



# Monthly Report on Short-term Transactions of Electricity in India

August, 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
COASTGEN	Coastal Energen Private Limited
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
LANKO BUDHIL	Lanco Budhil Hydro Power Private Limited
LANKO AMK	Lanco Amarkantak Power Private Limited
LANKO 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
NTPC STATIONS	National Thermal 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
THERMAL POWERTECH	Thermal Powertech Corporation India Limited
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 **August, 2015** is as under:

### **I: Volume of Short-term Transactions of Electricity**

During August 2015, total electricity generation excluding generation from renewable and captive power plants in India was 95559.13 MUs (Table-1).

Of the total electricity generation, 11276.88 MUs (11.80%) were transacted through short-term, comprising of 6684.47 MUs (7.00 %) through bilateral (through traders and term-ahead contracts on power exchanges and directly between distribution companies), followed by 2776.44 MUs (2.91 %) through day ahead collective transactions on power exchanges (IEX and PXIL) and 1815.97 MUs (1.90 %) through DSM (Table-1 & Figure-2).

Of the total short-term transactions, bilateral constitutes 59.28 % (37.47% through traders and term-ahead contracts on power exchanges and 21.81% directly between distribution companies) followed by 24.62 % through day ahead collective transactions on power exchanges and 16.10% 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 the trading licensees is provided in Table-2 & Figure-4. 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 31.08.2015. In August 2015, 20 trading licensees were engaged in short term trading. Top 5 trading licensees had a share of 74.91 % in the total volume traded by all the licensees. These are PTC India Ltd., Mittal Processors (P) Ltd., Tata Power Trading Company (P) Ltd., and GMR Energy Trading Ltd. and JSW Power Trading Company Ltd.

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 0.1495 for the month of August 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 2768.75 MUs and 7.70 MUs respectively. The volume of total buy bids and sale bids was 3841.89 MUs and 4466.29 MUs respectively in IEX while the same was 30.42 MUs and 21.64 MUs respectively in PXIL. The gap between the volume of buy bids and sale bids placed through power exchanges shows that there was low demand in IEX (0.86 times) and high demand in PXIL (1.41 times) when compared with the supply bids offered through these exchanges.

The volume of electricity transacted through IEX and PXIL in the term-ahead market was 18.40 MUs and 142.34 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 ₹2.57/kWh, ₹7.99/kWh and ₹4.18/kWh respectively (Table-

3).The 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 ₹4.25/kWh, ₹3.52/kWh and ₹3.52/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 ₹0.70/kWh, ₹9.52/kWh and ₹2.80/kWh respectively in IEX and ₹1.36/kWh, ₹5.51/kWh and ₹2.59/kWh respectively in PXIL (Table-5).

The price of electricity transacted through IEX and PXIL in the term-ahead market was ₹3.27/kWh and ₹2.59/kWh respectively (Table-6 and Table-7).

**(iii) Price of electricity transacted through DSM:** The average deviation price was ₹2.14/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 & 19, Figure-5 & 6.

### **III: Volume of Short-term Transactions of Electricity (Regional Entity<sup>1</sup>-Wise)**

Of the total bilateral transactions, top 5 regional entities sold 42.29 % of the volume, and these were Himachal Pradesh, Madhya Pradesh, Rajasthan, Jammu & Kashmir and GMR Kamalanga. Top 5 regional entities purchased 66.73% of the volume, and these were Telangana, Haryana, Punjab, Uttar Pradesh and West Bengal (Table-9 & 10).

Of the total power exchange transactions, top 5 regional entities sold 42.68 % of the volume, and these were Himachal Pradesh, Jindal India Thermal Power Limited, Gujarat, Jaypee Karcham Hydro Corporation Limited and Madhya Pradesh. Top 5 regional entities purchased 53.07% of the volume, and these were Rajasthan, Gujarat, Maharashtra, West Bengal and Haryana (Table-11 & 12).

