

Monthly Report on Short-term Transactions of Electricity in India

March, 2015



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Abbreviations

| Abbreviation | Expanded Version |
|------------------|---|
| ACBIL | ACB (India) Limited |
| ACP | Area Clearing Price |
| ACV | Area Clearing Volume |
| AD HYDRO | AD Hydro Power Limited |
| BALCO | Bharat Aluminum Company Limited |
| CEA | Central Electricity Authority |
| CERC | Central Electricity Regulatory Commission |
| CGPL | Coastal Gujarat Power Limited |
| CHUZACHEN HEP | Chuzachen Hydro electric power project |
| Dagachu | Dagachhu Hydro Power Corporation |
| DB Power | Diligent Power Pvt. Ltd. |
| DCPP | Donga Mahua Captive Power Plant |
| DGEN Mega Power | DGEN Mega Power Project |
| DHARIWAL POWER | Dhariwal Power Station |
| DSM | Deviation Settlement Mechanism |
| DVC | Damodar Valley Corporation |
| EMCO | EMCO Energy Limited |
| ESSAR POWER | Essar Power Limited |
| ESSAR STEEL | Essar Steel Ltd |
| GMR CHHATTISGARH | GMR Chhattisgarh Energy Limited |
| GMR KAMALANGA | GMR Kamalanga Energy Ltd. |
| IEX | Indian Energy Exchange Limited |
| J&K | Jammu & Kashmir |
| JAYPEE NIGRIE | Jaypee Nigrie Super Thermal Power Project |
| JINDAL POWER | Jindal Power Limited |
| JINDAL STAGE-II | Jindal Power Ltd Stage II |
| JITPL | Jindal India Thermal Power Ltd. |
| KARCHAM WANGTOO | Jaypee Karcham Hydro Corporation Limited |
| KORBA West Power | Korba West Power Company Limited |
| KSK MAHANADI | KSK Mahanadi Power Ltd |
| LANCO BUDHIL | Lanco Budhil Hydro Power Private Limited |
| LANCO_AMK | Lanco Amarkantak Power Private Limited |
| LANCO_KONDAPALLY | Lanco Kondapally Power Private Limited |
| MAITHON | Maithon Power Limited |
| MALANA | Malana Hydroelectric Plant |
| Meenakshi | Meenakshi Energy Private Limited |
| MP | Madhya Pradesh |
| MUs | Million Units |

| | |
|-----------------|--|
| NEEPCO Stations | North Eastern Electric Power Corporation Limited. Stations |
| NHPC Stations | National Hydro Electric Power Corporation Ltd. Stations |
| NJPC | Nathpa Jhakri Hydroelectric Power Station |
| NLDC | National Load Despatch Centre |
| NSPCL | NTPC - SAIL Power Company Private Limited |
| ONGC PALATANA | Oil and Natural Gas Corporation, Palatana |
| OTC | Over The Counter |
| PX | Power Exchange |
| PXIL | Power Exchange India Limited |
| RANGIT HEP | Rangit Hydro electric power project |
| REC | Renewable Energy Certificate |
| RGPPL | Ratnagiri Gas and Power Private Limited |
| RLDC | Regional Load Despatch Centre |
| RTC | Round - the- Clock |
| SHREE CEMENT | Shree Cement Limited |
| SIMHAPURI | Simhapuri Energy Private Limited |
| STERLITE | Sterlite Energy Limited |
| TEESTA HEP | Teesta Hydro electric power project |
| UT | Union Territory |
| VANDANA VIDYUT | Vandana Vidyut Limited |

Introduction

A well-functioning electricity market requires an effective market monitoring process. As part of the market monitoring process, the monthly report on short-term transactions of electricity, is being prepared and posted on the website of CERC since August 2008. Here, “short-term transactions of electricity” refers to the contracts of less than one year period, for electricity transacted (inter-state & intra-state) through Inter-State Trading Licensees and directly by the Distribution Licensees, Power Exchanges (Indian Energy Exchange Ltd (IEX) and Power Exchange India Ltd (PXIL)), and Deviation Settlement Mechanism (DSM). The objectives of the report are: (i) to observe the trends in volume and price of the short-term transactions of electricity; (ii) to analyse competition among the market players; (iii) to analyse effect of congestion on volume of electricity transacted through power exchanges; (iv) to analyse bilateral contracts executed by traders; (v) to provide information on volume and price of Renewable Energy Certificates (RECs) transacted through power exchanges; and (vi) to disclose/disseminate all relevant market information. The analysis of the report for the month of March, 2015 is as under:

I: Volume of Short-term Transactions of Electricity

During the month of March 2015, total electricity generation excluding generation from renewable and captive power plants in India was 86337.81 MUs (Table-1).

Of the total electricity generation, 7670.91 MUs (8.88%) were transacted through short-term, comprising of 3710.28 MUs (4.30%) through bilateral (through traders and term-ahead contracts on power exchanges and directly between distribution companies), followed by 2304.54 MUs (2.67%) through day ahead collective transactions on power exchanges (IEX and PXIL) and 1656.08 MUs (1.92%) through DSM (Table-1 & Figure-2).

Of the total short-term transactions, bilateral constitutes 48.37% (31.75% through traders and term-ahead contracts on power exchanges and 16.62% directly between distribution companies) followed by 30.04% through day ahead collective transactions on power exchanges and 21.59% through DSM (Table-1& Figure-1). Daily volume of short-term transactions is shown in Table-17 & Figure-3.

The percentage share of electricity traded by each trading licensee in the total volume of electricity traded by all trading licensees is provided in Table-2 & Figure-4. The trading licensees undertake electricity transactions through bilateral and power exchanges. The volume of electricity transacted by the trading licensees includes bilateral transactions and the transactions undertaken through power exchanges. There were 47 trading licensees as on 31.03.2015, of which only 23 were engaged in trading during March 2015. Top 5 trading licensees had a share of 65.97% in the total volume traded by all the licensees.

Herfindahl-Hirschman Index (HHI) has been used for measuring the competition among the trading licensees. Increase in the HHI generally indicates a decrease in competition and an increase of market concentration, and vice versa. The HHI below 0.15 indicates non-concentration, HHI between 0.15 to 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 0.1306 for the month of March 2015, which indicates non-concentration of market power (Table-2).

The volume of electricity transacted through IEX and PXIL in the day ahead market was 2276.76 MUs and 27.78 MUs respectively. The volume of total buy bids and sale bids was 3164.93 MUs and 3935.27 MUs respectively in IEX and while the same was 62.48 MUs and 100.18 MUs respectively in PXIL. The gap between the volume of buy bids and sale bids placed through power exchanges shows that there was lesser demand in both IEX (0.80 times) and PXIL (0.62 times) when compared with the supply offered through these exchanges.

The volume of electricity transacted through IEX and PXIL in the term-ahead market was 7.47 MUs and 39.63 MUs respectively (Table-6 & Table-7).

II: Price of Short-term Transactions of Electricity

(i) *Price of electricity transacted through Traders:* The minimum, maximum and weighted average sale prices have been computed for the electricity transacted through traders and the sale prices were ₹2.92/kWh, ₹7.99/kWh and ₹4.49/kWh respectively (Table-3). Weighted average sale prices were also computed for the transactions during Round the

Clock (RTC), Peak, and Off-Peak periods separately, and the sale prices were ₹4.57/kWh, ₹4.08/kWh and ₹3.34/kWh respectively (Table-4).

(ii) Price of electricity transacted Through Power Exchanges: The minimum, maximum and weighted average prices have been computed for the electricity transacted through IEX and PXIL separately. The minimum, maximum and weighted average prices were ₹0.80/kWh, ₹20.00/kWh and ₹2.78/kWh respectively in IEX and ₹1.00/kWh, ₹4.01/kWh and ₹2.65/kWh respectively in PXIL (Table-5).

The price of electricity transacted through IEX and PXIL in the term-ahead market was ₹3.34/kWh and ₹2.38/kWh respectively (Table-6 and Table-7).

(iii) Price of electricity transacted through DSM: The average deviation price was ₹1.87/kWh for all India grid. The minimum and maximum deviation prices were ₹0.00/kWh and ₹8.24/kWh respectively in the all India grid (Table-8).

The prices of electricity transacted through trading licensees, power exchanges and DSM and their comparison is shown in Table-18, Figure-5 & 6.

III: Volume of Short-term Transactions of Electricity (Regional Entity¹-Wise)

Of the total bilateral transactions, top 5 regional entities sold 46.39% of the volume, and these were GMR Kamalanga Energy Ltd., Karnataka, Delhi, Haryana and Lanco Kondapally Power Private Ltd. Top 5 regional entities purchased 48.90% of the volume, and these were Maharashtra, Telangana, Jammu & Kashmir, Haryana and Andhra Pradesh. (Table-9, 10 & 19).

Of the total Power Exchange transactions, top 5 regional entities sold 40.99% of the volume, and these were Madhya Pradesh, Himachal Pradesh, Karnataka, Donga Mahua Captive Power Plant and Sterlite Energy Ltd. Top 5 regional entities purchased 59.55% of the volume, and these were Rajasthan, Gujarat, Essar Steel Ltd., Telangana and Uttarakhand. (Table-11, 12 & 19).

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.

Of the total DSM transactions, top 5 regional entities underdrew 43.54% of the volume, and these were Uttar Pradesh, Maharashtra, Haryana, Jammu & Kashmir, Madhya Pradesh. Top 5 regional entities overdrew 28.43% of the volume, and these were Punjab, Rajasthan, Karnataka, West Bengal and Gujarat. (Table-13, 14 & 19).

Regional entity-wise total volume of net short-term transactions of electricity i.e. volume of net transactions through bilateral, power exchanges and DSM is shown in Table-15 & 19. Top 5 electricity selling regional entities were GMR Kamalanga Energy Ltd., Karnataka, Madhya Pradesh, Lanco Kondapally Power Private Ltd. and Delhi. Top 5 electricity purchasing regional entities were Telangana, Andhra Pradesh, Maharashtra, Rajasthan and Tamilnadu.

