infrastructure Leasing & Financial Services Limited
INOX_BHUJ	INOX Wind Limited, Bhuj, Gujarat
J&K	Jammu & Kashmir
JAYPEE NIGRIE	Jaypee Nigrie Super Thermal Power Project
JHABUA POWER MP	Jhabua Thermal Power Project
JINDAL POWER	Jindal Power Limited
JINDAL STAGE-II	Jindal Power Ltd Stage II
JITPL	Jindal India Thermal Power Ltd.
JORETHANG	Jorethang Loop Hydroelectric Power Project
JSW_RENEW_2	JSW Renew Energy Two Limited
KAPP 3&4	Kakrapar Atomic Power Station Unit 3 & 4
KARCHAM WANGTOO	Karcham Wangtoo H.E. Project
KORBA WEST POWER	Korba West Power Company Limited
KOTESHWAR	Koteshwar Hydro Power project

KREDL_PVGD	Karnataka Renewable Energy Development Ltd,Pavagada
KSK MAHANADI	KSK Mahanadi Power Ltd
KSMPL_SLR	Kilaj Solar (Maharashtra) Private Limited
KURICHU HEP	Kurichhu Hydro-electric Power Station, Bhutan
LANKO_AMK	LancoAmarkantak Power Private Limited
LANKO BUDHIL	LancoBudhil Hydro Power Private Limited
LANKOKONDAPALLY	Lanco Kondapally Power Private Limited
LOKTAK	Loktak Power Project
MAHINDRA_RUMS	Mahindra Rewa Ultra Mega Solar Project
MAHOBASLR	Mahoba Solar Power Project
MALANA	Malana Hydroelectric Plant
MANGDECHU HEP	Mangdechhu Hydroelectric Project, Mangdechhu River, Bhutan
Maruti Coal	Maruti Clean Coal and Power Limited
MB POWER	MB Power Ltd
MEENAKSHI	Meenakshi Energy Private Limited
MP	Madhya Pradesh
MRPL	Mahindra Renewables Private Limited
MTPS II	Muzaffarpur Thermal Power Station – Stage II
MYTRAH_TCN	Mytrah Energy (India) Private Limited,Tuticorin
MU	Million Units
NAPP	Narora Atomic Power Plant
NCR ALLAHABAD	North Central Railway, Allahabad
NEEPCO	North Eastern Electric Power Corporation Limited
NEP	Nepal
NFL	National Fertilisers Limited
NHPC STATIONS	National Hydro Electric Power Corporation Ltd. Stations
NJPC	Nathpa Jhakri Hydroelectric Power Station
NLC	Neyveli Lignite Corporation Limited
NLDC	National Load Dispatch Centre
NPGC	Nabinagar Power Generating Company (Pvt.) Limited
NSPCL	NTPC - SAIL Power Company Private Limited
NTECLVallur	NTPC Tamil Nadu Energy Company Limited Vallur
NTPC_ANTP	NTPC Anantapur
NTPC STATIONS	National Thermal Power Corporation Ltd. Stations
NTPL	NLC Tamil Nadu Power Limited
NVVN	NTPC Vidyut Vyapar Nigam Limited
OCF	Order Carry Forward
ONGC Platana	ONGC Tripura Power Company
OPGC	Odisha Power Generation Corporation
ORANGE_TCN	Orange Renewable Power Pvt. Ltd,Tuticorin
OSTRO	Ostro Energy Private Limited
OTC	Over The Counter
PARAM_PVGD	Parampujya Solar Energy Private Ltd
PARE HEP	Pare hydroelectric project, Arunachal Pradesh
PX	Power Exchange
PXIL	Power Exchange India Limited
RAIL	Indian Railways
RAMPUR HEP	Rampur Hydro Electric Power Project
RANGIT HEP	Rangit Hydroelectric power project
RANGANADI HEP	Ranganadi Hydro Electric Power Project, Arunachal Pradesh
RAP-B	Rajasthan Atomic Power Plant-B
RAP-C	Rajasthan Atomic Power Plant-C
REC	Renewable Energy Certificate
REGL	Raigarh Energy Generation Limited

RENEW_BHACHAU	ReNew Power Limited, Bhachau
RENEW_BHUJ	ReNew Power Limited, Bhuj
RENEW_PVGD	ReNew Wind Energy (TN2) Private Limited
RENEW_SLR_BKN	Renew Solar Bikaner
RENEWJH_SLR	Renew Solar Energy (Jharkhand Three) Private Limited
RENEWURJA_SLR	ReNew Solar Urja Private Limited
RGPPL_IR	Ratnagiri Gas and Power Private Ltd., supply to Indian Railways
RGPPL_OTHER	Ratnagiri Gas and Power Private Limited
RLDC	Regional Load Dispatch Centre
RONGNICHU HEP	Rongnichu Hydro Electric Power Project
RPREL	Raipur Energen Limited
RSTPS_FSPP	NTPC Ramagundam STPS- Floating Solar PV Project
RTC	Round The Clock
RTM	Real Time Market
SasanUMPP	Sasan Ultra Mega Power Project
SB_SLR	Soft Bank Solar
SB6_POKARAN	SB Energy Six Private Limited, Pokaran
SBG CLEANTECH_SLR	SBG Cleantech Ltd
SBG_NPK	SB Energy Solar Private Limited, NP Kunta
SBG_PVGD	SB Energy Solar Private Limited, Pavagada
SBSR_SLR	SBSR Power Cleantech Eleven Private Limited
SEMBCORP	Sembcorp Gayatri Power Ltd
SIMHAPURI	Simhapuri Energy Private Limited
SKS Power	SKS Power Generation Chhattisgarh Limited
SESPL	Srijan Energy Systems Pvt. Ltd.
SINGOLI BHATWARI HEP	Singoli-Bhatwari Hydroelectric Project, Uttarakhand
SKRPL	Sitac Kabini Renewables Pvt. Ltd.
SPRNG_NPKUNTA	Sprng Energy, NP Kunta
SPRING_PUGALUR	Spring Solar Power Private Limited, Pugalur
TALA HEP	Tala Hydroelectric Project, Bhutan
TASHIDENG HEP	Tashiding Hydro Electric Project, Sikkim
TATA_ANTP	TATA Power Anantapur
TATA_PVGD	Tata Power Renewable Energy Ltd
TATA_SLR	Tata Solar
TEESTA STG3	Teesta Stage 3 Hydro Power Project
TEHRI	Tehri Hydro Electric Power Project
TAM	Term Ahead Market
THAR1_SLR	Thar Surya Ravi One Pvt Ltd
THERMAL POWERTECH	Thermal Powertech Corporation India Limited
TPREL_RADHANESDA	Tata Power Renewable Energy Limited, Radhanesda
VINDHYACHAL HVDC	Vindhyachal High Voltage Direct Current Link
YARROW_PVGD	Yarrow Infra Structure Private Ltd

1. Introduction

1.1. A well-functioning electricity market requires an effective market monitoring process. The monthly report on short-term transactions of electricity, published by CERC since 2008 as part of its market monitoring process, provides a snapshot of key aspects of short-term transactions of electricity in India. Here, “short-term transactions of electricity” refers to the contracts of less than one year period for electricity transacted (inter-State) - through Trading Licensees, directly by the Distribution Licensees and on Power Exchanges (Indian Energy Exchange Ltd (IEX), Power Exchange India Ltd (PXIL) and Hindustan Power Exchange Ltd (HPX)). “DSM Volume” includes the volume recorded under Deviation Settlement Mechanism. The main objectives of the report are: (i) to analyse the volume and price of the short-term transactions of electricity; (ii) to assess the competition among the market players; (iii) to analyse the effect of congestion on the volume of electricity transacted through power exchanges; (iv) to provide information on volume and price of Renewable Energy Certificates (RECs) transacted through power exchanges; and (v) to disseminate all other relevant market information. The analysis of short-term transactions of electricity and DSM volume during the month of **May 2023** is presented in the following sections.

2. Volume of Short-term Transactions of Electricity and DSM

2.1. During May 2023, total electricity generation, excluding generation from renewable and captive power plants in India, was 126613.78 MU (Table-1). Of the total electricity generation, 13.65 % was transacted through short-term and DSM, comprising of 6.65% through bilateral (through traders and term-ahead contracts on power exchanges, and directly between distribution companies), followed by 5.23% through power exchanges {Day Ahead Market (DAM) (including G-DAM) and Real Time Market (RTM)} and 1.77% through DSM (Table-1 & Figure-1).

2.2. Of the total short-term transactions and DSM volume (17283.64 MU), 48.71% was transacted through bilateral (33.10% through traders and term-ahead contracts on power exchanges, and 15.61% directly between distribution companies), followed by 38.33% through power exchanges {DAM (including G-DAM & HP-DAM) and RTM} and 12.96% through DSM (Table-1 & Figure-2). The daily volume of short-term transactions is shown in Table-27. Figure-4 shows the daily volume trend for short-term transactions and DSM volume.

2.3. Of the total volume of electricity transacted through power exchanges, 46.27% of the volume was transacted in DAM (including G-DAM & HP-DAM), followed by 27.00% in Term Ahead Market (TAM) (including G-TAM) and 26.73% in RTM (Figure-3).

2.4. The share of electricity traded by each trading licensee is given in Table-2 & Figure-5. The volume of electricity transacted by the trading licensees includes bilateral transactions and transactions undertaken through power exchanges. There were 50 trading licensees as of May 2023. Of which, 30 trading licensees were engaged in short-term trading. The top 5 trading licensees, namely PTC India Ltd., NTPC Vidyut Vyapar Nigam Ltd., Tata Power Trading Company (P) Ltd., Adani Enterprises Ltd. and Manikaran Power Ltd., had a share of 81.05% in the total volume of electricity traded by all the licensees.

2.5. Herfindahl-Hirschman Index (HHI), a commonly accepted index to calculate market concentration, has been used to measure competition among trading licensees. An increase in the HHI generally indicates a decrease in competition and an increase in market concentration, and vice versa. The HHI below 0.15 indicates non-concentration, HHI between 0.15 and 0.25 indicates moderate concentration, and HHI above 0.25 indicates high concentration. The HHI has been computed based on the volume of electricity traded (inter-State & intra-State) by inter-State trading licensees, and it was 0.2123 for the month of May 2023, which indicates a moderate concentration of market power (Table-2).

2.6. The volume of electricity transacted in the DAM of IEX and PXIL was 3999.76 MU and 1.56 MU respectively. No electricity was transacted through DAM of HPX. The volume of total buy bids and sell bids was 6890.16 MU and 8399.46 MU, respectively, in IEX, while the same was 9.75 MU and 5.65 MU, respectively, in PXIL. No bids were received in HPX.

2.7. Of the total volume of electricity transacted in the DAM of IEX, the volume purchased by the neighbouring countries of India was 158.60 MU, and the volume was sold by the neighbouring countries of India was 0.60 MU under the Cross Border Trade of electricity through power exchange (Table-34). No Cross Border transaction of electricity was undertaken through PXIL and HPX.

2.8. The volume of electricity transacted in the G-DAM of IEX was 198.12 MU, while no electricity was transacted in the G-DAM of PXIL and HPX. The volume of total buy bids and sell bids was 901.61 MU and 538.96 MU, respectively, in IEX, while no bids were received in PXIL and HPX.

2.9. The volume of electricity transacted in the HP-DAM of IEX was 0.22 MU. The volume of total buy bids and sell bids was 0.22 MU and 546.69 MU, respectively, in IEX.

2.10. The volume of electricity transacted in the RTM of IEX and HPX was 2424.26 MU and 1.72 MU, respectively, while no electricity was transacted in the RTM of PXIL. The volume of total buy bids and sell bids was 4061.81 and 3935.01 MU, respectively, in IEX, while the same was 1.76 MU and 1.72 MU, respectively, in HPX. No bids were received in PXIL. The variation in the volume of buy bids and sell bids placed through power exchanges shows variation in the demand and supply position.

2.11. The volume of electricity transacted in the TAM of IEX, PXIL and HPX was 1057.87 MU, 517.65 MU and 654.34 MU, respectively (Table-9, Table-10 & Table-11). The volume of electricity transacted in the Green Term Ahead Market (G-TAM) of IEX, PXIL and HPX was 158.50 MU, 42.89 MU and 19.46 MU, respectively (Table-12, Table-13 & Table-14).

3. Price of Short-term Transactions of Electricity and DSM charges

3.1. ***Price of electricity transacted through Traders:*** The minimum, maximum and weighted average sale prices for the electricity transacted through traders were ₹2.70/kWh, ₹12.00/kWh and ₹8.24/kWh, respectively (Table-3). The weighted average sale prices were also computed for the electricity transacted during Round the Clock (RTC), Peak and Off-peak periods separately, and the sale prices were ₹8.16/kWh, ₹8.25/kWh and ₹8.61/kWh, respectively (Table-4).

3.2. ***Price of electricity transacted through Power Exchanges:*** The minimum, maximum and weighted average prices for the electricity transacted in the DAM of IEX were ₹1.78/kWh, ₹10.00/kWh and ₹4.77/kWh, respectively, while the same were ₹3.89/kWh, ₹10.00/kWh and ₹5.66/kWh, respectively in DAM of PXIL (Table-5). The minimum, maximum and weighted average prices for the electricity transacted in the G-DAM of IEX were ₹2.00/kWh,

₹10.00/kWh and ₹4.66/kWh, respectively (Table-6). The minimum, maximum and weighted average prices for the electricity transacted in the HP-DAM of IEX were ₹9.80/kWh, ₹20.00/kWh and ₹11.55/kWh, respectively (Table-7). The minimum, maximum and weighted average prices for the electricity transacted in the RTM of IEX were ₹0.48/kWh, ₹10.00/kWh and ₹5.03/kWh, respectively, while the same were ₹10.00/kWh, ₹10.00/kWh and ₹10.00/kWh, respectively in RTM of HPX (Table-8). The weighted average price of electricity transacted in the TAM of IEX, PXIL and HPX was ₹6.78/kWh, ₹6.44/kWh and ₹7.30/kWh, respectively (Table-9, Table-10 and Table-11). The weighted average price of electricity transacted in the G-TAM of IEX, PXIL and HPX was ₹6.13/kWh, ₹5.21/kWh and ₹3.96/kWh, respectively (Table-12, Table-13 and Table-14). No electricity was transacted in DAM, G-DAM & RTM of PXIL and in DAM & G-DAM of HPX.

3.3. **DSM Charges:** The minimum, maximum and average charge under DSM was ₹1.78/kWh, ₹11.35/kWh and ₹5.42/kWh, respectively (Table-30).