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<sup>1</sup> 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 40.15% of the volume, and these were Maharashtra, Uttar Pradesh, National Thermal Power Corporation Stations(Western Region), Delhi and Madhya Pradesh (Table-13). Top 5 regional entities overdrew 30.12% of the volume, and these were Haryana, Karnataka, Punjab, National Thermal Power Stations (Northern Region) and National Thermal Power Stations (Eastern Region) (Table-14).

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 Himachal Pradesh, Madhya Pradesh, Jammu & Kashmir, Jindal India Thermal Power Limited and Jaypee Karcham Hydro Corporation Limited. Top 5 electricity purchasing regional entities were Haryana, Telangana, Punjab, West Bengal and Uttar Pradesh.

#### **IV: Congestion<sup>2</sup> 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”<sup>3</sup>.

In the month of August 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

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

<sup>3</sup> “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.

cleared due to congestion and could not be transacted through power exchanges is the 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 IEX and PXIL due to congestion was 11.06% and 3.25% of the unconstrained cleared volume respectively. In terms of time, congestion occurred was 98.89% in IEX and 95.03% in PXIL (Table-16).

## **V: Bilateral Contracts executed by Traders**

In addition to the analysis on short-term transactions of electricity in August 2015, this section covers an analysis of bilateral contracts executed in September 2015.

**(i) Duration of bilateral contracts:** During September, 2015, a total of 68 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 418.29 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 60% of the contracts were executed for a duration of up to one week and 40% of the contracts executed for a duration of more than a week and upto one month.

During the month, 32 banking/swapping bilateral contracts were also executed for the volume of 114.72 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. The price of each contract for each day is taken into consideration while constructing the forward curve. On the basis of these prices, the 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 September, 2015 to May, 2016 based on bilateral contracts<sup>4</sup> executed till September, 2015. Forward curves have been drawn for the contracts executed in September, 2015 and August,

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<sup>4</sup>Excluding Banking/Swapping contracts

2015 for the purpose of comparison. It is observed that the forward prices from September, 2015 to December, 2015 were lower for the contracts executed in September, 2015 compared to the contracts executed in August, 2015. However, the forward prices since December, 2015 onwards remained same for the contracts executed in September, 2015 and August, 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 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 electricity market.

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 session was held on power exchanges in March, 2011.

The details of REC transactions for the month of August, 2015 are shown in Table-20. The market clearing volume of solar RECs transacted on IEX and PXIL were 26402 and 15526 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 77236 and 30045 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 shows that there was less demand for solar RECs and non-solar RECs. For Solar RECs, the ratio of buy bids to sell bids was 0.02 and 0.019 for IEX and PXIL respectively. For non-solar RECs, the ratio of buy bids to sell bids was 0.01 for IEX and 0.01 for PXIL.