IV: Congestion² on Inter-state Transmission Corridor for Day-Ahead Market on Power Exchanges

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 step 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.

In the month of March 2015, congestion occurred in both the power exchanges. The details of congestion are shown in Table-16. The volume of electricity that could not be cleared due to congestion and could not be transacted through power exchanges is the

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 Exchange 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.

difference between unconstrained cleared volume (volume of electricity that would have been scheduled, had there been no congestion) and actual cleared volume.

During the month, the volume of electricity that could not be cleared in the power exchanges due to congestion was 14.94% and 21.83% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 100% in IEX and 74.93% in PXIL (Table-16).

V: Analysis of Bilateral Contracts executed by Traders in April 2015⁴

(i) Duration of bilateral contracts: During April 2015, a total of 90 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 1598 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 58.9% of the contracts were executed for a duration of up to one week, followed by 40% of the contracts executed for a duration of more than a week and upto one month and 1.1% of the contracts executed for a duration more than one month and upto three months.

During the month, 11 banking/swapping bilateral contracts were also executed for the volume of 295 MUs.

(ii) Forward Curve based on price of bilateral contracts: A forward curve reflects present day's expectation of prices for a future period. The forward curve of electricity prices are based on sale prices of bilateral contracts executed by traders. For constructing the forward curve, the price of each contract is taken to be price for each day of that contract's period. On the basis of these prices, weighted average price for each day is calculated using various sale prices of contracts for delivery on that particular day.

Figure-8 represents the forward curve of electricity sale prices for the period from May, 2015 to May, 2016 based on bilateral contracts⁵ executed till April, 2015. The forward curve drawn for March, 2015 has also been depicted for the period May, 2015 onwards for comparison purposes. It is observed that the forward prices from June to September, 2015

⁴ 'Monthly OTC (Electricity Traders) report' based on analysis of weekly reports has been discontinued and Analysis of Bilateral Contracts is being presented in this report hereinafter.

⁵ Excluding Banking/Swapping contracts

were lower for the contracts made in April, 2015 compared to the contracts made in March, 2015. However, the forward prices remain same for the period beyond September, 2015.

VI: Volume and Price of Renewable Energy Certificates (RECs)

The concept of Renewable Energy Certificates (RECs) seeks to address mismatch between availability of renewable energy sources 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 development of market in electricity.

One REC is equivalent to 1 MWh of 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 session was held on power exchanges in March, 2011.

The details of REC transactions for the month of March, 2015 are shown in Table-20. The market clearing volume of Solar RECs transacted on IEX and PXIL were 39385 and 29597 respectively and the market clearing price of these RECs was ₹3500/MWh on both the power exchanges. Market clearing volume of Non-Solar RECs transacted on IEX and PXIL were 279205 and 375780 respectively and the market clearing price of these RECs was ₹1500/MWh on both the power exchanges.

The gap between the volume of buy and sell bids of RECs placed through power exchanges show that there was less demand for Solar RECs and Non-Solar RECs. For Solar RECs, the ratio of buy and sell bids was 0.04 and 0.05 for IEX and PXIL respectively. For Non-Solar RECs, the ratio of buy and sell bids was 0.05 for IEX and 0.07 for PXIL.

VII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 8.88%.
- Of the total short-term transactions of electricity, 48.37% was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 30.04% through power exchanges and 21.59% through DSM.
- Top 5 trading licensees had a share of 65.97% in the total volume traded by all the trading licensees.
- The Herfindahl Hirschman Index computed for the volume of electricity traded by trading licensees was 0.1306, indicating non-concentration of market power.
- The weighted average price of electricity transacted through trading licensees was ₹4.49/kWh. The weighted average prices of electricity transacted through IEX and PXIL were ₹2.78/kWh and ₹2.65/kWh respectively.
- The average price of electricity transacted through DSM was ₹1.87/kWh
- The gap between the volume of buy bids and sale bids placed through power exchanges indicates that there was less demand in both IEX (1: 0.80) and PXIL (1: 0.62) when compared with the supply offered through these exchanges.
- Top 5 electricity selling regional entities were GMR Kamalanga Energy Ltd., Karnataka, Madhya Pradesh, Lanco Kondapally Power Private Ltd. and Delhi. Top 5 electricity purchasing regional entities were Telangana, Andhra Pradesh, Maharashtra, Rajasthan and Tamil Nadu.
- The volume of electricity that could not be cleared in the power exchanges due to congestion was 14.94% and 21.83% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 100% in IEX and 74.93% in PXIL.

- In April 2015, 58.9% of the contracts were executed for a duration of up to one week, followed by 40% of the contracts executed for a duration of more than a week and upto one month and 1.1% of the contracts executed for a duration of more than one month and upto three months.
- The forward prices from June to September, 2015 were lower for the contracts made in April, 2015 when compared to the contracts made in March, 2015. However, the forward prices remain same for the period beyond September, 2015.
- The market clearing volume of Solar RECs transacted on IEX and PXIL were 39385 and 29597 respectively and the market clearing price of these RECs was ₹3500/MWh on both the power exchanges. Market clearing volume of Non-Solar RECs transacted on IEX and PXIL were 279205 and 375780 respectively and the market clearing price of these RECs was ₹1500/MWh on both the power exchanges.

Table-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA), MARCH 2015

| Sr.No | Short-term transactions | Volume (MUs) | % to Volume of short-term transactions | % to Total Generation |
|-------|-----------------------------|-----------------|--|-----------------------|
| 1 | Bilateral | 3710.28 | 48.37 | 4.30 |
| | (i) Through Traders and PXs | 2435.21 | 31.75 | 2.82 |
| | (ii) Direct | 1275.07 | 16.62 | 1.48 |
| 2 | Through Power Exchanges | 2304.54 | 30.04 | 2.67 |
| | (i) IEX | 2276.76 | 29.68 | 2.64 |
| | (ii) PXIL | 27.78 | 0.36 | 0.03 |
| 3 | Through DSM | 1656.08 | 21.59 | 1.92 |
| | Total | 7670.91 | 100.00 | 8.88 |
| | Total Generation | 86337.81 | — | — |

Source: NLDC

Figure-1: Volume of Short-term Transactions of Electricity, March 2015

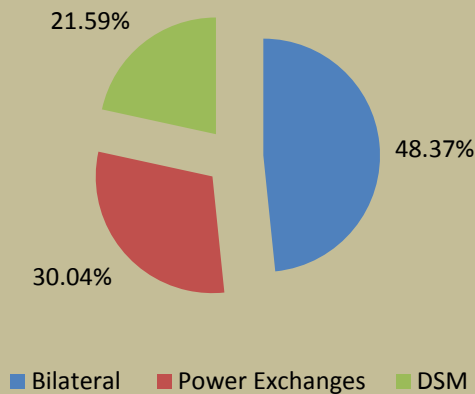


Figure-2: Volume of Various Kinds of Electricity Transactions in Total Electricity Generation, March 2015

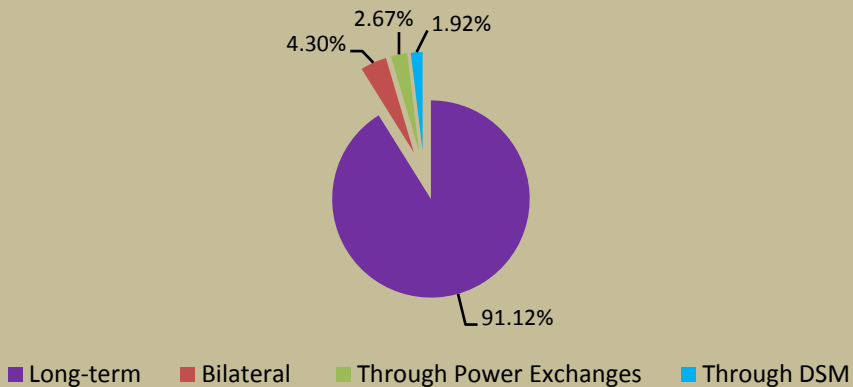
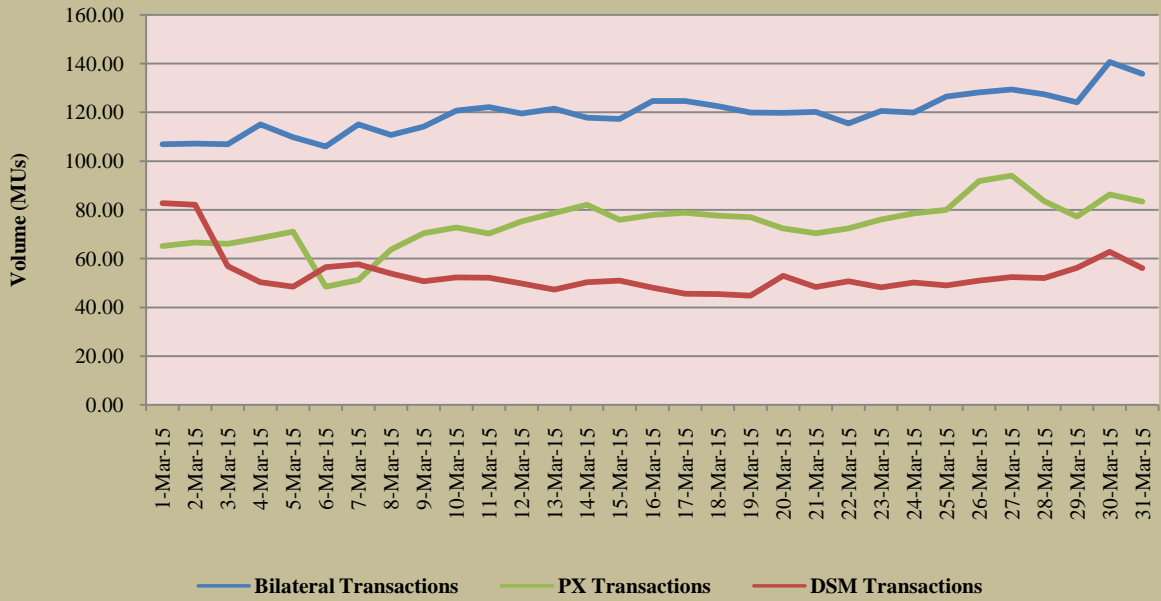
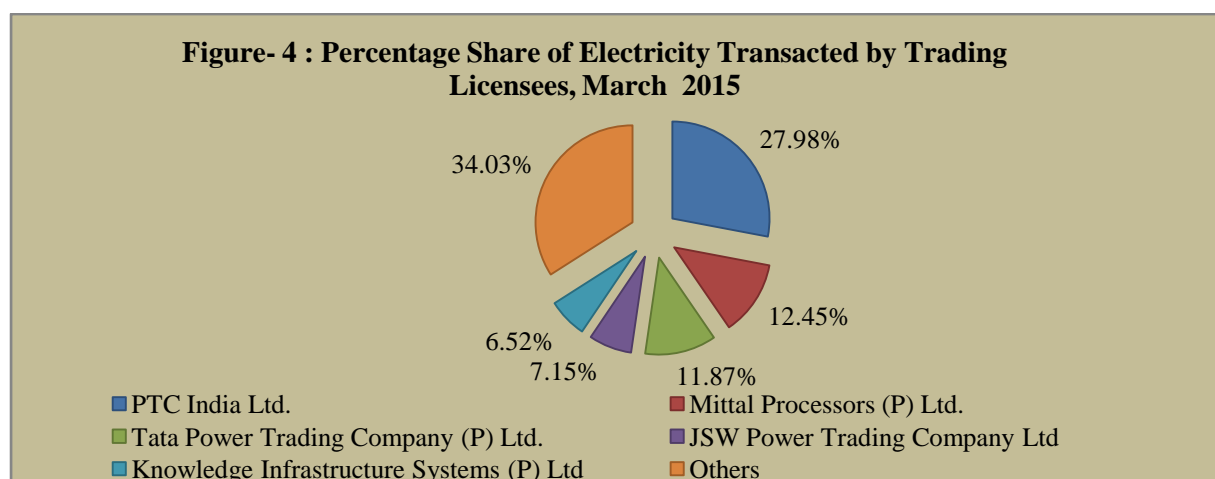