3.4. The comparison of weighted average prices of electricity transacted through trading licensees and power exchanges is shown in Figure-6. The daily prices of electricity transacted through various segments at power exchanges and their comparison are shown in Table-28(a), (b) & (c) and Figure-7. The daily volume and charges under DSM are shown in Table-30.

4. Trading Margin

4.1. As per the CERC (Procedure, Terms and Conditions for grant of trading licence and other related matters) Regulations 2020, the trading licensees are allowed to charge a trading margin of not less than 0 paise/kWh and upto 7 paise/kWh. The weighted average trading margin charged by the trading licensees for bilateral transactions during the month was ₹0.038/kWh.

5. Volume of Short-term Transactions of Electricity (Regional Entity¹-Wise)

5.1. Of the total bilateral transactions, the top 5 regional entities/states sold 23.91% of the volume. These were Sembcorp Gayatri Power Ltd., Raipur Energen Limited, Rajasthan, Essar

¹ In case of a State, the entities which are “selling” also include generators connected to State Grid and the entities which are “buying” also include open access consumers.

Power Limited and Jindal Power Ltd Stage II (Table-15). The top 5 regional entities/states purchased 57.88% of the volume, and these were Maharashtra, Tamil Nadu, Uttar Pradesh, Delhi and Andhra Pradesh (Table-16).

5.2. Of the total DAM transactions at power exchanges, the top 5 regional entities/states sold 40.83% of the volume, and these were Chhattisgarh, Uttar Pradesh, Bihar, Telangana and Jindal Power Ltd Stage II (Table-17). The top 5 regional entities/states purchased 52.06% of the volume, and these were Gujarat, West Bengal, Andhra Pradesh, Rajasthan and Maharashtra (Table-18).

5.3. Of the total G-DAM transactions at power exchanges, the top 5 regional entities/states sold 55.61% of the volume, and these were Telangana, Adani Wind, Karnataka, Wind Five Renergy Ltd. and NTPC Stations (Southern Region) (Table-19). The top 5 regional entities/states purchased 71.61% of the volume, and these were Maharashtra, Tamil Nadu, Arcelor Mittal Nippon Steel Hazira, Damodar Valley Corporation and Karnataka (Table-20).

5.4. Of the total HP-DAM transactions at power exchanges, only 3 regional entities/states sold 100.00% of the volume, and these were Gujarat, Simhapuri Energy Private Limited and Tamil Nadu (Table-21). Only 1 regional entities/states purchased 100.00% of the volume, and it was Meghalaya (Table-22).

5.5. Of the total RTM transactions at power exchanges, the top 5 regional entities/states sold 43.03% of the volume, and these were Madhya Pradesh, Bihar, Rajasthan, Delhi and Kakrapar Atomic Power Station Unit 3 & 4 (Table-23). The top 5 regional entities/states purchased 46.14% of the volume, and these were West Bengal, Rajasthan, Maharashtra, Telangana and Andhra Pradesh (Table-24).

5.6. The total volume of net short-term transactions of electricity (Regional entity-wise), i.e., the volume of net transactions through bilateral and power exchanges are shown in Table-25 & 29. The top 5 electricity selling regional entities/states of short-term transactions were Chhattisgarh, Raipur Energen Limited, Sembcorp Gayatri Power Ltd., Essar Power Limited and Jindal Power Ltd Stage II. The top 5 electricity purchasing regional entities/states of short-term transactions were Maharashtra, Tamil Nadu, West Bengal, Andhra Pradesh and Gujarat.

5.7. Of the total under-drawal/ over-injection volume under DSM in May 2023, the top 5 regional entities/states accounted for 27.51% of the volume, and these were Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh and Haryana (Table-31). The top 5 regional entities/states under DSM accounted for 24.47% of the total over-drawal/ under-injection volume, and these were NTPC Stations (Western Region), West Bengal, NTPC Stations (Northern Region), Maharashtra and NTPC Stations (Eastern Region) (Table-32).

6. Congestion² on Inter-State Transmission Corridor for Day-Ahead Market and Real Time Market on Power Exchanges

6.1. Power exchanges use a price discovery mechanism in which the aggregate demand and supply are matched to arrive at an unconstrained market price and volume. This process assumes that there is no congestion in the inter-State transmission system between different regions. However, in reality, the system operator (NLDC), in coordination with RLDCs, limits the flow (due to congestion) in the inter-State transmission system. In such a situation, power exchanges adopt a mechanism called “Market Splitting”³.

6.2. The volume of electricity that could not be cleared due to congestion & other reasons and could not be transacted through power exchanges is the difference between unconstrained cleared volume and actual cleared volume. During the month of May 2023, congestion was experienced in DAM & RTM on IEX only.

6.3. The volume of electricity that could not be cleared, due to congestion, in RTM on IEX was 0.20% of the unconstrained cleared volume. In terms of time, congestion occurred in RTM on IEX was 3.06% during the month (Table-26).

² “Congestion” means a situation where the demand for transmission capacity exceeds the available transfer capability

³ “Market Splitting” is a mechanism adopted by Power Exchanges, where the market is split in the event of transmission congestion, into predetermined (by NLDC) bid areas or zones, which are cleared individually at their respective area prices such that the energy balance in every bid area is reached based upon the demand and supply in individual bid areas and using the available transmission corridor capacity between various bid areas simultaneously. As a result of this market splitting the price of electricity in the importing region, where demand for electricity is more than supply, becomes relatively higher than the price of electricity in the exporting region.

6.4. Congestion was also experienced in DAM on IEX. In terms of time, congestion occurred was 0.30% during the month. However, owing to the Order Carry Forward (OCF) option available to the market participants and market splitting, in some instances the bids and the matching underwent changes which resulted in slightly higher volume getting cleared compared to the unconstrained market clearing volume (Table-26).

7. Volume and Price of Renewable Energy Certificates (RECs)

7.1. The concept of Renewable Energy Certificates (RECs) seeks to address the mismatch between the availability of renewable energy and the requirement of the obligated entities to meet their renewable purchase obligation by purchasing green attributes of renewable energy remotely located in the form of RECs. The REC mechanism is a market-based instrument to promote renewable sources of energy and the development of the electricity market.

7.2. One REC is equivalent to 1 MWh electricity injected into the grid from renewable energy sources. The REC is exchanged only in the power exchanges approved by CERC within the band of a floor price and forbearance (ceiling) price as notified by CERC from time to time. The first REC trading was held on power exchanges in May 2011.

7.3. The categorisation of RECs has been dispensed with on introduction of the concept of multiplier under the CERC (Terms and Conditions for Renewable Energy Certificates for Renewable Energy Generation) Regulations, 2022, brought into effect from 05.12.2022. Accordingly, the power exchanges deactivated the Solar and Non-Solar REC contract for trading w.e.f. December 2022. A new contract named “REC” has been made available for trading on the power exchanges. Further, RECs can also be exchanged through trading licensees as per the REC Regulations 2022.

7.4. The details of REC transactions for the month of May 2023 are shown in Table-33. The market clearing volume of RECs transacted on IEX and PXIL were 142461 and 92250, respectively. The weighted average market clearing price of these RECs was ₹899/MWh in IEX and ₹950/MWh in PXIL. No RECs were transacted on HPX.

7.5. The gap between the volume of buy and sell bids of RECs placed through power exchanges shows the variation in demand for the RECs. The ratio of buy bids to sell bids was 0.02 and 0.03 in IEX and PXIL respectively. No buy bids were received at HPX.

7.6. The volume of RECs transacted through Trading Licensees in May 2023 was 65713. The weighted average trade price for the RECs transacted through traders was ₹ 945.76/MWh.

8. Inferences:

- a) The percentage of short-term transactions of electricity and DSM volume to total electricity generation was 13.65%.
- b) Of the total short-term transactions and DSM volume (17283.64 MU), 48.71% was transacted through bilateral (33.10% through traders and term-ahead contracts on power exchanges, and 15.61% directly between distribution companies), followed by 38.33% through power exchanges {DAM (including G-DAM & HP-DAM) and RTM} and 12.96% through DSM.
- c) Of the total volume of electricity transacted through power exchanges, 46.27% of the volume was transacted in DAM (including G-DAM & HP-DAM), followed by 27.00% in Term Ahead Market (TAM) (including G-TAM) and 26.73% in RTM.
- d) The top 5 trading licensees had a share of 81.05% in the total volume traded by all the trading licensees.
- e) The Herfindahl Hirschman Index computed for the volume of electricity traded by trading licensees was 0.2123, indicating a moderate concentration of market power.
- f) The weighted average sale price of electricity transacted through trading licensees was ₹8.24/kWh.
- g) The weighted average price of electricity transacted in DAM of IEX and PXIL was ₹4.77/kWh and ₹5.66/kWh respectively, while no electricity was transacted in DAM of HPX. The weighted average price of electricity transacted in G-DAM of IEX was ₹4.66/kWh, while no electricity was transacted in G-DAM of PXIL and HPX. The weighted average price of electricity transacted in HP-DAM of IEX was ₹11.55/kWh. The

weighted average price of electricity transacted in RTM of IEX and HPX was ₹5.03/kWh and ₹10.00/kWh, respectively. No electricity was transacted in the RTM of PXIL.

- h) The weighted average price of electricity transacted in the TAM of IEX, PXIL and HPX was ₹6.78/kWh, ₹6.44/kWh and ₹7.30/kWh, respectively. The weighted average price of electricity transacted in the G-TAM of IEX, PXIL and HPX was ₹6.13/kWh, ₹5.21/kWh and ₹3.96/kWh, respectively.
- i) The average charge under DSM was ₹5.42/kWh.
- j) The weighted average trading margin charged by the trading licensees for bilateral transactions was ₹0.038/kWh.
- k) The top 5 electricity selling regional entities/states of short-term transactions were Chhattisgarh, Raipur Energen Limited, Sembcorp Gayatri Power Ltd., Essar Power Limited and Jindal Power Ltd Stage II. The top 5 electricity purchasing regional entities/states of short-term transactions were Maharashtra, Tamil Nadu, West Bengal, Andhra Pradesh and Gujarat.
- l) The top 5 under-drawing/over-injecting regional entities/states under DSM were Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh and Haryana. The top 5 over-drawing/under-injecting regional entities/states under DSM were NTPC Stations (Western Region), West Bengal, NTPC Stations (Northern Region), Maharashtra and NTPC Stations (Eastern Region).
- m) During the month of May 2023, congestion was experienced in DAM & RTM of IEX. The volume of electricity that could not be cleared, due to congestion, in RTM on IEX was 0.20% of the unconstrained cleared volume.
- n) The market clearing volume of RECs transacted on IEX and PXIL were 142461 and 92250, respectively. The weighted average market clearing price of these RECs was ₹899/MWh in IEX and ₹950/MWh in PXIL. No RECs were transacted on HPX. The volume of RECs transacted through Trading Licensees in May 2023 was 65713. The weighted average trade price for the RECs transacted through traders was ₹ 945.76/MWh.

Table-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY AND DSM (ALL INDIA), MAY 2023

Sr. No	Transaction	Volume (MU)	% to short-term transactions and DSM Volume	% to Total Generation
A	Short-term transactions			
1	Bilateral	8418.06	48.71	6.65
	(i) Through Traders and PXs	5720.35	33.10	4.52
	(ii) Direct	2697.71	15.61	2.13
2	Through Power Exchanges	6625.63	38.33	5.23
	(i) IEX			
	(a) DAM	3999.76	23.14	3.16
	(b) RTM	2424.26	14.03	1.91
	(c) GDAM	198.12	1.15	0.16
	(d)HP-DAM	0.22	0.00	0.00
	(ii) PXIL			
	(a) DAM	1.56	0.01	0.00
	(b) RTM	0.00	0.00	0.00
	(c) GDAM	0.00	0.00	0.00
	(ii) HPX			
	(a) DAM	0.00	0.00	0.00
	(b) RTM	1.72	0.01	0.00
	(c) GDAM	0.00	0.00	0.00
B	Through DSM	2239.94	12.96	1.77
	Total Short-term transactions and DSM	17283.64	-	13.65
	Total Generation	126613.78	-	-

Source: NLDC

Figure-1: Volume of various kinds of Electricity Transactions in Total Electricity Generation, May 2023

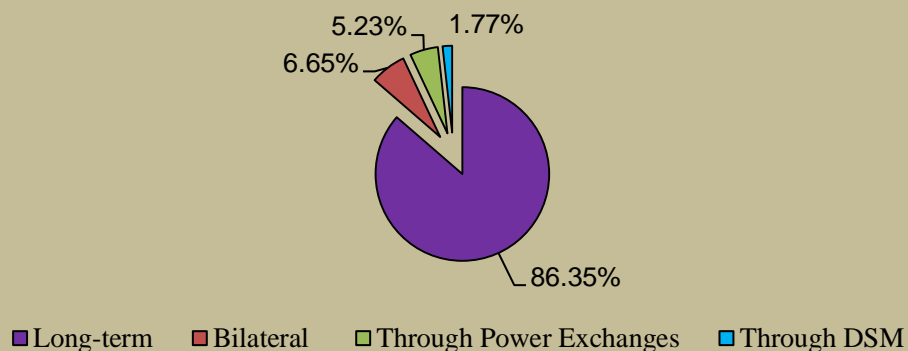


Figure-2: Volume of Short-term Transactions of Electricity and DSM Volume, May 2023

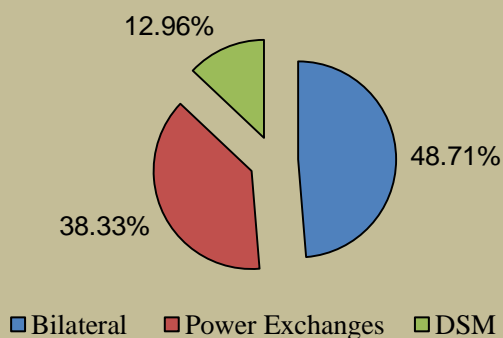


Figure-3: Volume transacted in different markets segments on Power Exchanges, May 2023

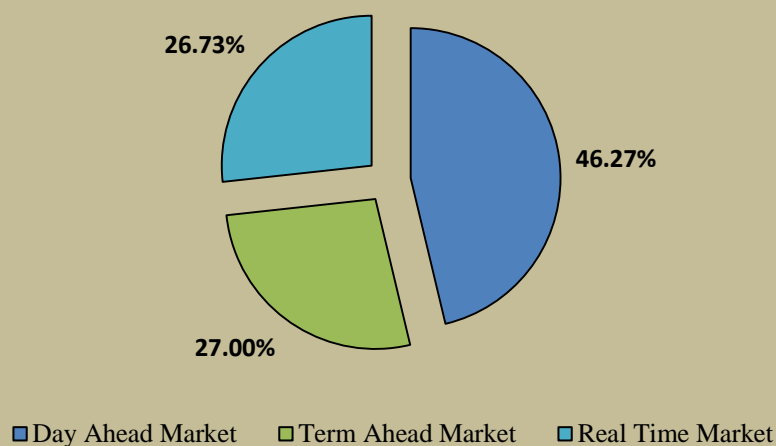


Figure-4: Volume of Short-term Transactions of Electricity and DSM Volume, May 2023 (Day-wise)