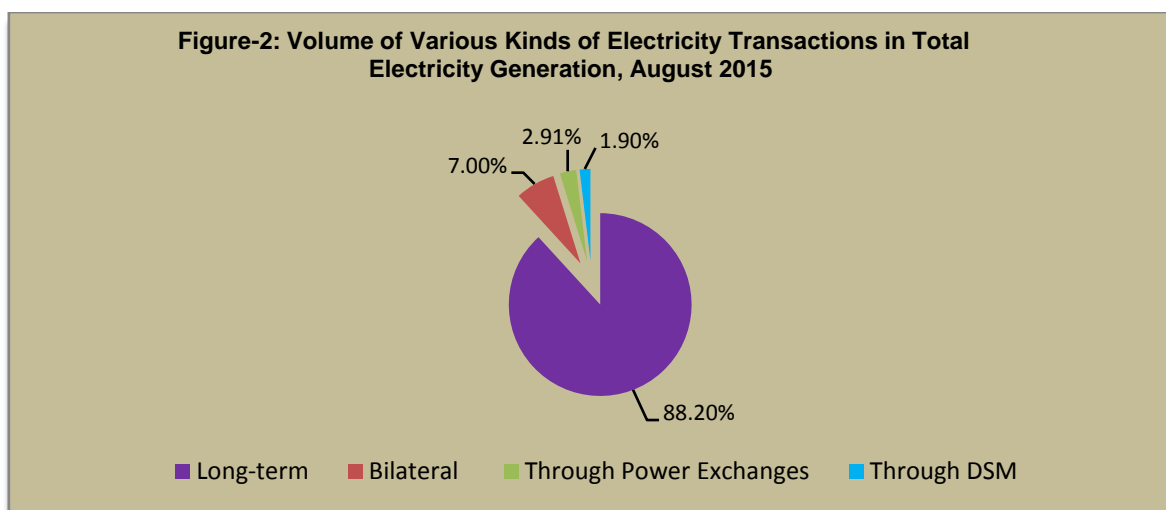
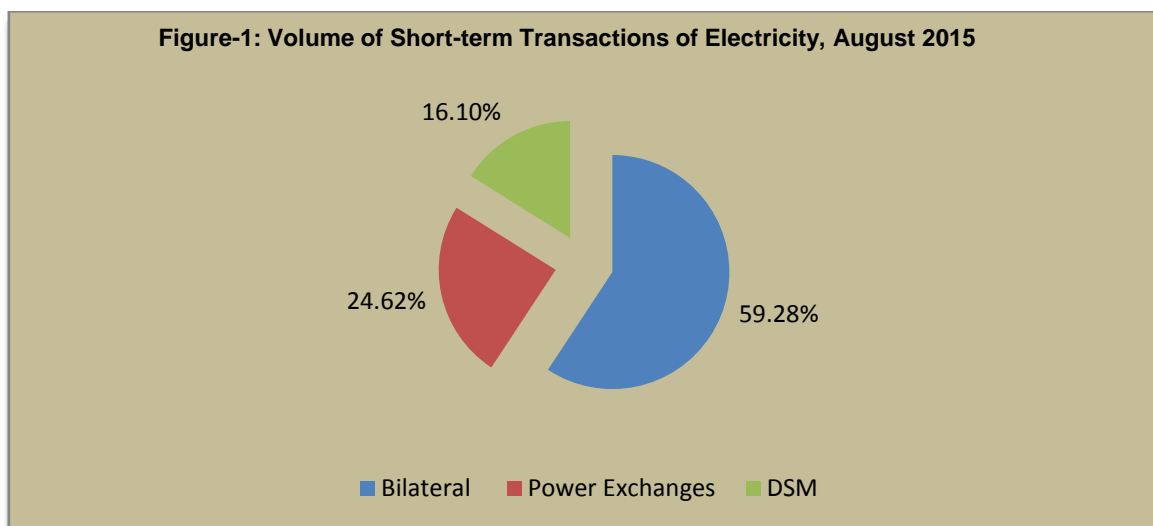
## VII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 11.80 %.
- Of the total short-term transactions of electricity, 59.28 % was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 24.62% through power exchanges and 16.10% through DSM.
- Top 5 trading licensees had a share of 74.91 % 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 0.1495, indicating non-concentration of market power.
- The weighted average price of electricity transacted through trading licensees was ₹4.18/kWh. The weighted average prices of electricity transacted through IEX and PXIL were ₹2.80/kWh and ₹2.59/kWh respectively.
- The average price of electricity transacted through DSM was ₹2.14/kWh
- The gap between the volume of buy bids and sale bids placed through power exchanges indicates that there was low demand in IEX (1.00 : 0.86) and high demand in PXIL (1:00 : 1.41) when compared with the supply bids offered through these exchanges.
- Top 5 electricity selling regional entities were Himachal Pradesh, Madhya Pradesh, Jammu & Kashmir, Jindal India Thermal Power Limited and Jaypee Karcham Hydro Corporation Limited. Top 5 electricity purchasing regional entities were Haryana, Telangana, Punjab, West Bengal and Uttar Pradesh.
- The volume of electricity that could not be cleared due to congestion was 11.06% and 3.25 % of the unconstrained cleared volume for IEX and PXIL, respectively. In terms of time, congestion occurred for 98.89% of the time in IEX and 95.03% of the time in PXIL.