Figure-3: Volume of Short-term Transactions of Electricity, March 2015 (Day-wise)



| Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, MARCH 2015 | | | |
|---|---|--|-----------------------------------|
| Sr.No | Name of the Trading Licensee | % Share in total Volume transacted by Trading Licensees | Herfindahl-Hirschman Index |
| 1 | PTC India Ltd. | 27.98 | 0.0783 |
| 2 | Mittal Processors (P) Ltd. | 12.45 | 0.0155 |
| 3 | Tata Power Trading Company (P) Ltd. | 11.87 | 0.0141 |
| 4 | JSW Power Trading Company Ltd | 7.15 | 0.0051 |
| 5 | Knowledge Infrastructure Systems (P) Ltd | 6.52 | 0.0042 |
| 6 | GMR Energy Trading Ltd. | 5.88 | 0.0035 |
| 7 | Manikaran Power Ltd. | 5.61 | 0.0032 |
| 8 | Shree Cement Ltd. | 4.53 | 0.0021 |
| 9 | NTPC Vidyut Vyapar Nigam Ltd. | 4.50 | 0.0020 |
| 10 | Adani Enterprises Ltd. | 3.74 | 0.0014 |
| 11 | Jaiprakash Associates Ltd. | 2.57 | 0.0007 |
| 12 | Instinct Infra & Power Ltd. | 1.31 | 0.0002 |
| 13 | Reliance Energy Trading (P) Ltd | 1.13 | 0.0001 |
| 14 | National Energy Trading & Services Ltd. | 1.11 | 0.0001 |
| 15 | RPG Power Trading Company Ltd. | 0.95 | 0.0001 |
| 16 | Ambitious Power Trading Company Ltd. | 0.85 | 0.0001 |
| 17 | Arunachal Pradesh Power Corporation (P) ltd | 0.46 | 0.0000 |
| 18 | Indrajit Power Technology (P) Ltd. | 0.36 | 0.0000 |
| 19 | SN Power Markets Pvt. Ltd. | 0.35 | 0.0000 |
| 20 | My Home Power Private Ltd. | 0.31 | 0.0000 |
| 21 | Parshavanath Power Projects Private Limited | 0.14 | 0.0000 |
| 22 | Customized Energy Solutions India (P) Ltd. | 0.13 | 0.0000 |
| 23 | Essar Electric Power Development Corp. Ltd. | 0.10 | 0.0000 |
| TOTAL | | 100.00 | 0.1306 |
| Top 5 Trading licensees | | 65.97 | |
| <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> | | | |



| Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, MARCH 2015 | | |
|--|------------------|-------------------------------|
| Sr.No | | Sale Price of Traders (₹/kWh) |
| 1 | Minimum | 2.92 |
| 2 | Maximum | 7.99 |
| 3 | Weighted Average | 4.49 |

Source: Information submitted by trading licensees

| Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), MARCH 2015 | | |
|--|-----------------|-------------------------------|
| Sr.No | Period of Trade | Sale Price of Traders (₹/kWh) |
| 1 | RTC | 4.57 |
| 2 | PEAK | 4.08 |
| 3 | OFF PEAK | 3.34 |

Source: Information submitted by trading licensees

| Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, MARCH 2015 | | | |
|--|------------------|----------------------|-----------------------|
| Sr.No | ACP | Price in IEX (₹/kWh) | Price in PXIL (₹/kWh) |
| 1 | Minimum | 0.80 | 1.00 |
| 2 | Maximum | 20.00 | 4.01 |
| 3 | Weighted Average | 2.78 | 2.65 |

Source: Information submitted by IEX and PXIL

| Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, MARCH 2015 | | | |
|--|----------------------|-------------------------------|--------------------------------|
| Sr.No | Term ahead contracts | Actual Scheduled Volume (MUs) | Weighted Average Price (₹/kWh) |
| 1 | Intra-Day Contracts | 7.47 | 3.34 |
| | Total | 7.47 | 3.34 |

Source: IEX

| Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, MARCH 2015 | | | |
|---|----------------------|-------------------------------|--------------------------------|
| Sr.No | Term ahead contracts | Actual Scheduled Volume (MUs) | Weighted Average Price (₹/kWh) |
| 1 | Intra-Day Contracts | 0.75 | 4.00 |
| 2 | Daily Contracts | 26.88 | 2.45 |
| 3 | Weekly Contracts | 12.00 | 2.13 |
| | Total | 39.63 | 2.38 |

Source: PXIL

| Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH DSM, MARCH 2015 | | |
|--|---------|---------------------------------|
| Sr.No | | Price in All India Grid (₹/kWh) |
| 1 | Minimum | 0.00 |
| 2 | Maximum | 8.24 |
| 3 | Average | 1.87 |

Source: NLDC

Figure-5: Price of Short-term Transactions of Electricity, March 2015

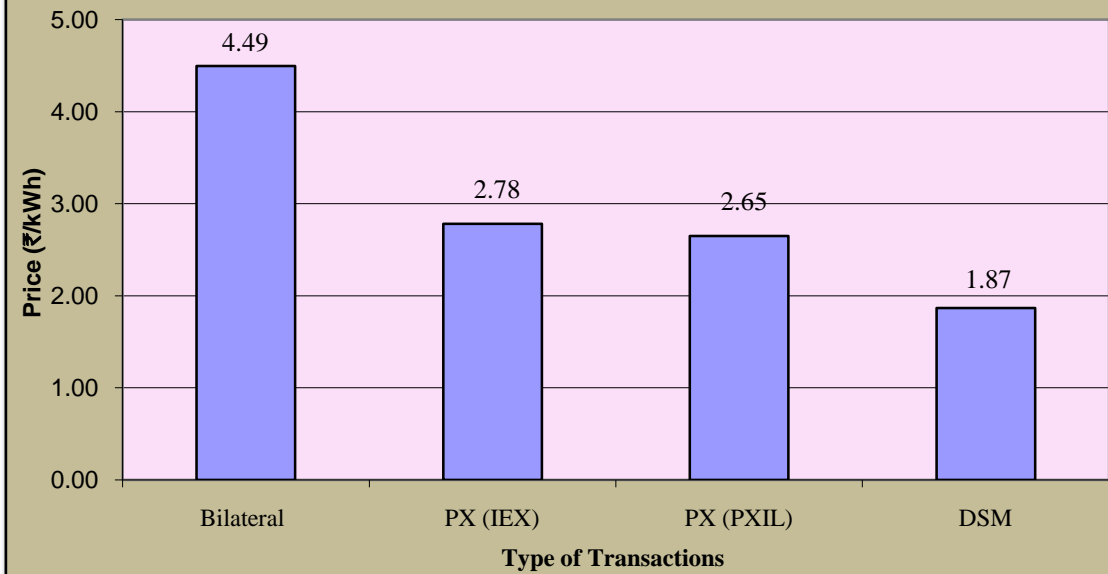
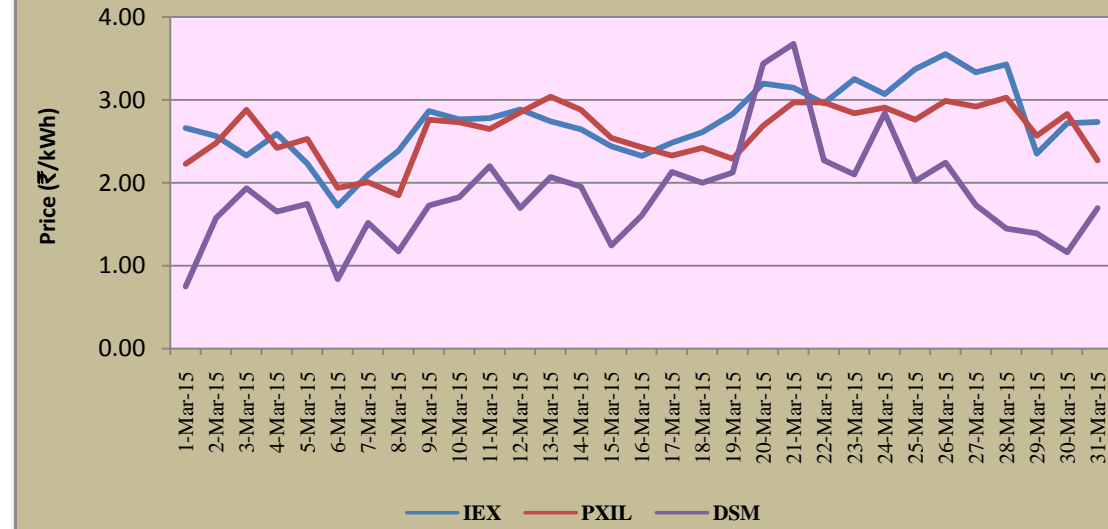