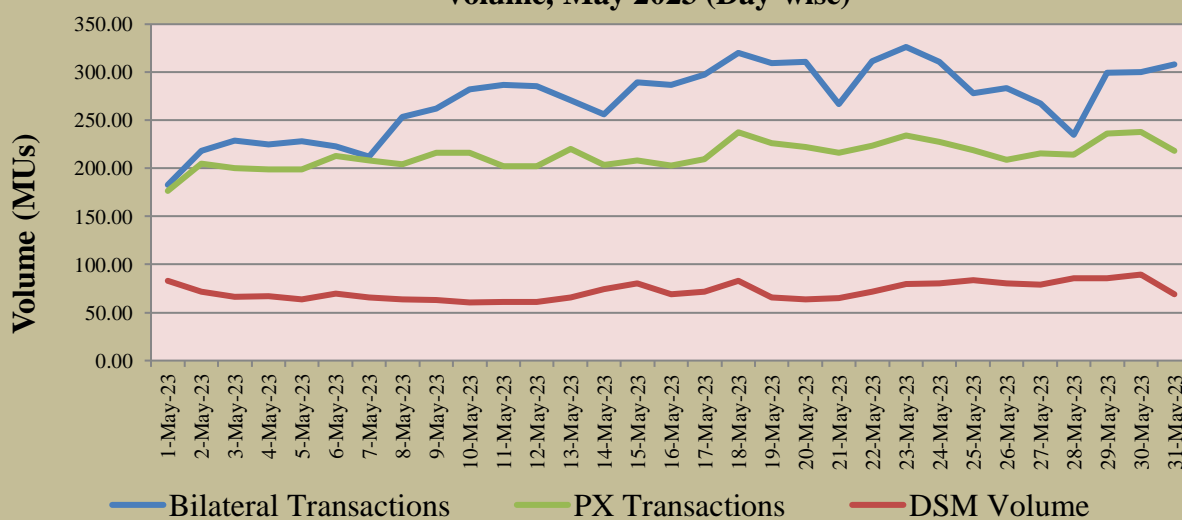


Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, MAY 2023			
Sr. No	Name of the Trading Licensee	% Share in total Volume traded by Trading Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd.	40.50	0.1640
2	NTPC Vidyut Vyapar Nigam Ltd.	15.19	0.0231
3	Tata Power Trading Company (P) Ltd.	9.06	0.0082
4	Adani Enterprises Ltd.	8.54	0.0073
5	Manikaran Power Ltd.	7.76	0.0060
6	GMR Energy Trading Ltd.	4.14	0.0017
7	Arunachal Pradesh Power Corporation (P) Ltd	2.39	0.0006
8	JSW Power Trading Company Ltd	2.29	0.0005
9	Shree Cement Ltd.	1.42	0.0002
10	Refex Industries Ltd.	1.18	0.0001
11	Kreate Energy (I) Pvt. Ltd.	1.17	0.0001
12	Instinct Infra & Power Ltd.	0.91	0.0001
13	Greenko Energies Pvt Ltd	0.84	0.0001
14	Statkraft Markets Pvt. Ltd.	0.80	0.0001
15	NTPC Ltd.	0.76	0.0001
16	RPG Power Trading Company Ltd.	0.68	0.0000
17	Abja Power Private Limited	0.60	0.0000
18	Gita Power & Infrastructure Private Limited	0.52	0.0000
19	Kundan International Pvt. Ltd.	0.28	0.0000
20	Ambitious Power Trading Company Ltd.	0.24	0.0000
21	Saranyu Power Trading Private Limited	0.23	0.0000
22	Instant Venture Pvt. Ltd.	0.15	0.0000
23	NLC India Ltd.	0.13	0.0000
24	Ideal Energy Solution Pvt. Ltd.	0.09	0.0000
25	Customized Energy Solutions India (P) Ltd.	0.08	0.0000
26	Powerfull Energy Trading Pvt. Ltd.	0.02	0.0000
27	SJVN Ltd.	0.02	0.0000
28	Phillip Commodities India (P) Ltd.	0.02	0.0000
29	Shell Energy Marketing and Trading India Pvt. Ltd.	0.003	0.0000
30	Altium Energie Private Limited	0.001	0.0000
TOTAL		100.00%	0.2123
Top 5 trading licensees		81.05%	
<i>Note 1: Volume of electricity transacted by the trading licensees includes bilateral transactions (inter-state & intra-state) and the transactions undertaken through power exchanges.</i>			
<i>Note 2: Volume of electricity transacted by Global Energy Ltd. is not included.</i>			
<i>Source: Information submitted by trading licensees</i>			

Figure 5: Percentage Share of Electricity Transacted by Trading Licensees, May 2023

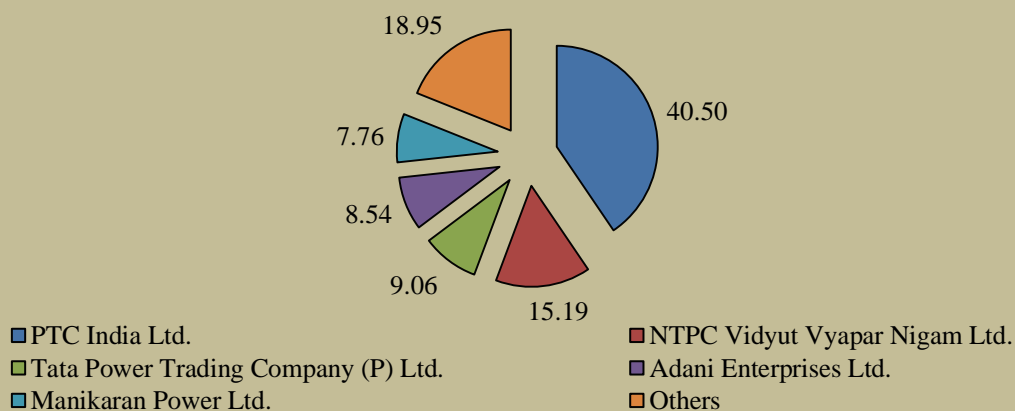


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, MAY 2023		
Sr.No	Item	Sale Price of Traders (₹/kWh)
1	Minimum	2.70
2	Maximum	12.00
3	Weighted Average	8.24

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), MAY 2023		
Sr.No	Period of Trade	Sale Price of Traders (₹/kWh)
1	RTC	8.16
2	PEAK	8.25
3	OFF PEAK	8.61

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED IN DAY AHEAD MARKET THROUGH POWER EXCHANGES, MAY 2023				
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)	Price in HPX (₹/kWh)
1	Minimum	1.78	3.89	-
2	Maximum	10.00	10.00	-
3	Weighted Average	4.77	5.66	-

Source: IEX, PXIL and HPX

Table-6: PRICE OF ELECTRICITY TRANSACTED IN GREEN DAY AHEAD MARKET THROUGH POWER EXCHANGES, MAY 2023				
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)	Price in HPX (₹/kWh)
1	Minimum	2.00	-	-
2	Maximum	10.00	-	-
3	Weighted Average	4.66	-	-

Source: IEX, PXIL and HPX

Table-7: PRICE OF ELECTRICITY TRANSACTED IN HIGH PRICE DAY AHEAD MARKET THROUGH POWER EXCHANGES, MAY 2023				
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)	Price in HPX (₹/kWh)
1	Minimum	9.80	-	-
2	Maximum	20.00	-	-
3	Weighted Average	11.55	-	-

Source: IEX, PXIL and HPX

Table-8: PRICE OF ELECTRICITY TRANSACTED IN REAL TIME MARKET THROUGH POWER EXCHANGES, MAY 2023				
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)	Price in HPX (₹/kWh)
1	Minimum	0.48	-	10.00
2	Maximum	10.00	-	10.00
3	Weighted Average	5.03	-	10.00

Source: IEX, PXIL and HPX

Table-9: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, MAY 2023			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MU)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	6.28	9.93
2	Day Ahead Contingency Contracts	531.97	5.56
3	Daily Contracts	284.23	8.23
4	Weekly Contracts	90.65	7.11
5	Any Day Single Sided Contracts	144.74	8.04
	Total	1057.87	6.78

Source: IEX

Table-10: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, MAY 2023			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MU)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	21.23	9.09
2	Day Ahead Contingency Contracts	362.62	5.65
3	Daily Contracts	59.40	8.46
4	Any Day Single Sided Contracts	74.40	7.95
	Total	517.65	6.44

Source: PXIL

Table-11: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF HPX, MAY 2023			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MU)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	6.40	9.89
2	Day Ahead Contingency Contracts	445.88	6.80
3	Daily Contracts	144.85	8.63
4	Weekly Contracts	42.00	6.40
5	Any Day Single Sided Contracts	15.21	10.63
	Total	654.34	7.30

Source: HPX

Table-12: VOLUME AND PRICE OF ELECTRICITY IN GREEN TERM AHEAD MARKET OF IEX, MAY 2023			
Sr. No	Green Term ahead contracts	Actual Scheduled Volume (MU)	Weighted Average Price (₹/kWh)
1	Day Ahead Contingency Contracts	77.04	5.13
2	Daily Contracts	5.97	4.57
3	Weekly Contracts	6.30	4.30
4	Monthly Contracts	3.72	6.80
5	Any Day Single Sided Contracts	65.47	7.60
	Total	158.50	6.13

Source: IEX

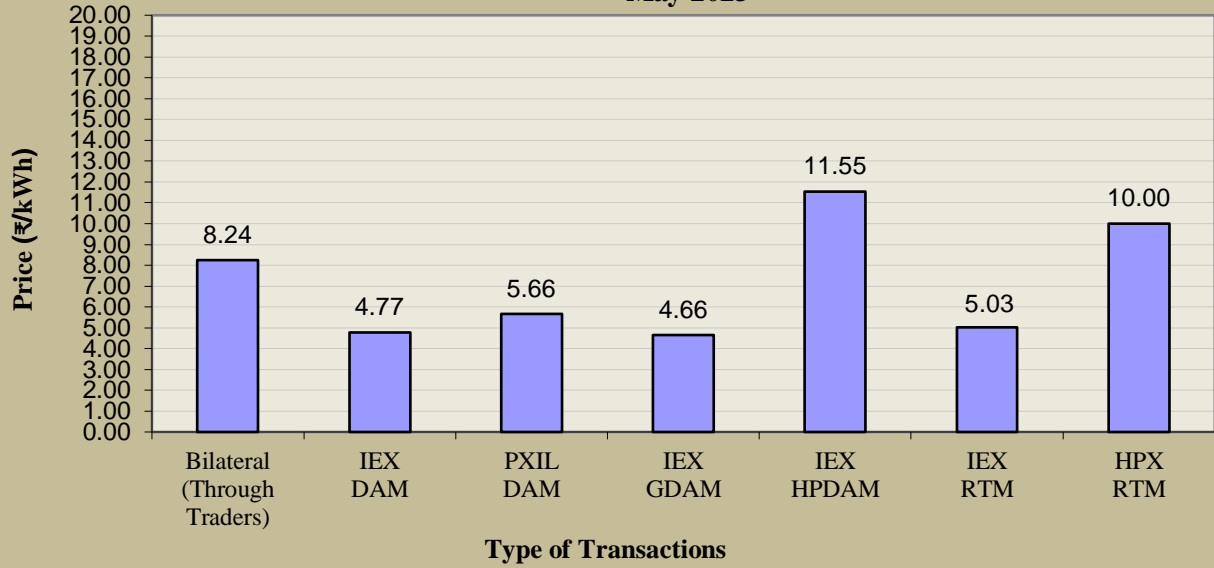
Table-13: VOLUME AND PRICE OF ELECTRICITY IN GREEN TERM AHEAD MARKET OF PXIL, MAY 2023			
Sr. No	Green Term ahead contracts	Actual Scheduled Volume (MU)	Weighted Average Price (₹/kWh)
1	Day Ahead Contingency Contracts	41.65	5.18
2	Any Day Single Sided Contracts	1.24	6.25
	Total	42.89	5.21

Source: PXIL

Table-14: VOLUME AND PRICE OF ELECTRICITY IN GREEN TERM AHEAD MARKET OF HPX, MAY 2023			
Sr. No	Green Term ahead contracts	Actual Scheduled Volume (MU)	Weighted Average Price (₹/kWh)
1	Day Ahead Contingency Contracts	19.46	3.96
	Total	19.46	3.96

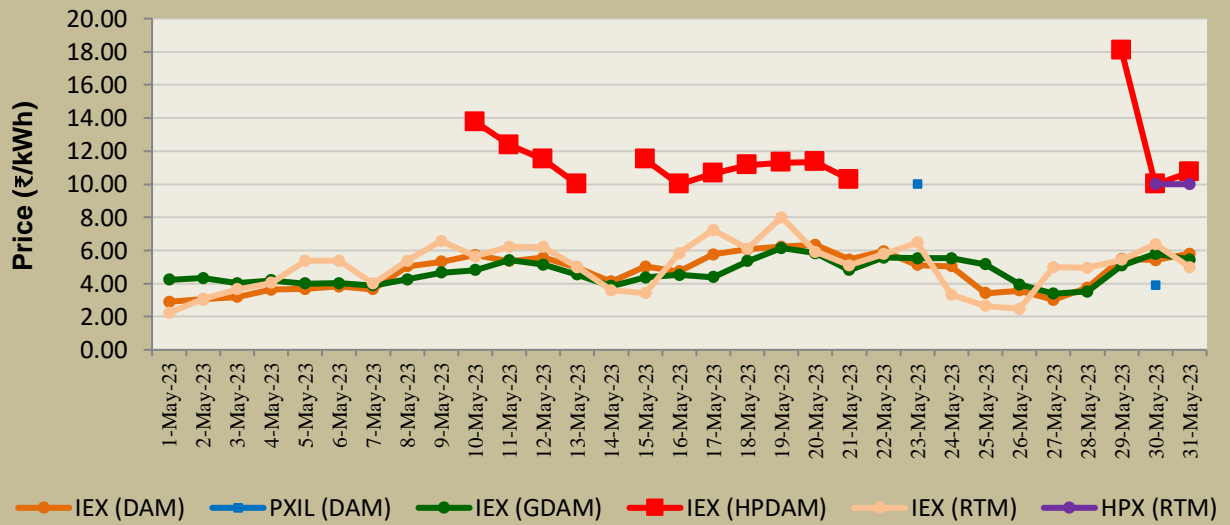
Source: HPX

Figure-6: Weighted Average Price of Short-term Transactions of Electricity, May 2023



Note: No electricity was transacted in G-DAM & RTM of PXIL and in DAM & G-DAM of HPX during May 2023

Figure-7: Weighted Average Price of Short-term Transactions of Electricity, May 2023 (Day-wise)



Note: No electricity was transacted in G-DAM & RTM of PXIL and in DAM & G-DAM of HPX during May 2023.