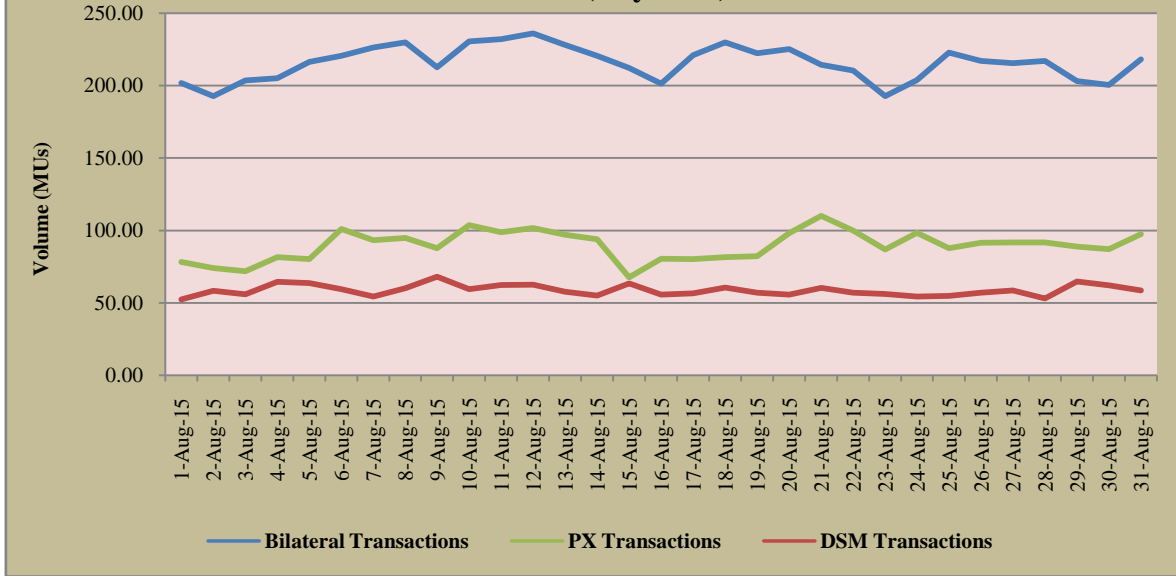
- In September 2015, 60% of the bilateral contracts were executed for a duration of up to one week, and 40% of the contracts were executed for a duration of more than a week and upto one month.
- The forward prices from September, 2015 to December, 2015 were lower for the contracts executed in September, 2015 compared to the contracts executed in August, 2015. However, the forward prices since December, 2015 onwards remained the same for the contracts executed in September, 2015 and August, 2015.
- The market clearing volume of Solar RECs transacted on IEX and PXIL were 26402 and 15526 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 77236 and 30045 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), AUGUST 2015				
Sr. No	Short-term transactions	Volume (MUs)	% of short-term transactions	% of Total Generation
1	Bilateral	6684.47	59.28	7.00
	(i) Through Traders and PXs	4225.25	37.47	4.42
	(ii) Direct	2459.22	21.81	2.57
2	Through Power Exchanges	2776.44	24.62	2.91
	(i) IEX	2768.75	24.55	2.90
	(ii) PXIL	7.70	0.07	0.01
3	Through DSM	1815.97	16.10	1.90
	<b>Total</b>	<b>11276.88</b>	<b>-</b>	<b>11.80</b>
	<b>Total Generation</b>	<b>95559.13</b>	<b>-</b>	<b>-</b>