Figure-6: Price of Short-term Transactions of Electricity, March 2015 (Day-wise)



| Table-9: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL, MARCH 2015 | | |
|--|-----------------------------|--------------------|
| Name of the State/UT/Other Regional Entity | Volume of Sale (MUs) | % of Volume |
| GMR KAMALANGA | 367.01 | 9.96 |
| Karnataka | 363.12 | 9.86 |
| Delhi | 358.31 | 9.73 |
| Haryana | 316.20 | 8.58 |
| LANCO_KONDAPALLY | 303.97 | 8.25 |
| SIMHAPURI | 235.88 | 6.40 |
| JINDAL POWER | 222.49 | 6.04 |
| Punjab | 220.44 | 5.98 |
| Gujarat | 191.66 | 5.20 |
| MP | 133.32 | 3.62 |
| Himachal Pradesh | 112.06 | 3.04 |
| STERLITE | 111.68 | 3.03 |
| ADHUNIK POWER LTD | 104.97 | 2.85 |
| Meenakshi | 104.19 | 2.83 |
| DVC | 85.36 | 2.32 |
| JINDAL STAGE-II | 67.13 | 1.82 |
| Rajasthan | 56.68 | 1.54 |
| SHREE CEMENT | 56.56 | 1.54 |
| Orissa | 53.60 | 1.46 |
| Uttar Pradesh | 50.75 | 1.38 |
| Uttarakhand | 35.82 | 0.97 |
| J & K | 27.59 | 0.75 |
| ACBIL | 23.12 | 0.63 |
| MAITHON POWER LTD | 15.52 | 0.42 |
| JITPL | 15.34 | 0.42 |
| Dagachu | 9.31 | 0.25 |
| KARCHAM WANGTOO | 8.56 | 0.23 |
| NSPCL | 8.00 | 0.22 |
| Assam | 7.20 | 0.20 |
| Tripura | 5.92 | 0.16 |
| EMCO | 5.00 | 0.14 |
| Chattisgarh | 4.44 | 0.12 |
| ESSAR POWER | 0.78 | 0.02 |
| Goa | 0.64 | 0.02 |
| West Bengal | 0.50 | 0.01 |
| AD HYDRO | 0.32 | 0.01 |
| DCPP | 0.06 | 0.00 |
| Kerala | 0.05 | 0.00 |
| Total | 3683.54 | 100.00 |
| Volume of sale by top 5 Sellers | 1708.62 | 46.39 |

| Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL, MARCH 2015 | | |
|---|---------------------------------|--------------------|
| Name of the State/UT/Other Regional Entity | Volume of Purchase (MUs) | % of Volume |
| Maharashtra | 432.27 | 11.65 |
| Telangana | 404.83 | 10.91 |
| J & K | 333.64 | 8.99 |
| Haryana | 330.26 | 8.90 |
| Andhra Pradesh | 312.94 | 8.44 |
| Tamilnadu | 304.13 | 8.20 |
| Himachal Pradesh | 259.69 | 7.00 |
| Chattisgarh | 209.48 | 5.65 |
| Uttar Pradesh | 148.97 | 4.02 |
| Uttarakhand | 148.80 | 4.01 |
| Jharkhand | 147.88 | 3.99 |
| Orissa | 132.39 | 3.57 |
| Bihar | 107.07 | 2.89 |
| Kerala | 101.99 | 2.75 |
| West Bengal | 87.85 | 2.37 |
| Assam | 74.32 | 2.00 |
| Dadra & Nagar Haveli | 36.58 | 0.99 |
| Goa | 36.23 | 0.98 |
| Meghalaya | 36.21 | 0.98 |
| MP | 19.07 | 0.51 |
| Gujarat | 15.77 | 0.43 |
| Nagaland | 10.62 | 0.29 |
| ESSAR STEEL | 6.97 | 0.19 |
| Punjab | 5.19 | 0.14 |
| Rajasthan | 1.60 | 0.04 |
| GMR Chattisgarh | 1.50 | 0.04 |
| Delhi | 1.45 | 0.04 |
| Karnataka | 0.78 | 0.02 |
| Tripura | 0.67 | 0.02 |
| Total | 3709.16 | 100.00 |
| Volume of Purchase by top 5 Buyers | 1813.93 | 48.90 |

| Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, MARCH 2015 | | |
|---|-----------------------------|--------------------|
| Name of the State/UT/Other Regional Entity | Volume of Sale (MUs) | % of Volume |
| MP | 329.62 | 14.30 |
| Himachal Pradesh | 188.18 | 8.17 |
| Karnataka | 162.59 | 7.06 |
| DCPP | 140.43 | 6.09 |
| STERLITE | 123.81 | 5.37 |
| JITPL | 109.67 | 4.76 |
| Chattisgarh | 91.35 | 3.96 |
| J & K | 90.78 | 3.94 |
| GMR KAMALANGA | 86.35 | 3.75 |
| JAYPEE NIGRIE | 78.32 | 3.40 |
| JINDAL STAGE-II | 77.29 | 3.35 |
| Haryana | 75.43 | 3.27 |
| Rajasthan | 69.36 | 3.01 |
| MAITHON POWER LTD | 64.30 | 2.79 |
| KARCHAM WANGTOO | 58.56 | 2.54 |
| ACBIL | 56.70 | 2.46 |
| Delhi | 54.55 | 2.37 |
| SHREE CEMENT | 51.39 | 2.23 |
| Orissa | 35.26 | 1.53 |
| JINDAL POWER | 29.09 | 1.26 |
| Andhra Pradesh | 28.80 | 1.25 |
| Tripura | 28.71 | 1.25 |
| West Bengal | 28.26 | 1.23 |
| Telangana | 24.27 | 1.05 |
| Maharashtra | 23.02 | 1.00 |
| SIMHAPURI | 22.21 | 0.96 |
| Gujarat | 21.63 | 0.94 |
| Goa | 16.51 | 0.72 |
| NHPC Stations | 15.55 | 0.67 |
| TEESTA HEP | 12.63 | 0.55 |
| DVC | 12.49 | 0.54 |
| Sikkim | 12.22 | 0.53 |
| AD HYDRO | 11.94 | 0.52 |
| Uttarakhand | 9.78 | 0.42 |
| LANCO BUDHIL | 9.13 | 0.40 |
| KORBA WEST Power | 8.47 | 0.37 |
| ADHUNIK POWER LTD | 7.66 | 0.33 |
| CHUZACHEN HEP | 6.25 | 0.27 |
| Meenakshi | 5.79 | 0.25 |
| NJPC | 5.14 | 0.22 |
| Manipur | 4.47 | 0.19 |
| Kerala | 4.02 | 0.17 |
| UT Chandigarh | 3.16 | 0.14 |
| RANGIT HEP | 2.66 | 0.12 |
| EMCO | 2.45 | 0.11 |
| NEEPCO Stations | 1.45 | 0.06 |
| ONGC PALATANA | 1.12 | 0.05 |
| Assam | 0.95 | 0.04 |
| Mizoram | 0.78 | 0.03 |
| Total | 2304.54 | 100.00 |
| Volume of sale by top 5 Sellers | 944.64 | 40.99 |

| Table-12: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGES, MARCH 2015 | | |
|---|---------------------------------|--------------------|
| Name of the State/UT/Other Regional Entity | Volume of Purchase (MUs) | % of Volume |
| Rajasthan | 469.43 | 20.37 |
| Gujarat | 301.43 | 13.08 |
| ESSAR STEEL | 283.20 | 12.29 |
| Telangana | 160.41 | 6.96 |
| Uttarakhand | 157.78 | 6.85 |
| Punjab | 127.73 | 5.54 |
| Haryana | 99.66 | 4.32 |
| West Bengal | 95.82 | 4.16 |
| Delhi | 95.01 | 4.12 |
| MP | 83.10 | 3.61 |
| Andhra Pradesh | 83.03 | 3.60 |
| Tamilnadu | 71.93 | 3.12 |
| Assam | 45.51 | 1.97 |
| Karnataka | 44.26 | 1.92 |
| Daman and Diu | 33.48 | 1.45 |
| BALCO | 26.66 | 1.16 |
| Maharashtra | 26.45 | 1.15 |
| Uttar Pradesh | 17.45 | 0.76 |
| Himachal Pradesh | 17.04 | 0.74 |
| Chattisgarh | 13.60 | 0.59 |
| Manipur | 9.88 | 0.43 |
| Arunachal Pradesh | 8.68 | 0.38 |
| Meghalaya | 8.58 | 0.37 |
| Kerala | 8.30 | 0.36 |
| Orissa | 7.33 | 0.32 |
| Goa | 2.91 | 0.13 |
| Bihar | 2.27 | 0.10 |
| Nagaland | 1.55 | 0.07 |
| Mizoram | 0.90 | 0.04 |
| DB POWER | 0.52 | 0.02 |
| J & K | 0.40 | 0.02 |
| UT Chandigarh | 0.24 | 0.01 |
| Total | 2304.54 | 100.00 |
| Volume of purchase by top 5 Buyers | 1372.26 | 59.55 |