Table-15: VOLUME OF ELECTRICITY SOLD THROUGH BILATERAL, MAY 2023		
Name of the Entity	Volume of Sale (MUs)	% of Volume
SEMBCORP	460.12	5.47
RPREL	441.68	5.25
RAJASTHAN	398.85	4.74
ESSAR POWER	398.72	4.74
JINDAL STAGE-II	313.80	3.73
IL&FS	304.29	3.61
JITPL	299.21	3.55
RKM POWER	289.32	3.44
PUNJAB	289.06	3.43
HIMACHAL PRADESH	285.59	3.39
KARNATAKA	280.04	3.33
J & K	271.27	3.22
GUJARAT	255.24	3.03
JINDAL POWER	250.76	2.98
MP	250.45	2.98
JAYPEE NIGRIE	230.08	2.73
TEESTA STG3	222.48	2.64
COASTGEN	215.68	2.56
AHEJ4L_SOLAR	183.40	2.18
SHREE CEMENT	176.36	2.09
SIMHAPURI	171.53	2.04
DB POWER	140.32	1.67
DVC	129.69	1.54
NTPC STATIONS-NR	116.20	1.38
SKS POWER	115.84	1.38
MB POWER	113.60	1.35
AHEJ4L_WIND	113.10	1.34
MAHARASHTRA	109.16	1.30
TELANGANA	105.23	1.25
ADHUNIK POWER LTD	102.87	1.22
KOLYAT_SLR	93.63	1.11
AVAADASN_SLR	78.65	0.93
NEEPCO STATIONS	73.15	0.87
ABC_BHDL2	72.78	0.86
JHABUA POWER_MP	71.22	0.85
TAMIL NADU	70.07	0.83
WEST BENGAL	66.14	0.79
THARI_SLR	65.03	0.77
GMR KAMALANGA	60.19	0.71
ACBIL	58.47	0.69
ODISHA	57.72	0.69
ACME_HEERGARH	54.35	0.65
TATA_GREEN	52.43	0.62
DIKCHU HEP	45.94	0.55
DCPP	37.20	0.44
RENEW_SR_SLR	36.73	0.44
BIHAR	31.52	0.37
AD HYDRO	28.22	0.34
DHARIWAL POWER	27.51	0.33
MEGHALAYA	23.88	0.28
ANDHRA PRADESH	21.51	0.26
SORANG HEP	20.54	0.24
CONTINNUM PT	17.57	0.21
UTTARAKHAND	17.55	0.21
JSW_RENEW_2	16.84	0.20

DELHI	15.85	0.19
TRN ENERGY	14.88	0.18
SAINJ HEP	14.38	0.17
SB_SLR	12.95	0.15
DAGACHU	12.13	0.14
NTPC STATIONS-SR	11.17	0.13
LANKO_AMK	10.04	0.12
SINGOLI BHATWARI HEP	9.99	0.12
BALCO	9.88	0.12
REGL	7.83	0.09
SIKKIM	7.17	0.09
MARUTI COAL	6.83	0.08
OSTRO Hiriyur	6.35	0.08
ARUNACHAL PRADESH	5.91	0.07
ADANI_WIND	5.67	0.07
KARCHAM WANGTOO	5.59	0.07
UTTAR PRADESH	5.29	0.06
HARYANA	4.98	0.06
EMCO	3.27	0.04
DGEN MEGA POWER	2.92	0.03
NAGALAND	2.84	0.03
RENERGY5_WIND	2.24	0.03
MANIPUR	2.23	0.03
TASHIDENG HEP	2.14	0.03
NTPC STATIONS-WR	1.85	0.02
JORETHANG	0.70	0.01
INOX_BHUJ	0.14	0.002
CHHATTISGARH	0.08	0.001
Total	8418.06	100.00
Volume Sold by top 5 Regional Entities	2013.17	23.91

Table-16: VOLUME OF ELECTRICITY PURCHASED THROUGH BILATERAL, MAY 2023		
Name of the Entity	Volume of Purchase (MUs)	% of Volume
MAHARASHTRA	1374.41	16.33
TAMIL NADU	1230.01	14.61
UTTAR PRADESH	979.68	11.64
DELHI	735.44	8.74
ANDHRA PRADESH	552.76	6.57
WEST BENGAL	469.77	5.58
GUJARAT	449.66	5.34
HARYANA	399.40	4.74
KERALA	330.59	3.93
UTTARAKHAND	293.59	3.49
AMPS Hazira	247.23	2.94
ODISHA	225.68	2.68
TELANGANA	216.70	2.57
MP	149.32	1.77
RAJASTHAN	108.64	1.29
GOA	108.19	1.29
CHHATTISGARH	106.50	1.27
DD&DNH	100.75	1.20
PUNJAB	94.56	1.12
NEPAL(NVVN)	57.60	0.68
JHARKHAND	54.25	0.64
DVC	49.81	0.59
PONDICHERRY	24.26	0.29
KARNATAKA	16.05	0.19
HIMACHAL PRADESH	12.82	0.15
BALCO	11.71	0.14
SIKKIM	11.14	0.13
J & K	4.92	0.06
MEGHALAYA	2.62	0.03
TOTAL	8418.06	100.00
Volume Purchased by top 5 Regional Entities	4872.31	57.88

Table-17: VOLUME OF ELECTRICITY SOLD IN DAY AHEAD MARKET THROUGH POWER EXCHANGES, MAY 2023		
Name of the Entity	Volume of Sale (MUs)	% of Volume
CHHATTISGARH	648.40	16.20
UTTAR PRADESH	402.17	10.05
BIHAR	214.64	5.36
TELANGANA	184.56	4.61
JINDAL STAGE-II	183.80	4.59
JAYPEE NIGRIE	180.52	4.51
DELHI	179.47	4.49
RPREL	138.20	3.45
JINDAL POWER	128.12	3.20
MB POWER	125.17	3.13
ESSAR POWER	98.11	2.45
DB POWER	94.77	2.37
TEESTA HEP	87.57	2.19
HIMACHAL PRADESH	85.64	2.14
HARYANA	77.55	1.94
PUNJAB	73.50	1.84
UTTARAKHAND	65.16	1.63
MP	64.02	1.60
RAJASTHAN	60.98	1.52
SKS POWER	57.76	1.44
DCPP	52.32	1.31
MAHARASHTRA	49.59	1.24
TAMIL NADU	46.51	1.16
JITPL	45.52	1.14
GUJARAT	42.43	1.06
ODISHA	40.67	1.02
CHANDIGARH	39.75	0.99
SEMBICORP	39.14	0.98
KARNATAKA	38.85	0.97
GOA	34.46	0.86
ACBIL	33.84	0.85
PONDICHERRY	28.09	0.70
ASSAM	26.86	0.67
ANDHRA PRADESH	23.80	0.59
AD HYDRO	21.04	0.53
DVC	18.02	0.45
RENEW_SR_SLR	17.81	0.45
KARCHAM WANGTOO	17.32	0.43
COASTGEN	16.99	0.42
IL&FS	15.71	0.39
SAINJ HEP	15.02	0.38
REGL	12.96	0.32
RKM POWER	11.76	0.29
ASEJTL_SLR	11.69	0.29
ONGC PALATANA	10.90	0.27
J & K	10.17	0.25
JHARKHAND	9.74	0.24
MARUTI COAL	8.85	0.22
SIKKIM	8.72	0.22
JHABUA POWER_MP	7.77	0.19
MIZORAM	7.69	0.19
RGPPL	6.06	0.15
NTPC STATIONS-NR	5.97	0.15
ARUNACHAL PRADESH	5.95	0.15

CHUZACHEN HEP	5.72	0.14
DIKCHU HEP	5.66	0.14
BALCO	5.41	0.14
EMCO	5.36	0.13
DGEN MEGA POWER	5.28	0.13
NTPC STATIONS-WR	4.72	0.12
DHARIWAL POWER	4.25	0.11
SINGOLI BHATWARI HEP	4.20	0.11
OSTRO Hiriyur	3.87	0.10
SIMHAPURI	3.67	0.09
WEST BENGAL	3.29	0.08
KERALA	3.25	0.08
SHREE CEMENT	2.97	0.07
LANCO BUDHIL	2.71	0.07
ADANI_WIND	1.90	0.05
RENERGY5_WIND	1.55	0.04
ADHUNIK POWER LTD	1.09	0.03
NEEPCO STATIONS	1.06	0.03
SORANG HEP	0.98	0.02
NEPAL(NVVN)	0.60	0.01
NAGALAND	0.48	0.01
GMR KAMALANGA	0.43	0.01
NTPC STATIONS-NER	0.38	0.01
MEGHALAYA	0.29	0.01
SB_SLR	0.05	0.001
INOX_BHUJ	0.001	0.00002
Total	4001.31	100.00
Volume sold by top 5 Regional Entities	1633.57	40.83

Table-18: VOLUME OF ELECTRICITY PURCHASED IN DAY AHEAD MARKET THROUGH POWER EXCHANGES, MAY 2023		
Name of the Entity	Volume of Purchase (MUs)	% of Volume
GUJARAT	692.53	17.31
WEST BENGAL	498.92	12.47
ANDHRA PRADESH	317.41	7.93
RAJASTHAN	314.96	7.87
MAHARASHTRA	259.29	6.48
J & K	254.09	6.35
UTTAR PRADESH	236.71	5.92
TAMIL NADU	190.54	4.76
PUNJAB	160.71	4.02
TELANGANA	141.83	3.54
NEPAL(NVVN)	139.20	3.48
DD&DNH	121.12	3.03
ASSAM	93.28	2.33
JHARKHAND	91.87	2.30
HARYANA	83.18	2.08
UTTARAKHAND	65.49	1.64
HIMACHAL PRADESH	62.93	1.57
KERALA	62.72	1.57
MP	35.84	0.90
KARNATAKA	28.61	0.72
GOA	26.70	0.67
MEGHALAYA	25.42	0.64
AMPS Hazira	22.56	0.56
ODISHA	21.99	0.55
NEP	19.41	0.49
NCR ALLAHABAD	14.28	0.36
TRIPURA	7.55	0.19
DELHI	5.15	0.13
BIHAR	2.47	0.06
DVC	1.53	0.04
ARUNACHAL PRADESH	1.52	0.04
CHANDIGARH	0.85	0.02
BALCO	0.56	0.01
RGPPL_IR	0.13	0.003
TOTAL	4001.31	100.00
Volume purchased by top 5 Regional Entities	2083.11	52.06

Table-19: VOLUME OF ELECTRICITY SOLD IN GREEN DAY AHEAD MARKET THROUGH POWER EXCHANGES, MAY 2023		
Name of the Entity	Volume of Sale (MUs)	% of Volume
TELANGANA	32.21	16.26
ADANI_WIND	26.75	13.50
KARNATAKA	23.11	11.66
RENERGY5_WIND	14.26	7.20
NTPC STATIONS-SR	13.86	6.99
SINGOLI BHATWARI HEP	12.99	6.55
RENEW_SR_SLR	12.52	6.32
ANDHRA PRADESH	10.48	5.29
OSTRO Hiriyur	10.19	5.14
J & K	6.85	3.46
SIKKIM	6.22	3.14
CONTINNUM PT	5.38	2.71
RAJASTHAN	5.24	2.64
HIMACHAL PRADESH	4.68	2.36
WEST BENGAL	3.48	1.76
UTTAR PRADESH	3.32	1.68
INOX_BHUJ	3.21	1.62
SB_SLR	1.43	0.72
PUNJAB	1.02	0.51
MP	0.73	0.37
MAHARASHTRA	0.17	0.09
ODISHA	0.052	0.03
Total	198.12	100.00
Volume sold by top 5 Regional Entities	110.18	55.61

Table-20: VOLUME OF ELECTRICITY PURCHASED IN GREEN DAY AHEAD MARKET THROUGH POWER EXCHANGES, MAY 2023		
Name of the Entity	Volume of Purchase (MUs)	% of Volume
MAHARASHTRA	66.21	33.42
TAMIL NADU	21.76	10.98
AMPS Hazira	21.52	10.86
DVC	17.26	8.71
KARNATAKA	15.13	7.63
BALCO	9.29	4.69
DELHI	8.14	4.11
GUJARAT	6.28	3.17
KERALA	5.39	2.72
DD&DNH	4.31	2.17
UTTAR PRADESH	3.79	1.91
MP	3.72	1.88
NCR ALLAHABAD	3.68	1.86
PUNJAB	3.55	1.79
ODISHA	3.54	1.79
TELANGANA	1.60	0.81
HARYANA	1.09	0.55
JHARKHAND	0.81	0.41
ANDHRA PRADESH	0.53	0.27
MEGHALAYA	0.50	0.25
ASSAM	0.02	0.01
TOTAL	198.12	100.00
Volume purchased by top 5 Regional Entities	141.88	71.61

Table-21: VOLUME OF ELECTRICITY SOLD IN HIGH PRICE DAY AHEAD MARKET THROUGH POWER EXCHANGES, MAY 2023		
Name of the Entity	Volume of Sale (MUs)	% of Volume
GUJARAT	0.17	78.85
SIMHAPURI	0.03	15.79
TAMIL NADU	0.01	5.36
Total	0.22	100.00
Volume sold by top 5 Regional Entities	0.22	100.00

Table-22: VOLUME OF ELECTRICITY PURCHASED IN HIGH PRICE DAY AHEAD MARKET THROUGH POWER EXCHANGES, MAY 2023		
Name of the Entity	Volume of Purchase (MUs)	% of Volume
MEGHALAYA	0.22	100.00
Total	0.22	100.00
Volume purchased by top 5 Regional Entities	0.22	100.00

Table-23: VOLUME OF ELECTRICITY SOLD IN REAL TIME MARKET THROUGH POWER EXCHANGES, MAY 2023		
Name of the Entity	Volume of Sale (MUs)	% of Volume
MP	365.97	15.09
BIHAR	231.65	9.55
RAJASTHAN	161.39	6.65
DELHI	144.46	5.95
KAPP 3&4	140.34	5.79
TELANGANA	125.20	5.16
CHHATTISGARH	118.84	4.90
HIMACHAL PRADESH	115.97	4.78
WEST BENGAL	106.22	4.38
ODISHA	72.58	2.99
PUNJAB	63.14	2.60
UTTAR PRADESH	58.68	2.42
HARYANA	51.53	2.12
MAHARASHTRA	48.94	2.02
UTTARAKHAND	46.68	1.92
KARNATAKA	46.11	1.90
RKM POWER	44.62	1.84
TEESTA HEP	34.66	1.43
TRN ENERGY	30.95	1.28
NTPC STATIONS-ER	26.19	1.08
ANDHRA PRADESH	24.96	1.03
J & K	23.02	0.95
SKS POWER	20.92	0.86
GUJARAT	18.94	0.78
JHARKHAND	18.37	0.76
ASSAM	17.55	0.72
NEEPCO STATIONS	17.35	0.72
SASAN UMPP	16.97	0.70
MB POWER	16.23	0.67
KERALA	14.18	0.58
SEMBCORP	13.52	0.56
ONGC PALATANA	12.00	0.49
PONDICHERRY	11.33	0.47
TAMIL NADU	11.21	0.46
ESSAR POWER	11.10	0.46
JINDAL STAGE-II	9.92	0.41
DIKCHU HEP	9.03	0.37
SAINJ HEP	8.76	0.36
RPREL	8.21	0.34
DCPP	5.94	0.24
BALCO	5.71	0.24
JHABUA POWER_MP	5.56	0.23
NTPC STATIONS-NR	5.14	0.21
ACBIL	5.11	0.21
NTPC STATIONS-WR	5.06	0.21
NLC	4.97	0.20
SIKKIM	4.77	0.20
EMCO	4.57	0.19
JINDAL POWER	4.42	0.18
MANIPUR	4.41	0.18
DD&DNH	4.13	0.17
SINGOLI BHATWARI HEP	3.43	0.14
SIMHAPURI	3.41	0.14
IL&FS	3.32	0.14

DVC	3.26	0.13
MARUTI COAL	3.15	0.13
TRIPURA	3.11	0.13
AD HYDRO	2.85	0.12
JITPL	2.83	0.12
SORANG HEP	2.62	0.11
RGPPL_IR	2.49	0.10
DGEN MEGA POWER	2.37	0.10
KARCHAM WANGTOO	2.06	0.08
ARUNACHAL PRADESH	1.41	0.06
CGPL	1.35	0.06
CONTINNUM PT	1.30	0.05
OSTRO Hiriyur	1.22	0.05
ADHUNIK POWER LTD	1.08	0.04
SHREE CEMENT	0.99	0.04
REGL	0.80	0.03
CHUZACHEN HEP	0.75	0.03
LANCO BUDHIL	0.62	0.03
JORETHANG	0.60	0.02
RENEW_SR_SLR	0.59	0.02
JAYPEE NIGRIE	0.57	0.02
ADANI_WIND	0.53	0.02
NAGALAND	0.34	0.01
INOX_BHUJ	0.33	0.01
DB POWER	0.32	0.01
CHANDIGARH	0.21	0.01
GOA	0.19	0.01
MEGHALAYA	0.19	0.01
COASTGEN	0.11	0.004
GMR KAMALANGA	0.09	0.004
TASHIDENG HEP	0.01	0.001
Total	2425.98	100.00
Volume sold by top 5 Regional Entities	1043.80	43.03

Table-24: VOLUME OF ELECTRICITY PURCHASED IN REAL TIME MARKET THROUGH POWER EXCHANGES, MAY 2023		
Name of the Entity	Volume of Purchase (MUs)	% of Volume
WEST BENGAL	274.02	11.30
RAJASTHAN	265.81	10.96
MAHARASHTRA	204.09	8.41
TELANGANA	198.58	8.19
ANDHRA PRADESH	176.83	7.29
J & K	160.93	6.63
UTTAR PRADESH	153.73	6.34
TAMIL NADU	144.73	5.97
ODISHA	105.65	4.36
GUJARAT	101.08	4.17
KARNATAKA	100.77	4.15
ASSAM	89.47	3.69
PUNJAB	79.94	3.30
HARYANA	60.39	2.49
JHARKHAND	42.05	1.73
KERALA	32.01	1.32
DELHI	30.91	1.27
TRIPURA	30.03	1.24
DD&DNH	24.93	1.03
HIMACHAL PRADESH	19.87	0.82
DVC	19.82	0.82
AMPS Hazira	18.84	0.78
MEGHALAYA	14.56	0.60
BALCO	12.19	0.50
UTTARAKHAND	10.48	0.43
MP	10.08	0.42
BIHAR	9.23	0.38
MANIPUR	6.66	0.27
SIKKIM	5.33	0.22
NCR ALLAHABAD	3.08	0.13
JINDAL STAGE-II	3.01	0.12
GOA	2.67	0.11
DCPP	2.64	0.11
CHHATTISGARH	2.37	0.10
SKS POWER	2.15	0.09
NTPC STATIONS-WR	1.20	0.05
MARUTI COAL	0.92	0.04
ACBIL	0.76	0.03
RGPPL IR	0.73	0.03
ARUNACHAL PRADESH	0.71	0.03
JINDAL POWER	0.68	0.03
CHANDIGARH	0.58	0.02
SHREE CEMENT	0.51	0.02
SINGOLI BHATWARI HEP	0.32	0.01
SAINJ HEP	0.30	0.01
SIMHAPURI	0.26	0.01
PONDICHERRY	0.06	0.002
TOTAL	2425.98	100.00
Volume purchased by top 5 Regional Entities	1119.33	46.14

Table-25: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), MAY 2023		
S. No.	Name of the Entity	Total volume of net short-term transactions of electricity*
1	MAHARASHTRA	1696.14
2	TAMIL NADU	1459.25
3	WEST BENGAL	1063.58
4	ANDHRA PRADESH	966.78
5	GUJARAT	932.77
6	UTTAR PRADESH	904.46
7	DELHI	439.86
8	KERALA	413.28
9	HARYANA	410.00
10	AMPS Hazira	310.15
11	DD&DNH	246.98
12	UTTARAKHAND	240.16
13	NEPAL(NVVN)	196.20
14	ODISHA	185.84
15	JHARKHAND	160.87
16	ASSAM	138.36
17	TELANGANA	111.51
18	J & K	108.62
19	GOA	102.89
20	RAJASTHAN	62.95
21	TRIPURA	34.47
22	NCR ALLAHABAD	21.04
23	NEP	19.41
24	MEGHALAYA	18.96
25	BALCO	12.75
26	MANIPUR	0.02
27	NTPC STATIONS-NER	-0.38
28	JORETHANG	-1.30
29	CGPL	-1.35
30	RGPPL_IR	-1.64
31	TASHIDENG HEP	-2.15
32	LANCO BUDHIL	-3.34
33	NAGALAND	-3.66
34	INOX_BHUJ	-3.68
35	NLC	-4.97
36	RGPPL	-6.06
37	CHUZACHEN HEP	-6.47
38	MIZORAM	-7.69
39	LANCO_AMK	-10.04
40	SIKKIM	-10.42
41	NTPC STATIONS-WR	-10.43
42	DGEN MEGA POWER	-10.57
43	ARUNACHAL PRADESH	-11.04
44	ASEJTL_SLR	-11.69
45	DAGACHU	-12.13
46	EMCO	-13.20
47	SB_SLR	-14.43
48	PONDICHERRY	-15.11
49	JSW_RENEW_2	-16.84
50	SASAN UMPP	-16.97
51	MARUTI COAL	-17.90
52	RENERGY5_WIND	-18.05
53	REGL	-21.59
54	OSTRO Hiriur	-21.63
55	ONGC PALATANA	-22.90
56	SORANG HEP	-24.14
57	CONTINNUM PT	-24.25
58	KARCHAM WANGTOO	-24.97
59	NTPC STATIONS-SR	-25.02
60	NTPC STATIONS-ER	-26.19
61	SINGOLI BHATWARI HEP	-30.29
62	DHARIWAL POWER	-31.76

63	ADANI_WIND	-34.85
64	SAINJ HEP	-37.86
65	CHANDIGARH	-38.53
66	TRN ENERGY	-45.83
67	AD HYDRO	-52.11
68	TATA_GREEN	-52.43
69	ACME_HEERGARH	-54.35
70	DIKCHU HEP	-60.63
71	GMR KAMALANGA	-60.71
72	DVC	-62.54
73	THARI_SLR	-65.03
74	RENEW_SR_SLR	-67.65
75	ABC_BHDL2	-72.78
76	AVAADASN_SLR	-78.65
77	JHABUA POWER_MP	-84.55
78	PUNJAB	-87.96
79	NEEPCO STATIONS	-91.57
80	DCPP	-92.82
81	KOLYAT_SLR	-93.63
82	ACBIL	-96.67
83	ADHUNIK POWER LTD	-105.04
84	AHEJ4L_WIND	-113.10
85	TEESTA HEP	-122.23
86	NTPC STATIONS-NR	-127.32
87	KAPP 3&4	-140.34
88	SIMHAPURI	-178.39
89	SHREE CEMENT	-179.81
90	AHEJ4L_SOLAR	-183.40
91	SKS POWER	-192.37
92	TEESTA STG3	-222.48
93	KARNATAKA	-227.55
94	COASTGEN	-232.77
95	DB POWER	-235.41
96	MB POWER	-255.01
97	IL&FS	-323.32
98	RKM POWER	-345.70
99	JITPL	-347.55
100	JINDAL POWER	-382.63
101	HIMACHAL PRADESH	-396.26
102	JAYPEE NIGRIE	-411.18
103	BIHAR	-466.10
104	MP	-482.20
105	JINDAL STAGE-II	-504.52
106	ESSAR POWER	-507.93
107	SEMBCORP	-512.77
108	RPREL	-588.10
109	CHHATTISGARH	-658.45
* Total volume of net short-term transactions of electricity includes net of transactions of electricity through bilateral and power exchange		
(-) indicates sale and (+) indicates purchase		

Table-26: DETAILS OF CONGESTION IN POWER EXCHANGES, MAY 2023

	Details of Congestion	Day Ahead Market			Green Day Ahead Market			High Price Day Ahead Market	Real Time Market		
		IEX	PXIL	HPX	IEX	PXIL	HPX	IEX	IEX	PXIL	HPX
1	Unconstrained Cleared Volume (MUs)	3999.34	1.56	0.00	198.12	0.00	0.00	0.22	2429.21	0.00	1.72
2	Actual Cleared Volume and hence scheduled (MUs)	3999.76 [#]	1.56	0.00	198.12	0.00	0.00	0.22	2424.26	0.00	1.72
3	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) *	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.95	0.00	0.00
4	Volume of electricity that could not be cleared and hence not scheduled because of reasons other than congestion (MUs)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.20%	0.00%	0.00%
6	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/ Total number of hours in the month)	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.06%	0.00%	0.00%
7	Congestion occurrence (%) time block wise										
	0.00 - 6.00 hours	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	6.00 - 12.00 hours	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.30%	0.00%	0.00%
	12.00 - 18.00 hours	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	21.98%	0.00%	0.00%
	18.00 - 24.00 hours	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	74.73%	0.00%	0.00%

* This power would have been scheduled had there been no congestion

[#] Owing to the Order Carry Forward (OCF) option and market splitting, in some instances the bids and the matching underwent changes. This resulted in higher volume getting cleared compared to the unconstrained market clearing volume in DAM

Source: IEX, PXIL, HPX & NLDC

**Table-27: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (DAY-WISE) (MUs),
MAY 2023**

Date	Bilateral		Day Ahead Market [#]			Green Day Ahead Market [#]			High Price DAM [#]	Real Time Market [#]			Total Electricity Generation (MU) *
	Through Traders and PXs**	Direct	IEX	PXIL	HPX	IEX	PXIL	HPX	IEX	IEX	PXIL	HPX	
1-May-23	111.86	70.99	90.10	0.00	0.00	5.70	0.00	0.00	0.00	80.73	0.00	0.00	3431.18
2-May-23	148.32	69.89	112.09	0.00	0.00	6.02	0.00	0.00	0.00	86.81	0.00	0.00	3544.53
3-May-23	155.39	73.46	122.35	0.00	0.00	5.88	0.00	0.00	0.00	71.78	0.00	0.00	3637.54
4-May-23	150.97	74.07	122.99	0.00	0.00	4.74	0.00	0.00	0.00	71.40	0.00	0.00	3690.79
5-May-23	154.92	73.15	119.95	0.00	0.00	5.44	0.00	0.00	0.00	73.47	0.00	0.00	3851.71
6-May-23	148.98	73.89	131.15	0.00	0.00	5.50	0.00	0.00	0.00	76.01	0.00	0.00	3911.28
7-May-23	135.48	76.61	132.03	0.00	0.00	6.72	0.00	0.00	0.00	69.68	0.00	0.00	3783.34
8-May-23	176.42	77.18	135.76	0.00	0.00	6.25	0.00	0.00	0.00	62.15	0.00	0.00	4010.96
9-May-23	184.92	77.41	135.20	0.00	0.00	4.73	0.00	0.00	0.00	76.51	0.00	0.00	4190.53
10-May-23	200.05	82.22	142.35	0.00	0.00	5.89	0.00	0.00	0.02	68.22	0.00	0.00	4239.08
11-May-23	203.94	82.83	133.00	0.00	0.00	5.52	0.00	0.00	0.02	63.79	0.00	0.00	4272.74
12-May-23	196.83	88.66	135.64	0.00	0.00	5.53	0.00	0.00	0.02	61.12	0.00	0.00	4252.69
13-May-23	181.48	89.52	151.22	0.00	0.00	10.96	0.00	0.00	0.00	58.28	0.00	0.00	4203.76
14-May-23	167.18	89.20	131.19	0.00	0.00	7.29	0.00	0.00	0.00	65.21	0.00	0.00	3976.17
15-May-23	202.72	86.71	126.39	0.00	0.00	8.37	0.00	0.00	0.00	73.55	0.00	0.00	4099.96
16-May-23	198.43	88.21	121.91	0.00	0.00	7.41	0.00	0.00	0.00	73.73	0.00	0.00	4283.48
17-May-23	203.18	94.31	119.54	0.00	0.00	7.74	0.00	0.00	0.02	82.30	0.00	0.00	4454.23
18-May-23	225.38	94.69	133.33	0.00	0.00	5.23	0.00	0.00	0.03	99.14	0.00	0.00	4304.08
19-May-23	215.56	93.68	142.89	0.00	0.00	5.36	0.00	0.00	0.03	77.89	0.00	0.00	4515.69
20-May-23	211.30	99.79	142.30	0.00	0.00	6.56	0.00	0.00	0.03	73.65	0.00	0.00	4480.23
21-May-23	169.00	97.89	130.09	0.00	0.00	8.27	0.00	0.00	0.02	78.10	0.00	0.00	4310.63
22-May-23	210.87	100.32	144.74	0.00	0.00	6.64	0.00	0.00	0.00	72.26	0.00	0.00	4435.82
23-May-23	226.34	100.00	127.60	0.45	0.00	7.39	0.00	0.00	0.00	98.70	0.00	0.00	4498.49
24-May-23	210.99	99.92	136.57	0.00	0.00	8.31	0.00	0.00	0.00	82.42	0.00	0.00	4174.77
25-May-23	181.17	97.25	133.43	0.00	0.00	5.31	0.00	0.00	0.00	80.02	0.00	0.00	3934.63
26-May-23	187.50	96.32	119.61	0.00	0.00	6.25	0.00	0.00	0.00	83.36	0.00	0.00	3748.92
27-May-23	173.73	93.58	123.62	0.00	0.00	7.45	0.00	0.00	0.00	84.55	0.00	0.00	3830.40
28-May-23	149.88	85.22	121.52	0.00	0.00	7.56	0.00	0.00	0.00	85.12	0.00	0.00	3931.02
29-May-23	208.30	91.37	129.75	0.00	0.00	5.54	0.00	0.00	0.01	101.09	0.00	0.00	4168.51
30-May-23	211.41	88.97	125.36	1.11	0.00	4.39	0.00	0.00	0.01	105.53	0.00	1.50	4243.89
31-May-23	217.84	90.42	126.13	0.00	0.00	4.18	0.00	0.00	0.01	87.67	0.00	0.22	4202.73
Total	5720.35	2697.71	3999.76	1.56	0.00	198.12	0.00	0.00	0.22	2424.26	0.00	1.72	126613.78

Source: NLDC

* As available on CEA Website. Gross Electricity Generation excluding electricity generation from renewables and captive power plants.