| Table-13: VOLUME OF ELECTRICITY EXPORT THROUGH DSM, MARCH 2015 | | |
|--|------------------------|---------------|
| Name of the State/UT/Other Regional Entity | Volume of Export (MUs) | % of Volume |
| Uttar Pradesh | 131.12 | 10.85 |
| Maharashtra | 121.97 | 10.10 |
| Haryana | 110.86 | 9.18 |
| J & K | 88.79 | 7.35 |
| MP | 73.32 | 6.07 |
| Tamilnadu | 69.63 | 5.76 |
| Gujarat | 69.04 | 5.71 |
| Bihar | 61.33 | 5.08 |
| Rajasthan | 53.40 | 4.42 |
| NHPC Stations | 45.20 | 3.74 |
| Punjab | 36.83 | 3.05 |
| DVC | 26.38 | 2.18 |
| Chattisgarh | 24.69 | 2.04 |
| Orissa | 24.08 | 1.99 |
| Delhi | 23.58 | 1.95 |
| CGPL | 20.44 | 1.69 |
| Himachal Pradesh | 19.45 | 1.61 |
| Jharkhand | 18.56 | 1.54 |
| West Bengal | 17.89 | 1.48 |
| Andhra Pradesh | 17.51 | 1.45 |
| Telangana | 16.09 | 1.33 |
| Goa | 15.69 | 1.30 |
| Dadra & Nagar Haveli | 11.57 | 0.96 |
| Karnataka | 10.97 | 0.91 |
| JINDAL POWER | 10.31 | 0.85 |
| Sikkim | 9.24 | 0.76 |
| Uttarakhand | 8.60 | 0.71 |
| MAITHON POWER LTD | 7.43 | 0.62 |
| NJPC | 5.76 | 0.48 |
| Meghalaya | 5.71 | 0.47 |
| SIMHAPURI | 5.18 | 0.43 |
| UT Chandigarh | 4.87 | 0.40 |
| KARCHAM WANGTOO | 4.15 | 0.34 |
| STERLITE | 3.86 | 0.32 |
| NSPCL | 3.47 | 0.29 |
| DCPP | 3.07 | 0.25 |
| Dagachu | 3.01 | 0.25 |
| Pondicherry | 2.96 | 0.24 |
| Daman and Diu | 2.70 | 0.22 |
| NEEPCO Stations | 2.62 | 0.22 |
| LANKO_AMK | 2.60 | 0.21 |
| Assam | 2.53 | 0.21 |
| Manipur | 2.46 | 0.20 |
| SHREE CEMENT | 2.42 | 0.20 |
| Kerala | 2.32 | 0.19 |
| Tripura | 1.38 | 0.11 |
| BALCO | 1.36 | 0.11 |
| ACBIL | 0.65 | 0.05 |
| AD HYDRO | 0.52 | 0.04 |
| Nagaland | 0.31 | 0.03 |
| Arunachal Pradesh | 0.23 | 0.02 |
| Mizoram | 0.10 | 0.01 |
| RGPPL(Dabhol) | 0.01 | 0.00 |
| Total | 1208.20 | 100.00 |
| Volume of Export by top 5 Sellers | 526.07 | 43.54 |

| Table-14: VOLUME OF ELECTRICITY IMPORT THROUGH DSM, MARCH 2015 | | |
|---|-------------------------------|--------------------|
| Name of the State/UT/Other Regional Entity | Volume of Import (MUs) | % of Volume |
| Punjab | 108.32 | 7.94 |
| Rajasthan | 76.61 | 5.61 |
| Karnataka | 68.00 | 4.98 |
| West Bengal | 67.72 | 4.96 |
| Gujarat | 67.30 | 4.93 |
| Uttar Pradesh | 65.40 | 4.79 |
| Andhra Pradesh | 63.65 | 4.66 |
| Telangana | 62.20 | 4.56 |
| Haryana | 60.80 | 4.46 |
| Maharashtra | 59.76 | 4.38 |
| Kerala | 54.29 | 3.98 |
| Uttarakhand | 51.48 | 3.77 |
| Chattisgarh | 49.52 | 3.63 |
| Assam | 49.34 | 3.62 |
| Orissa | 46.07 | 3.38 |
| Bihar | 43.51 | 3.19 |
| Delhi | 42.09 | 3.08 |
| Himachal Pradesh | 32.74 | 2.40 |
| Jharkhand | 19.69 | 1.44 |
| Goa | 19.09 | 1.40 |
| J & K | 18.81 | 1.38 |
| Arunachal Pradesh | 18.12 | 1.33 |
| Tripura | 18.03 | 1.32 |
| DVC | 17.96 | 1.32 |
| MP | 17.92 | 1.31 |
| STERLITE | 16.17 | 1.18 |
| Tamilnadu | 13.74 | 1.01 |
| CGPL | 12.73 | 0.93 |
| Nagaland | 11.26 | 0.83 |
| Mizoram | 10.59 | 0.78 |
| RGPPPL(Dabhol) | 8.35 | 0.61 |
| NHPC Stations | 8.29 | 0.61 |
| DCPP | 8.09 | 0.59 |
| UT Chandigarh | 8.08 | 0.59 |
| BALCO | 6.36 | 0.47 |
| Daman and Diu | 6.23 | 0.46 |
| SIMHAPURI | 5.98 | 0.44 |
| Manipur | 5.97 | 0.44 |
| JINDAL POWER | 5.52 | 0.40 |
| Dagachu | 5.40 | 0.40 |
| Pondicherry | 5.36 | 0.39 |
| ACBIL | 5.10 | 0.37 |
| KARCHAM WANGTOO | 4.47 | 0.33 |
| MAITHON POWER LTD | 3.73 | 0.27 |
| Meghalaya | 3.00 | 0.22 |
| Dadra & Nagar Haveli | 2.89 | 0.21 |
| SHREE CEMENT | 2.41 | 0.18 |
| NJPC | 1.83 | 0.13 |
| NEEPCO Stations | 1.80 | 0.13 |
| NSPCL | 1.21 | 0.09 |
| Sikkim | 0.72 | 0.05 |
| LANKO_AMK | 0.54 | 0.04 |
| AD HYDRO | 0.40 | 0.03 |
| Total | 1364.64 | 100.00 |
| Volume of Import by top 5 Buyers | 387.95 | 28.43 |

| Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), MARCH 2015 | | |
|--|---|--|
| Sr.No. | Name of the State/UT/Other Regional Entity | Total volume of net short-term transactions of electricity* |
| 1 | Telangana | 587.08 |
| 2 | Andhra Pradesh | 413.31 |
| 3 | Maharashtra | 373.47 |
| 4 | Rajasthan | 368.22 |
| 5 | Tamilnadu | 320.17 |
| 6 | Uttarakhand | 303.86 |
| 7 | ESSAR STEEL | 290.18 |
| 8 | West Bengal | 204.74 |
| 9 | Assam | 158.49 |
| 10 | Kerala | 158.18 |
| 11 | Chattisgarh | 152.13 |
| 12 | Jharkhand | 149.01 |
| 13 | J & K | 145.69 |
| 14 | Gujarat | 102.17 |
| 15 | Bihar | 91.52 |
| 16 | Orissa | 72.87 |
| 17 | Uttar Pradesh | 49.94 |
| 18 | Meghalaya | 42.09 |
| 19 | Daman and Diu | 37.01 |
| 20 | BALCO | 31.67 |
| 21 | Dadra & Nagar Haveli | 27.90 |
| 22 | Arunachal Pradesh | 26.57 |
| 23 | Goa | 25.38 |
| 24 | Nagaland | 23.13 |
| 25 | Mizoram | 10.61 |
| 26 | Manipur | 8.92 |
| 27 | RGPPL(Dabhol) | 8.34 |
| 28 | Pondicherry | 2.40 |
| 29 | GMR Chattisgarh | 1.50 |
| 30 | DB POWER | 0.52 |
| 31 | UT Chandigarh | 0.30 |
| 32 | ESSAR POWER | -0.78 |
| 33 | ONGC PALATANA | -1.12 |
| 34 | LANKO AMK | -2.06 |
| 35 | NEEPCO Stations | -2.26 |
| 36 | RANGIT HEP | -2.66 |
| 37 | CHUZACHEN HEP | -6.25 |
| 38 | Dagachu | -6.93 |
| 39 | EMCO | -7.45 |
| 40 | CGPL | -7.71 |
| 41 | KORBA WEST Power | -8.47 |
| 42 | NJPC | -9.07 |
| 43 | LANCO BUDHIL | -9.13 |
| 44 | Himachal Pradesh | -10.22 |
| 45 | NSPCL | -10.26 |
| 46 | Haryana | -11.76 |
| 47 | AD HYDRO | -12.39 |
| 48 | TEESTA HEP | -12.63 |
| 49 | Punjab | -16.03 |
| 50 | Tripura | -17.31 |
| 51 | Sikkim | -20.75 |
| 52 | NHPC Stations | -52.46 |

| | | |
|----|-------------------|---------|
| 53 | KARCHAM WANGTOO | -66.80 |
| 54 | ACBIL | -75.37 |
| 55 | JAYPEE NIGRIE | -78.32 |
| 56 | MAITHON POWER LTD | -83.52 |
| 57 | DVC | -106.27 |
| 58 | SHREE CEMENT | -107.96 |
| 59 | Meenakshi | -109.97 |
| 60 | ADHUNIK POWER LTD | -112.64 |
| 61 | JITPL | -125.00 |
| 62 | DCPP | -135.47 |
| 63 | JINDAL STAGE-II | -144.42 |
| 64 | STERLITE | -223.18 |
| 65 | JINDAL POWER | -256.37 |
| 66 | SIMHAPURI | -257.29 |
| 67 | Delhi | -297.89 |
| 68 | LANKO_KONDAPALLY | -303.97 |
| 69 | MP | -416.18 |
| 70 | Karnataka | -423.64 |
| 71 | GMR KAMALANGA | -453.36 |

** Total volume of net short-term transactions of electricity includes net of transactions of electricity through bilateral, power exchange and DSM*