** The volume of bilateral through PXs represents the volume through term-ahead contracts.

Scheduled volume of all the bid areas.

Table-28(a): PRICE OF DAY AHEAD TRANSACTIONS OF ELECTRICITY (DAY-WISE) (₹/kWh), MAY 2023												
Market Segment	Day Ahead Market of IEX			Day Ahead Market of PXIL			Day Ahead Market of HPX			High Price Day Ahead Market of IEX		
Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*
1-May-23	1.78	4.00	2.90	-	-	-	-	-	-	-	-	-
2-May-23	2.00	4.53	3.06	-	-	-	-	-	-	-	-	-
3-May-23	1.90	6.00	3.18	-	-	-	-	-	-	-	-	-
4-May-23	2.00	6.13	3.63	-	-	-	-	-	-	-	-	-
5-May-23	2.42	6.00	3.68	-	-	-	-	-	-	-	-	-
6-May-23	2.53	6.36	3.83	-	-	-	-	-	-	-	-	-
7-May-23	2.00	5.70	3.65	-	-	-	-	-	-	-	-	-
8-May-23	2.91	10.00	5.04	-	-	-	-	-	-	-	-	-
9-May-23	2.86	10.00	5.32	-	-	-	-	-	-	-	-	-
10-May-23	2.99	10.00	5.71	-	-	-	-	-	-	13.77	13.77	13.77
11-May-23	3.18	10.00	5.35	-	-	-	-	-	-	12.37	12.37	12.37
12-May-23	3.30	10.00	5.57	-	-	-	-	-	-	11.51	11.51	11.51
13-May-23	2.90	10.00	4.96	-	-	-	-	-	-	10.00	10.00	10.00
14-May-23	2.00	10.00	4.11	-	-	-	-	-	-	-	-	-
15-May-23	3.00	10.00	5.02	-	-	-	-	-	-	11.51	11.51	11.51
16-May-23	2.70	10.00	4.73	-	-	-	-	-	-	10.00	10.00	10.00
17-May-23	2.79	10.00	5.75	-	-	-	-	-	-	10.00	11.51	10.66
18-May-23	3.38	10.00	6.06	-	-	-	-	-	-	10.00	11.51	11.14
19-May-23	3.18	10.00	6.23	-	-	-	-	-	-	9.80	11.51	11.31
20-May-23	3.45	10.00	6.34	-	-	-	-	-	-	10.00	11.51	11.34
21-May-23	2.00	10.00	5.44	-	-	-	-	-	-	10.00	10.51	10.28
22-May-23	3.20	10.00	5.96	-	-	-	-	-	-	-	-	-
23-May-23	3.15	10.00	5.11	10.00	10.00	10.00	-	-	-	-	-	-
24-May-23	2.80	10.00	5.04	-	-	-	-	-	-	-	-	-
25-May-23	2.04	6.66	3.42	-	-	-	-	-	-	-	-	-
26-May-23	2.30	6.01	3.58	-	-	-	-	-	-	-	-	-
27-May-23	1.84	5.57	3.01	-	-	-	-	-	-	-	-	-
28-May-23	1.80	6.73	3.75	-	-	-	-	-	-	-	-	-
29-May-23	2.75	10.00	5.50	-	-	-	-	-	-	10.05	20.00	18.10
30-May-23	2.81	10.00	5.42	3.89	3.89	3.89	-	-	-	10.00	10.00	10.00
31-May-23	2.83	10.00	5.80	-	-	-	-	-	-	10.00	10.93	10.74
	1.78[#]	10.00[#]	4.77	3.89[#]	10.00[#]	5.66	-	-	-	9.80[#]	20.00[#]	11.55
Source: IEX, PXIL and HPX												
* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.												
[#] Maximum/Minimum in the month												

Table-28(b): PRICE OF GREEN DAY AHEAD TRANSACTIONS OF ELECTRICITY (DAY-WISE) (₹/kWh), MAY 2023									
Market Segment	Green Day Ahead Market of IEX			Green Day Ahead Market of PXIL			Green Day Ahead Market of HPX		
Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*
1-May-23	3.70	5.50	4.23	-	-	-	-	-	-
2-May-23	3.68	6.00	4.32	-	-	-	-	-	-
3-May-23	3.56	5.58	4.02	-	-	-	-	-	-
4-May-23	3.42	10.00	4.20	-	-	-	-	-	-
5-May-23	3.49	5.58	4.01	-	-	-	-	-	-
6-May-23	3.41	5.85	4.01	-	-	-	-	-	-
7-May-23	3.33	5.50	3.89	-	-	-	-	-	-
8-May-23	3.90	6.33	4.25	-	-	-	-	-	-
9-May-23	3.68	9.50	4.65	-	-	-	-	-	-
10-May-23	3.89	10.00	4.80	-	-	-	-	-	-
11-May-23	3.89	10.00	5.40	-	-	-	-	-	-
12-May-23	3.58	10.00	5.15	-	-	-	-	-	-
13-May-23	2.34	10.00	4.53	-	-	-	-	-	-
14-May-23	2.76	10.00	3.84	-	-	-	-	-	-
15-May-23	3.50	10.00	4.36	-	-	-	-	-	-
16-May-23	2.85	10.00	4.51	-	-	-	-	-	-
17-May-23	3.06	10.00	4.39	-	-	-	-	-	-
18-May-23	3.63	10.00	5.35	-	-	-	-	-	-
19-May-23	4.16	10.00	6.15	-	-	-	-	-	-
20-May-23	3.06	10.00	5.83	-	-	-	-	-	-
21-May-23	2.99	10.00	4.81	-	-	-	-	-	-
22-May-23	3.69	10.00	5.57	-	-	-	-	-	-
23-May-23	3.75	10.00	5.53	-	-	-	-	-	-
24-May-23	3.00	10.00	5.52	-	-	-	-	-	-
25-May-23	3.59	10.00	5.16	-	-	-	-	-	-
26-May-23	2.87	5.93	3.94	-	-	-	-	-	-
27-May-23	2.00	5.40	3.39	-	-	-	-	-	-
28-May-23	2.87	5.66	3.52	-	-	-	-	-	-
29-May-23	3.69	10.00	5.07	-	-	-	-	-	-
30-May-23	3.68	10.00	5.80	-	-	-	-	-	-
31-May-23	3.00	10.00	5.45	-	-	-	-	-	-
	2.00[#]	10.00[#]	4.66	-	-	-	-	-	-
Source: IEX, PXIL and HPX									
* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.									
[#] Maximum/Minimum in the month									

Table-28(c): PRICE OF REAL TIME TRANSACTIONS (DAY-WISE) (₹/kWh), MAY 2023

Market Segment	Real Time Market of IEX			Real Time Market of PXIL			Real Time Market of HPX		
Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*
1-May-23	0.50	3.81	2.24	-	-	-	-	-	-
2-May-23	1.65	6.99	3.05	-	-	-	-	-	-
3-May-23	1.66	9.00	3.65	-	-	-	-	-	-
4-May-23	2.00	10.00	4.04	-	-	-	-	-	-
5-May-23	2.66	10.00	5.37	-	-	-	-	-	-
6-May-23	2.00	10.00	5.37	-	-	-	-	-	-
7-May-23	1.37	10.00	4.01	-	-	-	-	-	-
8-May-23	1.86	10.00	5.37	-	-	-	-	-	-
9-May-23	3.00	10.00	6.57	-	-	-	-	-	-
10-May-23	2.00	10.00	5.64	-	-	-	-	-	-
11-May-23	2.90	10.00	6.23	-	-	-	-	-	-
12-May-23	2.75	10.00	6.20	-	-	-	-	-	-
13-May-23	2.60	10.00	4.99	-	-	-	-	-	-
14-May-23	0.50	10.00	3.60	-	-	-	-	-	-
15-May-23	1.00	8.64	3.41	-	-	-	-	-	-
16-May-23	2.37	10.00	5.84	-	-	-	-	-	-
17-May-23	2.90	10.00	7.22	-	-	-	-	-	-
18-May-23	1.50	10.00	6.10	-	-	-	-	-	-
19-May-23	3.47	10.00	8.00	-	-	-	-	-	-
20-May-23	2.90	10.00	5.90	-	-	-	-	-	-
21-May-23	1.00	10.00	5.10	-	-	-	-	-	-
22-May-23	1.50	10.00	5.77	-	-	-	-	-	-
23-May-23	1.00	10.00	6.48	-	-	-	-	-	-
24-May-23	1.00	5.50	3.32	-	-	-	-	-	-
25-May-23	0.50	6.30	2.65	-	-	-	-	-	-
26-May-23	0.48	10.00	2.46	-	-	-	-	-	-
27-May-23	0.70	10.00	4.99	-	-	-	-	-	-
28-May-23	1.50	10.00	4.94	-	-	-	-	-	-
29-May-23	1.59	10.00	5.42	-	-	-	-	-	-
30-May-23	2.50	10.00	6.38	-	-	-	10.00	10.00	10.00
31-May-23	1.85	10.00	4.99	-	-	-	10.00	10.00	10.00
	0.48[#]	10.00[#]	5.03	-	-	-	10.00[#]	10.00[#]	10.00

Source: IEX, PXIL and HPX

* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

Maximum/Minimum in the month

**Table-29: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY*-WISE)
(MUs), MAY 2023**

Name of the Entity	Through Bilateral (Traders + PXs + Direct)			Through Power Exchange (DAM + GDAM + HPDAM + RTM)			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	
PUNJAB	289.06	94.56	-194.50	137.66	244.20	106.55	-87.96
HARYANA	4.98	399.40	394.42	129.08	144.65	15.57	410.00
RAJASTHAN	398.85	108.64	-290.22	227.61	580.77	353.17	62.95
DELHI	15.85	735.44	719.59	323.93	44.21	-279.73	439.86
UTTAR PRADESH	5.29	979.68	974.39	464.16	394.23	-69.94	904.46
UTTARAKHAND	17.55	293.59	276.04	111.85	75.97	-35.88	240.16
HIMACHAL PRADESH	285.59	12.82	-272.77	206.29	82.80	-123.49	-396.26
J & K	271.27	4.92	-266.35	40.04	415.01	374.97	108.62
CHANDIGARH	0.00	0.00	0.00	39.96	1.43	-38.53	-38.53
MP	250.45	149.32	-101.13	430.72	49.64	-381.07	-482.20
MAHARASHTRA	109.16	1374.41	1265.26	98.71	529.59	430.88	1696.14
GUJARAT	255.24	449.66	194.42	61.54	799.89	738.35	932.77
CHHATTISGARH	0.08	106.50	106.42	767.25	2.37	-764.88	-658.45
GOA	0.00	108.19	108.19	34.65	29.36	-5.29	102.89
DD&DNH	0.00	100.75	100.75	4.13	150.36	146.23	246.98
ANDHRA PRADESH	21.51	552.76	531.25	59.24	494.77	435.53	966.78
KARNATAKA	280.04	16.05	-263.99	108.07	144.51	36.43	-227.55
KERALA	0.00	330.59	330.59	17.43	100.12	82.69	413.28
TAMIL NADU	70.07	1230.01	1159.94	57.73	357.03	299.31	1459.25
PONDICHERRY	0.00	24.26	24.26	39.42	0.06	-39.37	-15.11
TELANGANA	105.23	216.70	111.47	341.97	342.01	0.04	111.51
WEST BENGAL	66.14	469.77	403.63	112.99	772.94	659.95	1063.58
ODISHA	57.72	225.68	167.96	113.30	131.18	17.88	185.84
BIHAR	31.52	0.00	-31.52	446.28	11.70	-434.58	-466.10
JHARKHAND	0.00	54.25	54.25	28.11	134.73	106.62	160.87
SIKKIM	7.17	11.14	3.97	19.71	5.33	-14.39	-10.42
DVC	129.69	49.81	-79.87	21.27	38.61	17.34	-62.54
ARUNACHAL PRADESH	5.91	0.00	-5.91	7.36	2.23	-5.13	-11.04
ASSAM	0.00	0.00	0.00	44.41	182.77	138.36	138.36
MANIPUR	2.23	0.00	-2.23	4.41	6.66	2.25	0.02
MEGHALAYA	23.88	2.62	-21.26	0.48	40.70	40.22	18.96
MIZORAM	0.00	0.00	0.00	7.69	0.00	-7.69	-7.69
NAGALAND	2.84	0.00	-2.84	0.82	0.00	-0.82	-3.66
TRIPURA	0.00	0.00	0.00	3.11	37.58	34.47	34.47
NTPC STATIONS-NR	116.20	0.00	-116.20	11.12	0.00	-11.12	-127.32
NEP	0.00	0.00	0.00	0.00	19.41	19.41	19.41
AD HYDRO	28.22	0.00	-28.22	23.89	0.00	-23.89	-52.11
KARCHAM WANGTOO	5.59	0.00	-5.59	19.38	0.00	-19.38	-24.97
SHREE CEMENT	176.36	0.00	-176.36	3.97	0.51	-3.46	-179.81
LANCO BUDHIL	0.00	0.00	0.00	3.34	0.00	-3.34	-3.34
SORANG HEP	20.54	0.00	-20.54	3.60	0.00	-3.60	-24.14
SAINJ HEP	14.38	0.00	-14.38	23.78	0.30	-23.48	-37.86
SB_SLR	12.95	0.00	-12.95	1.48	0.00	-1.48	-14.43
ASEJTL_SLR	0.00	0.00	0.00	11.69	0.00	-11.69	-11.69
SINGOLI BHATWARI HEP	9.99	0.00	-9.99	20.62	0.32	-20.30	-30.29
AHEJ4L_WIND	113.10	0.00	-113.10	0.00	0.00	0.00	-113.10
AHEJ4L_SOLAR	183.40	0.00	-183.40	0.00	0.00	0.00	-183.40
AVAADASN_SLR	78.65	0.00	-78.65	0.00	0.00	0.00	-78.65
NCR ALLAHABAD	0.00	0.00	0.00	0.00	21.04	21.04	21.04
RENEW_SR_SLR	36.73	0.00	-36.73	30.92	0.00	-30.92	-67.65
THARI_SLR	65.03	0.00	-65.03	0.00	0.00	0.00	-65.03
ACME HEERGARH	54.35	0.00	-54.35	0.00	0.00	0.00	-54.35
ABC_BHDL2	72.78	0.00	-72.78	0.00	0.00	0.00	-72.78
KOLYAT_SLR	93.63	0.00	-93.63	0.00	0.00	0.00	-93.63
TATA_GREEN	52.43	0.00	-52.43	0.00	0.00	0.00	-52.43
NTPC STATIONS-WR	1.85	0.00	-1.85	9.78	1.20	-8.58	-10.43
JINDAL POWER	250.76	0.00	-250.76	132.54	0.68	-131.87	-382.63
LANKO_AMK	10.04	0.00	-10.04	0.00	0.00	0.00	-10.04