(-) indicates sale and (+) indicates purchase

| Table-16: DETAILS OF CONGESTION IN POWER EXCHANGES, MARCH 2015 | | | |
|---|--|------------|-------------|
| | Details of Congestion | IEX | PXIL |
| A | Unconstrained Cleared Volume* (MUs) | 2676.73 | 35.54 |
| B | Actual Cleared Volume and hence scheduled (MUs) | 2276.76 | 27.78 |
| C | Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B) | 399.97 | 7.76 |
| D | Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume | 14.94 | 21.83 |
| E | Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month) | 100.00 | 74.93 |
| F | Congestion occurrence (%) time block wise | | |
| | 0.00 - 6.00 hours | 25.00 | 18.30 |
| | 6.00 - 12.00 hours | 25.00 | 28.57 |
| | 12.00 - 18.00 hours | 25.00 | 27.85 |
| | 18.00 - 24.00 hours | 25.00 | 25.29 |
| <i>* This power would have been scheduled had there been no congestion.</i> | | | |
| <i>Source: IEX & PXIL & NLDC</i> | | | |

| Table-17: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (MUs), MARCH 2015 (DAY-WISE) | | | | | | Total Electricity Generation (MU) as given at CEA Website |
|---|----------------------------------|----------------|---|--------------|--|--|
| Date | Bilateral | | Power Exchange (Area Clearing Volume# of Day Ahead Market) | | Deviation Settlement (Over Drawl+ Under Generation) | |
| | Through Traders and PXs** | Direct | IEX | PXI | | |
| 1-Mar-15 | 74.85 | 32.00 | 64.37 | 0.79 | 82.82 | 2523.23 |
| 2-Mar-15 | 74.48 | 32.75 | 65.82 | 0.82 | 82.17 | 2530.56 |
| 3-Mar-15 | 73.00 | 33.86 | 65.34 | 0.68 | 56.92 | 2679.50 |
| 4-Mar-15 | 76.57 | 38.47 | 67.70 | 0.77 | 50.29 | 2704.20 |
| 5-Mar-15 | 75.22 | 34.58 | 70.20 | 0.87 | 48.50 | 2690.85 |
| 6-Mar-15 | 71.24 | 34.76 | 48.17 | 0.30 | 56.45 | 2537.57 |
| 7-Mar-15 | 74.06 | 41.00 | 50.81 | 0.46 | 57.65 | 2573.53 |
| 8-Mar-15 | 72.76 | 37.99 | 63.44 | 0.30 | 53.91 | 2568.49 |
| 9-Mar-15 | 69.37 | 44.70 | 69.98 | 0.43 | 50.77 | 2693.56 |
| 10-Mar-15 | 77.73 | 43.03 | 72.40 | 0.45 | 52.30 | 2747.20 |
| 11-Mar-15 | 79.16 | 43.00 | 69.83 | 0.47 | 52.11 | 2756.20 |
| 12-Mar-15 | 76.47 | 43.07 | 74.70 | 0.65 | 49.80 | 2791.66 |
| 13-Mar-15 | 77.72 | 43.72 | 77.82 | 0.86 | 47.26 | 2799.06 |
| 14-Mar-15 | 75.44 | 42.31 | 81.23 | 0.95 | 50.37 | 2755.54 |
| 15-Mar-15 | 75.17 | 42.16 | 75.03 | 0.99 | 50.95 | 2565.77 |
| 16-Mar-15 | 80.78 | 43.91 | 76.60 | 1.30 | 48.13 | 2678.13 |
| 17-Mar-15 | 79.61 | 45.06 | 78.07 | 0.82 | 45.60 | 2739.36 |
| 18-Mar-15 | 80.07 | 42.44 | 76.83 | 0.89 | 45.41 | 2811.85 |
| 19-Mar-15 | 81.60 | 38.34 | 75.37 | 1.57 | 44.79 | 3028.90 |
| 20-Mar-15 | 82.38 | 37.41 | 70.83 | 1.60 | 52.92 | 2876.75 |
| 21-Mar-15 | 84.55 | 35.67 | 69.28 | 1.14 | 48.28 | 2876.54 |
| 22-Mar-15 | 78.88 | 36.61 | 71.95 | 0.51 | 50.76 | 2861.18 |
| 23-Mar-15 | 77.04 | 43.47 | 74.85 | 1.26 | 48.24 | 2934.50 |
| 24-Mar-15 | 76.54 | 43.31 | 77.22 | 1.34 | 50.13 | 2991.48 |
| 25-Mar-15 | 81.20 | 45.30 | 79.27 | 0.71 | 48.93 | 3034.45 |
| 26-Mar-15 | 83.78 | 44.43 | 90.43 | 1.47 | 51.00 | 3086.81 |
| 27-Mar-15 | 82.05 | 47.32 | 93.12 | 0.97 | 52.39 | 3016.59 |
| 28-Mar-15 | 80.61 | 46.75 | 82.85 | 0.72 | 51.99 | 2997.30 |
| 29-Mar-15 | 82.19 | 41.89 | 76.25 | 0.96 | 56.29 | 2842.70 |
| 30-Mar-15 | 89.13 | 51.52 | 84.86 | 1.49 | 62.83 | 2805.36 |
| 31-Mar-15 | 91.57 | 44.24 | 82.15 | 1.26 | 56.11 | 2838.99 |
| Total | 2435.21 | 1275.07 | 2276.76 | 27.78 | 1656.08 | 86337.81 |

Source: NLDC

* 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.

Area Clearing Volume represents the scheduled volume of all the bid areas.

Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (₹/kWh), MARCH 2015 (DAY-WISE)

| Market Segment | Day ahead market of IEX | | | Day ahead market of PXIL | | | Under Drawl/Over Drawl from the Grid (DSM) | | |
|----------------|-------------------------|---------------|-------------|--------------------------|--------------|-------------|--|----------------|-----------------|
| | Date | Minimum ACP | Maximum ACP | Weighted Average Price* | Minimum ACP | Maximum ACP | Weighted Average Price* | All India Grid | |
| Minimum Price | | | | | | | | Maximum Price | Average Price** |
| 1-Mar-15 | 1.35 | 6.16 | 2.66 | 1.12 | 2.50 | 2.23 | 0.00 | 3.45 | 0.75 |
| 2-Mar-15 | 1.20 | 5.00 | 2.57 | 1.90 | 3.09 | 2.48 | 0.00 | 6.16 | 1.58 |
| 3-Mar-15 | 1.15 | 12.00 | 2.33 | 1.70 | 4.01 | 2.88 | 0.00 | 8.24 | 1.94 |
| 4-Mar-15 | 1.30 | 12.50 | 2.59 | 1.30 | 4.01 | 2.42 | 0.00 | 5.11 | 1.66 |
| 5-Mar-15 | 1.15 | 13.65 | 2.24 | 1.52 | 4.01 | 2.53 | 0.00 | 5.11 | 1.75 |
| 6-Mar-15 | 0.90 | 10.00 | 1.72 | 1.30 | 4.01 | 1.94 | 0.00 | 3.45 | 0.84 |
| 7-Mar-15 | 0.80 | 20.00 | 2.10 | 1.30 | 4.01 | 2.01 | 0.00 | 4.91 | 1.52 |
| 8-Mar-15 | 1.20 | 20.00 | 2.39 | 1.30 | 2.80 | 1.85 | 0.00 | 5.74 | 1.18 |
| 9-Mar-15 | 1.50 | 10.00 | 2.87 | 1.00 | 4.01 | 2.76 | 0.00 | 5.11 | 1.73 |
| 10-Mar-15 | 1.79 | 20.00 | 2.77 | 1.50 | 3.65 | 2.73 | 0.00 | 5.11 | 1.83 |
| 11-Mar-15 | 1.75 | 9.50 | 2.78 | 2.30 | 3.21 | 2.65 | 0.00 | 5.74 | 2.20 |
| 12-Mar-15 | 1.75 | 6.21 | 2.89 | 2.30 | 3.50 | 2.85 | 0.00 | 4.91 | 1.70 |
| 13-Mar-15 | 1.74 | 7.00 | 2.74 | 2.50 | 3.50 | 3.04 | 0.00 | 5.74 | 2.07 |
| 14-Mar-15 | 1.75 | 9.10 | 2.64 | 2.21 | 3.50 | 2.88 | 0.00 | 5.74 | 1.96 |
| 15-Mar-15 | 1.75 | 6.22 | 2.44 | 2.20 | 3.14 | 2.54 | 0.00 | 3.24 | 1.24 |
| 16-Mar-15 | 1.70 | 16.00 | 2.32 | 1.85 | 4.01 | 2.43 | 0.00 | 6.16 | 1.61 |
| 17-Mar-15 | 1.70 | 16.00 | 2.49 | 1.82 | 4.01 | 2.33 | 0.00 | 5.74 | 2.13 |
| 18-Mar-15 | 1.55 | 12.50 | 2.61 | 1.80 | 4.01 | 2.42 | 0.00 | 5.11 | 2.00 |
| 19-Mar-15 | 1.55 | 11.50 | 2.83 | 1.68 | 4.01 | 2.29 | 0.00 | 5.74 | 2.12 |
| 20-Mar-15 | 1.99 | 14.00 | 3.20 | 1.67 | 4.01 | 2.69 | 0.00 | 8.03 | 3.44 |
| 21-Mar-15 | 1.80 | 10.00 | 3.15 | 2.09 | 4.01 | 2.97 | 1.42 | 7.20 | 3.68 |
| 22-Mar-15 | 1.70 | 15.00 | 2.96 | 2.10 | 4.01 | 2.97 | 0.00 | 7.82 | 2.27 |
| 23-Mar-15 | 1.55 | 13.00 | 3.25 | 1.90 | 4.01 | 2.84 | 0.00 | 6.36 | 2.10 |
| 24-Mar-15 | 1.74 | 13.63 | 3.07 | 1.87 | 3.89 | 2.91 | 0.00 | 6.36 | 2.84 |
| 25-Mar-15 | 1.54 | 20.00 | 3.37 | 2.09 | 3.59 | 2.76 | 0.00 | 5.95 | 2.02 |
| 26-Mar-15 | 1.63 | 15.10 | 3.55 | 2.07 | 4.01 | 2.99 | 0.00 | 7.82 | 2.25 |
| 27-Mar-15 | 1.70 | 19.00 | 3.33 | 2.08 | 4.00 | 2.92 | 0.00 | 5.74 | 1.73 |
| 28-Mar-15 | 1.56 | 20.00 | 3.43 | 1.91 | 4.00 | 3.03 | 0.00 | 5.95 | 1.45 |
| 29-Mar-15 | 1.00 | 20.00 | 2.35 | 1.87 | 2.98 | 2.57 | 0.00 | 5.95 | 1.39 |
| 30-Mar-15 | 1.00 | 20.00 | 2.72 | 1.89 | 3.38 | 2.83 | 0.00 | 4.91 | 1.16 |
| 31-Mar-15 | 1.00 | 20.00 | 2.73 | 1.14 | 3.27 | 2.27 | 0.00 | 8.03 | 1.70 |
| | 0.80# | 20.00# | 2.78 | 1.00# | 4.01# | 2.65 | 0.00# | 8.24# | 1.87 |

Source: Data on price of PX transactions from IEX and PXIL and data on Deviation Price from NLDC.