ACBIL	58.47	0.00	-58.47	38.96	0.76	-38.20	-96.67
BALCO	9.88	11.71	1.83	11.12	22.04	10.92	12.75
RGPPL	0.00	0.00	0.00	6.06	0.00	-6.06	-6.06
CGPL	0.00	0.00	0.00	1.35	0.00	-1.35	-1.35
DCPP	37.20	0.00	-37.20	58.25	2.64	-55.62	-92.82
EMCO	3.27	0.00	-3.27	9.93	0.00	-9.93	-13.20
ESSAR POWER	398.72	0.00	-398.72	109.21	0.00	-109.21	-507.93
JINDAL STAGE-II	313.80	0.00	-313.80	193.73	3.01	-190.72	-504.52
DB POWER	140.32	0.00	-140.32	95.09	0.00	-95.09	-235.41
DHARIWAL POWER	27.51	0.00	-27.51	4.25	0.00	-4.25	-31.76
JAYPEE NIGRIE	230.08	0.00	-230.08	181.09	0.00	-181.09	-411.18
DGEN MEGA POWER	2.92	0.00	-2.92	7.65	0.00	-7.65	-10.57
MB POWER	113.60	0.00	-113.60	141.41	0.00	-141.41	-255.01
MARUTI COAL	6.83	0.00	-6.83	12.00	0.92	-11.07	-17.90
JHABUA POWER_MP	71.22	0.00	-71.22	13.33	0.00	-13.33	-84.55
SASAN UMPP	0.00	0.00	0.00	16.97	0.00	-16.97	-16.97
TRN ENERGY	14.88	0.00	-14.88	30.95	0.00	-30.95	-45.83
RKM POWER	289.32	0.00	-289.32	56.38	0.00	-56.38	-345.70
SKS POWER	115.84	0.00	-115.84	78.69	2.15	-76.53	-192.37
KAPP 3&4	0.00	0.00	0.00	140.34	0.00	-140.34	-140.34
INOX_BHUJ	0.14	0.00	-0.14	3.54	0.00	-3.54	-3.68
REGL	7.83	0.00	-7.83	13.76	0.00	-13.76	-21.59
RPREL	441.68	0.00	-441.68	146.42	0.00	-146.42	-588.10
AMPS Hazira	0.00	247.23	247.23	0.00	62.93	62.93	310.15
RGPPL_IR	0.00	0.00	0.00	2.49	0.86	-1.64	-1.64
ADANI_WIND	5.67	0.00	-5.67	29.18	0.00	-29.18	-34.85
CONTINNUM PT	17.57	0.00	-17.57	6.68	0.00	-6.68	-24.25
RENERGY5_WIND	2.24	0.00	-2.24	15.81	0.00	-15.81	-18.05
NTPC STATIONS-SR	11.17	0.00	-11.17	13.86	0.00	-13.86	-25.02
SIMHAPURI	171.53	0.00	-171.53	7.11	0.26	-6.85	-178.39
COASTGEN	215.68	0.00	-215.68	17.09	0.00	-17.09	-232.77
IL&FS	304.29	0.00	-304.29	19.03	0.00	-19.03	-323.32
NLC	0.00	0.00	0.00	4.97	0.00	-4.97	-4.97
SEMBCORP	460.12	0.00	-460.12	52.66	0.00	-52.66	-512.77
OSTRO Hiriya	6.35	0.00	-6.35	15.28	0.00	-15.28	-21.63
JSW_RENEW_2	16.84	0.00	-16.84	0.00	0.00	0.00	-16.84
NTPC STATIONS-ER	0.00	0.00	0.00	26.19	0.00	-26.19	-26.19
ADHUNIK POWER LTD	102.87	0.00	-102.87	2.16	0.00	-2.16	-105.04
CHUZACHEN HEP	0.00	0.00	0.00	6.47	0.00	-6.47	-6.47
GMR KAMALANGA	60.19	0.00	-60.19	0.52	0.00	-0.52	-60.71
JITPL	299.21	0.00	-299.21	48.34	0.00	-48.34	-347.55
TEESTA HEP	0.00	0.00	0.00	122.23	0.00	-122.23	-122.23
DAGACHU	12.13	0.00	-12.13	0.00	0.00	0.00	-12.13
JORETHANG	0.70	0.00	-0.70	0.60	0.00	-0.60	-1.30
NEPAL(NVVN)	0.00	57.60	57.60	0.60	139.20	138.60	196.20
TEESTA STG3	222.48	0.00	-222.48	0.00	0.00	0.00	-222.48
DIKCHU HEP	45.94	0.00	-45.94	14.70	0.00	-14.70	-60.63
TASHIDENG HEP	2.14	0.00	-2.14	0.01	0.00	-0.01	-2.15
NTPC STATIONS-NER	0.00	0.00	0.00	0.38	0.00	-0.38	-0.38
NEEPCO STATIONS	73.15	0.00	-73.15	18.42	0.00	-18.42	-91.573
ONGC PALATANA	0.00	0.00	0.00	22.90	0.00	-22.90	-22.90

Source: NLDC

* in case of a state, the entities which are "selling" also include generators connected to state grid and the entities which are "buying" also include open access consumers.

** (-) indicates sale and (+) indicates purchase,

*** Total net includes net of transactions through bilateral and power exchanges

Table-30: VOLUME AND CHARGES UNDER DSM (DAY-WISE), MAY 2023				
Date	Volume (MU)	All India Grid Charges (₹/kWh)		
		Minimum	Maximum	Average
1-May-23	83.24	1.78	9.85	3.02
2-May-23	71.70	2.00	9.90	3.41
3-May-23	66.53	1.90	9.86	3.72
4-May-23	67.08	2.00	10.00	4.21
5-May-23	63.47	2.66	10.00	5.09
6-May-23	69.79	2.53	10.00	5.40
7-May-23	65.83	2.00	10.00	4.31
8-May-23	63.76	2.38	10.00	5.49
9-May-23	62.99	2.39	10.00	6.56
10-May-23	60.47	3.00	10.22	6.12
11-May-23	61.17	3.17	10.07	6.01
12-May-23	61.13	3.12	10.04	5.94
13-May-23	65.81	2.92	10.00	5.52
14-May-23	74.06	2.00	10.00	4.31
15-May-23	80.17	2.68	10.00	4.91
16-May-23	69.34	2.79	10.00	5.62
17-May-23	71.39	2.80	10.10	7.44
18-May-23	82.99	2.85	11.35	7.22
19-May-23	65.42	2.85	10.22	7.72
20-May-23	63.47	2.90	10.15	6.75
21-May-23	65.16	2.00	10.09	5.64
22-May-23	71.89	3.16	10.00	6.07
23-May-23	79.38	3.18	10.00	6.90
24-May-23	80.63	2.80	10.00	5.19
25-May-23	83.84	2.04	10.00	3.79
26-May-23	80.43	2.30	10.00	3.75
27-May-23	79.20	1.84	10.00	4.81
28-May-23	85.53	1.80	10.00	4.81
29-May-23	85.77	1.90	10.20	6.00
30-May-23	89.50	1.90	10.00	6.26
31-May-23	68.83	1.90	10.02	5.99
Total	2239.94	1.78[#]	11.35[#]	5.42
Source: NLDC				
[#] Maximum/Minimum in the month				

Table-31: VOLUME OF ELECTRICITY UNDER DRAWAL (EXPORTED) THROUGH DSM, MAY 2023		
Name of the Entity	Volume of Under drawal (MUs)	% of Volume
RAJASTHAN	196.65	8.23
GUJARAT	137.46	5.75
MP	122.51	5.13
UTTAR PRADESH	106.48	4.46
HARYANA	94.09	3.94
PUNJAB	92.79	3.88
TAMIL NADU	77.80	3.26
DELHI	73.53	3.08
NTPC STATIONS-NR	67.27	2.82
NTPC STATIONS-WR	66.76	2.79
CHHATTISGARH	63.67	2.66
KARNATAKA	63.40	2.65
TELANGANA	53.00	2.22
ANDHRA PRADESH	51.08	2.14
NHPC STATIONS	50.29	2.10
MAHARASHTRA	47.43	1.98
J & K	46.45	1.94
NTPC STATIONS-ER	45.02	1.88
NTPC STATIONS-SR	42.57	1.78
UTTARAKHAND	33.34	1.40
DVC	31.36	1.31
SASAN UMPP	30.11	1.26
ODISHA	26.98	1.13
JHARKHAND	25.03	1.05
BIHAR	20.67	0.87
AMPS Hazira	20.42	0.85
NEPAL(NVVN)	20.25	0.85
JINDAL STAGE-II	19.44	0.81
HIMACHAL PRADESH	17.69	0.74
NEEPCO STATIONS	16.48	0.69
BBMB	16.38	0.69
ASSAM	12.90	0.54
PONDICHERRY	12.52	0.52
AGEMPL BHUJ	12.51	0.52
DD&DNH	12.05	0.50
GIWEL_BHUJ	11.49	0.48
RKM POWER	11.41	0.48
NLC	11.21	0.47
IGSTPS	11.04	0.46
NJPC	10.70	0.45
KERALA	9.89	0.41
JINDAL POWER	9.85	0.41
KAPP 3&4	9.23	0.39
LANKO_AMK	9.17	0.38
SBESS	9.06	0.38
NPGC	8.32	0.35
SKRPL	8.18	0.34
AZURE43_SLR	7.92	0.33
MAITHON POWER LTD	7.79	0.33
OSTRO	7.56	0.32
TEESTA HEP	7.16	0.30
ALFANAR_BHUJ	6.86	0.29
GOA	6.77	0.28
OSTRO Hiriya	6.66	0.28
ASEJTL_SLR	6.53	0.27
RENEW_BHUJ	6.49	0.27
AVAADASN_SLR	6.41	0.27
ACME_HEERGARH	6.36	0.27
ARUNACHAL PRADESH	6.33	0.27
SIKKIM	6.19	0.26

RAMPUR HEP	6.13	0.26
AVADARJHN_SLR	6.10	0.26
BALCO	6.10	0.26
THARI_SLR	5.95	0.25
BRBCL,NABINAGAR	5.89	0.25
MIZORAM	5.48	0.23
JITPL	5.47	0.23
CHANDIGARH	5.42	0.23
ESSAR POWER	5.41	0.23
TATA_ANTP	5.40	0.23
ARINSUM_RUMS	5.28	0.22
RPREL	5.23	0.22
MB POWER	5.10	0.21
KARCHAM WANGTOO	5.06	0.21
SPRING_PUGALUR	5.04	0.21
MEGHALAYA	4.90	0.21
SBG_NPK	4.74	0.20
WEST BENGAL	4.69	0.20
FORTUM2_PVGD	4.67	0.20
AZURE41_SLR	4.47	0.19
TRIPURA	4.34	0.18
ACME_RUMS	4.21	0.18
JAYPEE NIGRIE	4.21	0.18
ACME_SLR	4.19	0.18
TEESTA STG3	4.12	0.17
DB POWER	4.08	0.17
AYANA_NPKUNTA	4.03	0.17
JSW_RENEW_2	4.00	0.17
SBSR_SLR	3.97	0.17
NAGALAND	3.95	0.17
GIWEL_TCN	3.92	0.16
ADY1_PVGD	3.89	0.16
RENEWSB	3.78	0.16
NTPC STATIONS-NER	3.77	0.16
MANIPUR	3.70	0.15
NTPL	3.66	0.15
AYANA_RP1	3.64	0.15
BETAM_TCN	3.63	0.15
MSUPL_BHDL2	3.59	0.15
CLEAN_SLR	3.56	0.15
ABC_BHDL2	3.40	0.14
ADANI_WIND	3.30	0.14
JHABUA POWER_MP	3.26	0.14
RGPL	3.26	0.14
AVIKIRAN	3.18	0.13
MAHINDRA_RUMS	3.16	0.13
NETCL VALLUR	3.15	0.13
MYTRAH_TCN	3.06	0.13
NSPCL	3.03	0.13
EDEN_SLR	2.97	0.12
RENEW_SLR_BKN	2.90	0.12
PARAM_PVGD	2.80	0.12
RENEW_SR_SLR	2.78	0.12
TRN ENERGY	2.69	0.11
RAIL	2.67	0.11
RONGNICHU HEP	2.66	0.11
YARROW_PVGD	2.65	0.11
ORANGE_TCN	2.64	0.11
AVAADA1_PVGD	2.63	0.11
RENEWURJA_SLR	2.62	0.11
NTPC_ANTP	2.60	0.11
CLEANSR_SLR	2.59	0.11
AVAADA2_PVGD	2.54	0.11

APRAAVA	2.48	0.10
BARC	2.47	0.10
SESPL	2.46	0.10
TEHRI	2.42	0.10
MRPL	2.37	0.10
CGPL	2.22	0.09
RENEWSW_SLR	2.12	0.09
THERMAL POWERTECH	2.09	0.09
RENEWJH_SLR	2.05	0.09
KSK MAHANADI	2.04	0.09
EMCO	1.98	0.08
RSTPS_FSPP	1.97	0.08
SKS POWER	1.94	0.08
SB_SLR	1.89	0.08
ESPL_RADHANESDA	1.88	0.08
TATA_SLR	1.79	0.07
SEMBCORP	1.77	0.07
MTPS II	1.76	0.07
COASTGEN	1.70	0.07
FORTUM1_PVGD	1.70	0.07
ACBIL	1.62	0.07
DCPP	1.62	0.07
SB6_POKARAN	1.62	0.07
AZURE_SLR	1.57	0.07
AZURE_PVGD	1.54	0.06
GSECL_Radhanesda	1.54	0.06
GRT_JPL	1.54	0.06
NETRA WIND	1.52	0.06
NAPP	1.50	0.06
SHREE CEMENT	1.49	0.06
ARERJL_SLR	1.48	0.06
DIKCHU HEP	1.47	0.06
KOTESHWAR	1.45	0.06
SPRNG_NPKUNTA	1.44	0.06
BANGLADESH	1.42	0.06
ONGC PALATANA	1.39	0.06
TATA_GREEN	1.35	0.06
RENEW_BHACHAU	1.34	0.06
GIPCL_RADHANESDA	1.23	0.05
TPREL_RADHANESDA	1.21	0.05
RANGANADI HEP	1.20	0.05
RANGIT HEP	1.20	0.05
IL&FS	1.18	0.05
POWERICA	1.17	0.05
ADHUNIK POWER LTD	1.17	0.05
ADANI GREEN	1.08	0.05
AZURE_MAPLE_SLR	1.06	0.04
RAP C	1.06	0.04
CHUZACHEN HEP	1.04	0.04
DHARIWAL POWER	1.04	0.04
NEP	1.01	0.04
DAGACHU	0.94	0.04
AKSP_ANTP	0.91	0.04
PARE HEP	0.85	0.04
KREDL_PVGD	0.84	0.04
AHSP_ANTP	0.81	0.03
AZURE34_SLR	0.81	0.03
ABSP_ANTP	0.80	0.03
SAINJ HEP	0.78	0.03
AD HYDRO	0.78	0.03
KSMPL_SLR	0.74	0.03
AKS_PVGD	0.73	0.03
ARS_PVGD	0.73	0.03

LANCO BUDHIL	0.72	0.03
JORETHANG	0.71	0.03
RENEW_SLR	0.70	0.03
TASHIDENG HEP	0.69	0.03
TATA_PVGD	0.67	0.03
RAP B	0.60	0.03
SORANG HEP	0.59	0.02
FRV_NPK	0.58	0.02
SINGOLI BHATWARI HEP	0.56	0.02
RENEW_PVGD	0.54	0.02
AZURE_ANTP	0.52	0.02
SRSSFPL	0.49	0.02
GMR KAMALANGA	0.41	0.02
FRV_ANTP	0.40	0.02
SIMHAPURI	0.35	0.01
DGEN MEGA POWER	0.34	0.01
LOKTAK	0.31	0.01
NFF	0.30	0.01
HVDC CHAMPA	0.26	0.01
SBG_PVGD	0.24	0.01
VINDHYACHAL HVDC	0.18	0.01
DOYANG HEP	0.15	0.01
HVDC PUS	0.14	0.01
Railways_ER ISTS	0.07	0.003
HVDC ALPD	0.04	0.002
HVDC RAIGARH	0.04	0.002
BHADRAVATHI HVDC	0.01	0.0002
Total	2389.28	100.00
Volume Exported by top 5 Regional Entities	657.19	27.51

Table-32: VOLUME OF ELECTRICITY OVER DRAVAL (IMPORTED) THROUGH DSM, MAY 2023		
Name of the Entity	Volume of Over drawal (MUs)	% of Volume
NTPC STATIONS-WR	109.37	5.23
WEST BENGAL	105.31	5.04
NTPC STATIONS-NR	105.17	5.03
MAHARASHTRA	103.45	4.95
NTPC STATIONS-ER	88.18	4.22
UTTAR PRADESH	73.88	3.53
GUJARAT	72.43	3.46
TAMIL NADU	69.46	3.32
ANDHRA PRADESH	68.11	3.26
BIHAR	66.03	3.16
KARNATAKA	64.31	3.08
NTPC STATIONS-SR	56.94	2.72
RAJASTHAN	49.83	2.38
ODISHA	46.68	2.23
TELANGANA	43.64	2.09
HARYANA	39.67	1.90
J & K	28.20	1.35
UTTARAKHAND	26.86	1.28
CGPL	24.52	1.17
JHARKHAND	23.67	1.13
GIWEL_BHUI	21.17	1.01
ASSAM	20.32	0.97
PUNJAB	20.08	0.96
AMPS Hazira	20.00	0.96
DVC	19.74	0.94
AGEMPL BHUI	19.28	0.92
KAPP 3&4	18.35	0.88
SBESS	16.23	0.78
GIWEL_TCN	15.04	0.72
MYTRAH_TCN	14.85	0.71
OSTRO Hiriur	14.76	0.71
NEPAL(NVVN)	14.65	0.70
HIMACHAL PRADESH	14.58	0.70
TRIPURA	14.12	0.68
BETAM_TCN	14.10	0.67
ORANGE_TCN	13.98	0.67
MP	13.54	0.65
NLC	12.84	0.61
NEP	12.69	0.61
IGSTPS	12.49	0.60
AVAADASN_SLR	12.46	0.60
NHPC STATIONS	12.46	0.60
KERALA	12.29	0.59
GOA	10.96	0.52
OSTRO	10.89	0.52
RENEW_BHUI	9.73	0.47
ALFANAR_BHUI	9.11	0.44
CHHATTISGARH	9.09	0.44
BALCO	9.07	0.43
SIMHAPURI	8.26	0.40
ASEJTL_SLR	7.72	0.37
AZURE43_SLR	7.64	0.37
NETCL VALLUR	7.44	0.36
SKRPL	7.43	0.36
NPGC	7.33	0.35
JSW_RENEW_2	7.14	0.34
CHANDIGARH	6.82	0.33
BANGLADESH	6.58	0.31
MEGHALAYA	6.28	0.30
ARUNACHAL PRADESH	5.91	0.28

BRBCL,NABINAGAR	5.89	0.28
AVADARJHN_SLR	5.86	0.28
AZURE_MAPLE_SLR	5.65	0.27
SEBNCORP	5.64	0.27
PONDICHERRY	5.63	0.27
NTPC STATIONS-NER	5.56	0.27
THERMAL POWERTECH	5.43	0.26
AVIKIRAN	5.39	0.26
ABC_BHDL2	5.37	0.26
ADANI_WIND	5.29	0.25
CLEAN_SLR	5.28	0.25
TATA_GREEN	5.00	0.24
THAR1_SLR	4.88	0.23
RENEW_SR_SLR	4.78	0.23
JHABUA POWER_MP	4.75	0.23
SB6_POKARAN	4.74	0.23
TATA_ANTP	4.64	0.22
MB POWER	4.36	0.21
TATA_SLR	4.34	0.21
DELHI	4.34	0.21
RAIL	4.34	0.21
NAPP	4.31	0.21
SIKKIM	4.14	0.20
AYANA_RP1	4.09	0.20
Railways_ER ISTS	3.99	0.19
RENEWSW_SLR	3.91	0.19
EDEN_SLR	3.90	0.19
SHREE CEMENT	3.84	0.18
CLEANSPL_SLR	3.77	0.18
NEEPCO STATIONS	3.76	0.18
AZURE_SLR	3.55	0.17
RENEWJH_SLR	3.49	0.17
NJPC	3.45	0.16
ACBIL	3.35	0.16
NTPL	3.33	0.16
JITPL	3.33	0.16
MTPS II	3.30	0.16
COASTGEN	3.28	0.16
MAHINDRA_RUMS	3.18	0.15
ARERJL_SLR	3.18	0.15
RENEW_BHACHAU	3.17	0.15
APRAAVA	3.16	0.15
GRT_JPL	3.13	0.15
SB_SLR	3.10	0.15
RENEW_SLR_BKN	3.06	0.15
RENEWURJA_SLR	3.05	0.15
MRPL	3.02	0.14
SESPL	3.01	0.14
RENEWSB	3.01	0.14
ACME_RUMS	2.99	0.14
SBG_NPK	2.89	0.14
DGEN MEGA POWER	2.86	0.14
MSUPL_BHDL2	2.83	0.14
ACME_SLR	2.81	0.13
AYANA_NPKUNTA	2.77	0.13
AZURE41_SLR	2.76	0.13
SBSR_SLR	2.76	0.13
MANIPUR	2.58	0.12
DB POWER	2.56	0.12
ARINSUM_RUMS	2.55	0.12
ACME_HEERGARH	2.53	0.12
ADY1_PVGD	2.50	0.12
YARROW_PVGD	2.42	0.12

SKS POWER	2.39	0.11
SPRING_PUGALUR	2.38	0.11
JAYPEE NIGRIE	2.36	0.11
ESPL_RADHANESDA	2.20	0.11
MAITHON POWER LTD	2.20	0.11
TEESTA STG3	2.12	0.10
RSTPS_FSPP	2.10	0.10
NETRA WIND	2.03	0.10
RAP C	2.00	0.10
NTPC_ANTP	1.97	0.09
AZURE34_SLR	1.94	0.09
NSPCL	1.92	0.09
DD&DNH	1.92	0.09
POWERICA	1.88	0.09
ESSAR POWER	1.82	0.09
BBMB	1.74	0.08
JINDAL STAGE-II	1.73	0.08
FORTUM2_PVGD	1.72	0.08
RKM POWER	1.72	0.08
RPREL	1.71	0.08
DHARIWAL POWER	1.67	0.08
KARCHAM WANGTOO	1.53	0.07
AVAADA1_PVGD	1.42	0.07
JINDAL POWER	1.40	0.07
GMR KAMALANGA	1.31	0.06
PARAM_PVGD	1.29	0.06
AVAADA2_PVGD	1.26	0.06
RAP B	1.23	0.06
RANGANADI HEP	1.21	0.06
SPRNG_NPKUNTA	1.16	0.06
TEHRI	1.10	0.05
GIPCL_RADHANESDA	1.05	0.05
AD HYDRO	1.04	0.05
RGPLL	1.03	0.05
TPREL_RADHANESDA	0.98	0.05
CHUZACHEN HEP	0.97	0.05
EMCO	0.95	0.05
DIKCHU HEP	0.94	0.04
AZURE_PVGD	0.87	0.04
RENEW_PVGD	0.86	0.04
SINGOLI BHATWARI HEP	0.85	0.04
KSMPL_SLR	0.85	0.04
IL&FS	0.84	0.04
FORTUM1_PVGD	0.82	0.04
SORANG HEP	0.80	0.04
SRSSFPL	0.79	0.04
SBG_PVGD	0.78	0.04
ONGC PALATANA	0.77	0.04
RENEW_SLR	0.77	0.04
ADANI GREEN	0.73	0.03
KSK MAHANADI	0.72	0.03
FRV_ANTP	0.71	0.03
DCPP	0.71	0.03
ADHUNIK POWER LTD	0.71	0.03
TATA_PVGD	0.65	0.03
AHSP_ANTP	0.62	0.03
ARS_PVGD	0.61	0.03
RAMPUR HEP	0.60	0.03
AKS_PVGD	0.60	0.03
FRV_NPK	0.58	0.03
RONGNICHU HEP	0.58	0.03
ABSP_ANTP	0.56	0.03
MIZORAM	0.55	0.03

SASAN UMPP	0.55	0.03
AZURE_ANTP	0.52	0.02
AKSP_ANTP	0.52	0.02
GSECL_Radhanesda	0.50	0.02
KREDL_PVGD	0.43	0.02
LANKO KONDAPALLI	0.38	0.02
NAGALAND	0.37	0.02
KOTESHWAR	0.32	0.02
TRN ENERGY	0.31	0.01
MEENAKSHI	0.31	0.01
PARE HEP	0.28	0.01
DOYANG HEP	0.24	0.01
DAGACHU	0.22	0.01
RANGIT HEP	0.21	0.01
LANCO BUDHIL	0.20	0.01
TEESTA HEP	0.19	0.01
BHADRAVATHI HVDC	0.14	0.01
NFF	0.14	0.01
SAINJ HEP	0.13	0.01
HVDC RAIGARH	0.11	0.01
LANKO_AMK	0.08	0.004
TASHIDENG HEP	0.07	0.003
BARC	0.04	0.002
LOKTAK	0.04	0.002
JORETHANG	0.03	0.001
HVDC ALPD	0.03	0.001
HVDC CHAMPA	0.02	0.001
HVDC PUS	0.003	0.0002
TOTAL	2090.60	100.00
Volume Imported by top 5 Regional Entities	511.48	24.47

Table-33: VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTED THROUGH POWER EXCHANGES, MAY 2023

Sr. No	Details of REC Transactions	Through Power Exchange			Bilateral through Traders
		IEX	PXIL	HPX	
1	Volume of Buy Bid	181644	92250	0	-
2	Volume of Sell Bid	10994129	3378295	177370	-
3	Ratio of Buy Bid to Sell Bid Volume	0.02	0.03	0.00	-
4	Traded Volume (MWh)	142461	92250	0	65713
5	Weighted average Price (₹/MWh)	899.00	950.00	-	945.76

Source: Power Exchanges & Grid-India REC Report

Note: 1 REC = 1 MWh

Under the CERC REC Regulations 2022, the categorization of RECs has been dispensed with and exchange of RECs through trading licensees has also been allowed

Table-34: VOLUME AND PRICE OF CROSS BORDER TRADE THROUGH DAY AHEAD MARKET AT IEX, MAY 2023

Sr. No.	Neighbouring Country	Volume (MU)			Weighted Average Price (₹/kWh)	
		Sale	Purchase	Net*	Sale	Purchase
1	Nepal	0.60	158.60	158.00	2.32	4.22
2	Bhutan	0.00	0.00	0.00	-	-
	Total	0.60	158.60	158.00	-	-

Source: IEX

* Net indicates difference of volume purchased and sold by the respective neighbouring country

Note: No Cross Border transactions were recorded in DAM at PXIL and HPX



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