* 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.

** Simple average of Deviation price of 96 time blocks of 15 minutes each in a day.

Maximum/Minimum in the month

Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY*-WISE) (MUs), MARCH 2015

| Name of the State/UT/Other Regional Entity | Through Bilateral | | | Through Power Exchange | | | Through DSM with Regional Grid | | | Total Net*** |
|--|-------------------|----------|---------|------------------------|----------|--------|--------------------------------|---------------------|--------|--------------|
| | Sale | Purchase | Net** | Sale | Purchase | Net** | Export (Under Drawl) | Import (Over Drawl) | Net** | |
| Punjab | 220.44 | 5.19 | -215.25 | 0.00 | 127.73 | 127.73 | 36.83 | 108.32 | 71.49 | -16.03 |
| Haryana | 316.20 | 330.26 | 14.06 | 75.43 | 99.66 | 24.23 | 110.86 | 60.80 | -50.05 | -11.76 |
| Rajasthan | 56.68 | 1.60 | -55.07 | 69.36 | 469.43 | 400.07 | 53.40 | 76.61 | 23.22 | 368.22 |
| Delhi | 358.31 | 1.45 | -356.87 | 54.55 | 95.01 | 40.46 | 23.58 | 42.09 | 18.52 | -297.89 |
| Uttar Pradesh | 50.75 | 148.97 | 98.22 | 0.00 | 17.45 | 17.45 | 131.12 | 65.40 | -65.72 | 49.94 |
| Uttarakhand | 35.82 | 148.80 | 112.98 | 9.78 | 157.78 | 148.01 | 8.60 | 51.48 | 42.87 | 303.86 |
| Himachal Pradesh | 112.06 | 259.69 | 147.63 | 188.18 | 17.04 | 171.14 | 19.45 | 32.74 | 13.29 | -10.22 |
| J & K | 27.59 | 333.64 | 306.05 | 90.78 | 0.40 | -90.38 | 88.79 | 18.81 | -69.98 | 145.69 |
| UT Chandigarh | 0.00 | 0.00 | 0.00 | 3.16 | 0.24 | -2.92 | 4.87 | 8.08 | 3.22 | 0.30 |
| MP | 133.32 | 19.07 | -114.25 | 329.62 | 83.10 | 246.53 | 73.32 | 17.92 | -55.41 | -416.18 |
| Maharashtra | 0.00 | 432.27 | 432.27 | 23.02 | 26.45 | 3.42 | 121.97 | 59.76 | -62.22 | 373.47 |
| Gujarat | 191.66 | 15.77 | -175.89 | 21.63 | 301.43 | 279.81 | 69.04 | 67.30 | -1.74 | 102.17 |
| Chattisgarh | 4.44 | 209.48 | 205.05 | 91.35 | 13.60 | -77.74 | 24.69 | 49.52 | 24.83 | 152.13 |
| Daman and Diu | 0.00 | 0.00 | 0.00 | 0.00 | 33.48 | 33.48 | 2.70 | 6.23 | 3.54 | 37.01 |
| Dadra & Nagar Haveli | 0.00 | 36.58 | 36.58 | 0.00 | 0.00 | 0.00 | 11.57 | 2.89 | -8.67 | 27.90 |
| Andhra Pradesh | 0.00 | 312.94 | 312.94 | 28.80 | 83.03 | 54.24 | 17.51 | 63.65 | 46.13 | 413.31 |
| Karnataka | 363.12 | 0.78 | -362.34 | 162.59 | 44.26 | 118.33 | 10.97 | 68.00 | 57.03 | -423.64 |
| Kerala | 0.05 | 101.99 | 101.94 | 4.02 | 8.30 | 4.28 | 2.32 | 54.29 | 51.97 | 158.18 |
| Tamilnadu | 0.00 | 304.13 | 304.13 | 0.00 | 71.93 | 71.93 | 69.63 | 13.74 | -55.89 | 320.17 |
| Pondicherry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.96 | 5.36 | 2.40 | 2.40 |
| Telangana | 0.00 | 404.83 | 404.83 | 24.27 | 160.41 | 136.14 | 16.09 | 62.20 | 46.11 | 587.08 |
| West Bengal | 0.50 | 87.85 | 87.35 | 28.26 | 95.82 | 67.55 | 17.89 | 67.72 | 49.83 | 204.74 |
| Orissa | 53.60 | 132.39 | 78.80 | 35.26 | 7.33 | -27.93 | 24.08 | 46.07 | 22.00 | 72.87 |
| Bihar | 0.00 | 107.07 | 107.07 | 0.00 | 2.27 | 2.27 | 61.33 | 43.51 | -17.82 | 91.52 |
| Jharkhand | 0.00 | 147.88 | 147.88 | 0.00 | 0.00 | 0.00 | 18.56 | 19.69 | 1.13 | 149.01 |
| Sikkim | 0.00 | 0.00 | 0.00 | 12.22 | 0.00 | -12.22 | 9.24 | 0.72 | -8.52 | -20.75 |
| DVC | 85.36 | 0.00 | -85.36 | 12.49 | 0.00 | -12.49 | 26.38 | 17.96 | -8.42 | -106.27 |
| Arunachal Pradesh | 0.00 | 0.00 | 0.00 | 0.00 | 8.68 | 8.68 | 0.23 | 18.12 | 17.89 | 26.57 |
| Assam | 7.20 | 74.32 | 67.12 | 0.95 | 45.51 | 44.56 | 2.53 | 49.34 | 46.81 | 158.49 |
| Manipur | 0.00 | 0.00 | 0.00 | 4.47 | 9.88 | 5.42 | 2.46 | 5.97 | 3.51 | 8.92 |
| Meghalaya | 0.00 | 36.21 | 36.21 | 0.00 | 8.58 | 8.58 | 5.71 | 3.00 | -2.71 | 42.09 |
| Mizoram | 0.00 | 0.00 | 0.00 | 0.78 | 0.90 | 0.11 | 0.10 | 10.59 | 10.49 | 10.61 |
| Nagaland | 0.00 | 10.62 | 10.62 | 0.00 | 1.55 | 1.55 | 0.31 | 11.26 | 10.95 | 23.13 |
| Tripura | 5.92 | 0.67 | -5.25 | 28.71 | 0.00 | -28.71 | 1.38 | 18.03 | 16.65 | -17.31 |
| Goa | 0.64 | 36.23 | 35.58 | 16.51 | 2.91 | -13.60 | 15.69 | 19.09 | 3.40 | 25.38 |
| NHPC Stations | 0.00 | 0.00 | 0.00 | 15.55 | 0.00 | -15.55 | 45.20 | 8.29 | -36.91 | -52.46 |
| NJPC | 0.00 | 0.00 | 0.00 | 5.14 | 0.00 | -5.14 | 5.76 | 1.83 | -3.93 | -9.07 |

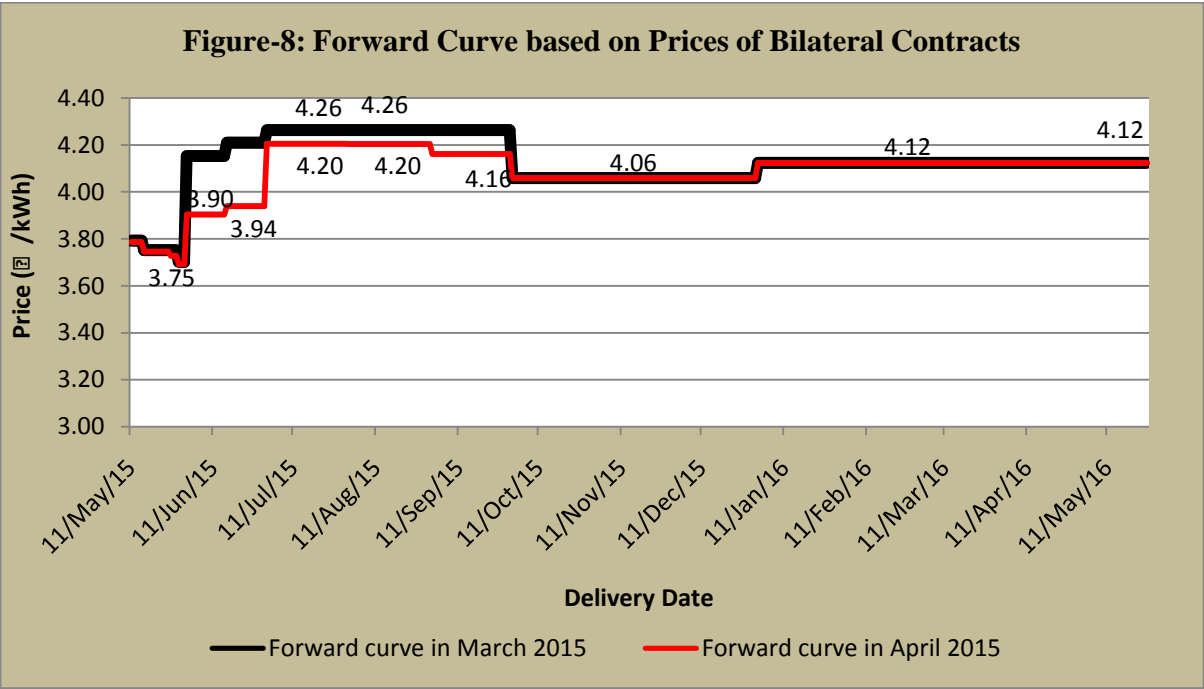
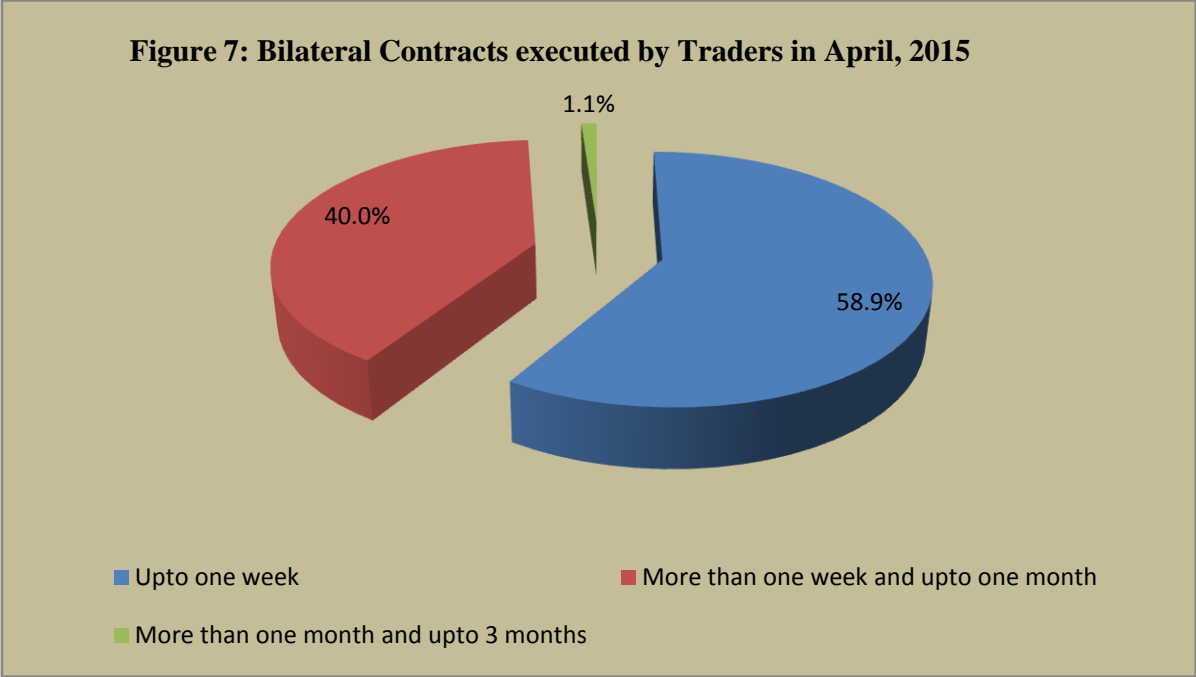
| | | | | | | | | | | |
|-------------------|--------|------|---------|--------|--------|--------|-------|-------|-------|---------|
| AD HYDRO | 0.32 | 0.00 | -0.32 | 11.94 | 0.00 | -11.94 | 0.52 | 0.40 | -0.13 | -12.39 |
| KARCHAM WANGTOO | 8.56 | 0.00 | -8.56 | 58.56 | 0.00 | -58.56 | 4.15 | 4.47 | 0.32 | -66.80 |
| SHREE CEMENT | 56.56 | 0.00 | -56.56 | 51.39 | 0.00 | -51.39 | 2.42 | 2.41 | -0.01 | -107.96 |
| LANCO BUDHIL | 0.00 | 0.00 | 0.00 | 9.13 | 0.00 | -9.13 | 0.00 | 0.00 | 0.00 | -9.13 |
| JINDAL POWER | 222.49 | 0.00 | -222.49 | 29.09 | 0.00 | -29.09 | 10.31 | 5.52 | -4.79 | -256.37 |
| LANKO_AMK | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.60 | 0.54 | -2.06 | -2.06 |
| NSPCL | 8.00 | 0.00 | -8.00 | 0.00 | 0.00 | 0.00 | 3.47 | 1.21 | -2.26 | -10.26 |
| ACBIL | 23.12 | 0.00 | -23.12 | 56.70 | 0.00 | -56.70 | 0.65 | 5.10 | 4.46 | -75.37 |
| BALCO | 0.00 | 0.00 | 0.00 | 0.00 | 26.66 | 26.66 | 1.36 | 6.36 | 5.01 | 31.67 |
| RGPPL(Dabhol) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 8.35 | 8.34 | 8.34 |
| CGPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 20.44 | 12.73 | -7.71 | -7.71 |
| DCPP | 0.06 | 0.00 | -0.06 | 140.43 | 0.00 | 140.43 | 3.07 | 8.09 | 5.02 | -135.47 |
| EMCO | 5.00 | 0.00 | -5.00 | 2.45 | 0.00 | -2.45 | 0.00 | 0.00 | 0.00 | -7.45 |
| ESSAR STEEL | 0.00 | 6.97 | 6.97 | 0.00 | 283.20 | 283.20 | 0.00 | 0.00 | 0.00 | 290.18 |
| ESSAR POWER | 0.78 | 0.00 | -0.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.78 |
| JINDAL STAGE-II | 67.13 | 0.00 | -67.13 | 77.29 | 0.00 | -77.29 | 0.00 | 0.00 | 0.00 | -144.42 |
| DB POWER | 0.00 | 0.00 | 0.00 | 0.00 | 0.52 | 0.52 | 0.00 | 0.00 | 0.00 | 0.52 |
| JAYPEE NIGRIE | 0.00 | 0.00 | 0.00 | 78.32 | 0.00 | -78.32 | 0.00 | 0.00 | 0.00 | -78.32 |
| GMR Chattisgarh | 0.00 | 1.50 | 1.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.50 |
| KORBA WEST Power | 0.00 | 0.00 | 0.00 | 8.47 | 0.00 | -8.47 | 0.00 | 0.00 | 0.00 | -8.47 |
| LANKO_KONDAPALLY | 303.97 | 0.00 | -303.97 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -303.97 |
| SIMHAPURI | 235.88 | 0.00 | -235.88 | 22.21 | 0.00 | -22.21 | 5.18 | 5.98 | 0.79 | -257.29 |
| Meenakshi | 104.19 | 0.00 | -104.19 | 5.79 | 0.00 | -5.79 | 0.00 | 0.00 | 0.00 | -109.97 |
| STERLITE | 111.68 | 0.00 | -111.68 | 123.81 | 0.00 | 123.81 | 3.86 | 16.17 | 12.31 | -223.18 |
| MAITHON POWER LTD | 15.52 | 0.00 | -15.52 | 64.30 | 0.00 | -64.30 | 7.43 | 3.73 | -3.71 | -83.52 |
| ADHUNIK POWER LTD | 104.97 | 0.00 | -104.97 | 7.66 | 0.00 | -7.66 | 0.00 | 0.00 | 0.00 | -112.64 |
| CHUZACHEN HEP | 0.00 | 0.00 | 0.00 | 6.25 | 0.00 | -6.25 | 0.00 | 0.00 | 0.00 | -6.25 |
| RANGIT HEP | 0.00 | 0.00 | 0.00 | 2.66 | 0.00 | -2.66 | 0.00 | 0.00 | 0.00 | -2.66 |
| GMR KAMALANGA | 367.01 | 0.00 | -367.01 | 86.35 | 0.00 | -86.35 | 0.00 | 0.00 | 0.00 | -453.36 |
| JITPL | 15.34 | 0.00 | -15.34 | 109.67 | 0.00 | 109.67 | 0.00 | 0.00 | 0.00 | -125.00 |
| TEESTA HEP | 0.00 | 0.00 | 0.00 | 12.63 | 0.00 | -12.63 | 0.00 | 0.00 | 0.00 | -12.63 |
| Dagachu | 9.31 | 0.00 | -9.31 | 0.00 | 0.00 | 0.00 | 3.01 | 5.40 | 2.39 | -6.93 |
| NEEPCO Stations | 0.00 | 0.00 | 0.00 | 1.45 | 0.00 | -1.45 | 2.62 | 1.80 | -0.82 | -2.26 |
| ONGC PALATANA | 0.00 | 0.00 | 0.00 | 1.12 | 0.00 | -1.12 | 0.00 | 0.00 | 0.00 | -1.12 |

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, power exchange and DSM



| Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTIONED THROUGH POWER EXCHANGES, MARCH 2015 | | | | | |
|--|--|--------------|------------------|--------------|------------------|
| Sr.No. | Details of REC Transactions | IEX | | PXIL | |
| | | Solar | Non-Solar | Solar | Non Solar |
| A | Volume of Buy Bid | 39385 | 279205 | 29597 | 375780 |
| B | Volume of Sell Bid | 1013725 | 5311670 | 609667 | 5512754 |
| C | Ratio of Buy Bid to Sell Bid Volume | 0.04 | 0.05 | 0.05 | 0.07 |
| D | Market Clearing Volume (MWh) | 39385 | 279205 | 29597 | 375780 |
| E | Market Clearing Price (₹/MWh) | 3500 | 1500 | 3500 | 1500 |

Source: IEX and PXIL

Note 1: 1 REC = 1 MWh

Note 2:

| <i>Forbearance and Floor Price w.e.f 1st MARCH 2015</i> | | |
|---|--------------------------------|--|
| Type of REC | <i>Floor Price (₹/MWh)</i> | <i>Forbearance Price (₹/MWh)</i> |
| <i>Solar</i> | <i>3500.00</i> | <i>5800.00</i> |
| <i>Non-Solar</i> | <i>1500.00</i> | <i>3300.00</i> |