Source: NLDC



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



<b>Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, AUGUST 2015</b>			
<b>Sr. No</b>	<b>Name of the Trading Licensee</b>	<b>% Share in total Volume transacted by Trading Licensees</b>	<b>Herfindahl-Hirschman Index</b>
1	PTC India Ltd.	29.39	0.0864
2	Mittal Processors (P) Ltd.	12.76	0.0163
3	Tata Power Trading Company (P) Ltd.	11.63	0.0135
4	GMR Energy Trading Ltd.	10.82	0.0117
5	JSW Power Trading Company Ltd	10.31	0.0106
6	Manikaran Power Ltd.	8.66	0.0075
7	NTPC Vidyut Vyapar Nigam Ltd.	3.12	0.0010
8	Adani Enterprises Ltd.	3.02	0.0009
9	Knowledge Infrastructure Systems (P) Ltd	2.30	0.0005
10	Shree Cement Ltd.	2.27	0.0005
11	Arunachal Pradesh Power Corporation (P) ltd	1.29	0.0002
12	Jaiprakash Associates Ltd.	1.15	0.0001
13	Instinct Infra & Power Ltd.	0.99	0.0001
14	RPG Power Trading Company Ltd.	0.86	0.0001
15	SN Power Markets Pvt. Ltd.	0.46	0.0000
16	National Energy Trading & Services Ltd.	0.29	0.0000
17	Essar Electric Power Development Corp. Ltd.	0.23	0.0000
18	Ambitious Power Trading Company Ltd.	0.22	0.0000
19	My Home Power Private Ltd.	0.18	0.0000
20	Customized Energy Solutions India (P) Ltd.	0.05	0.0000
<b>TOTAL</b>		<b>100.00</b>	<b>0.1495</b>
<b>Top 5 trading licensees</b>		<b>74.91</b>	
<i>Note 1: Volume of electricity transacted by the trading licensees includes bilateral transactions (inter-State &amp; 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>			

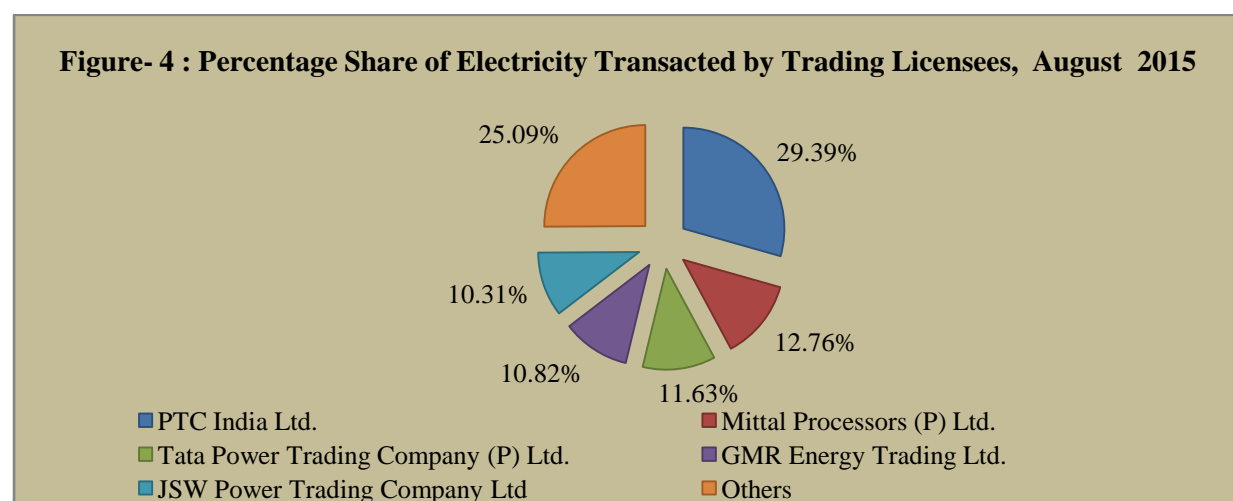




Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, AUGUST 2015		
Sr.No		Sale Price of Traders (₹ /kWh)
1	Minimum	2.57
2	Maximum	7.99
3	Weighted Average	4.18

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE),AUGUST 2015		
Sr.No	Period of Trade	Sale Price of Traders (₹ /kWh)
1	RTC	4.25
2	PEAK	3.52
3	OFF PEAK	3.52

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, AUGUST 2015			
Sr.No	ACP	Price in IEX (₹ /kWh)	Price in PXIL (₹ /kWh)
1	Minimum	0.70	1.36
2	Maximum	9.52	5.51
3	Weighted Average	2.80	2.59

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, AUGUST 2015			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹ /kWh)
1	Intra-Day Contracts	15.26	3.35
2	Day Ahead Contingency Contracts	3.14	2.88
	<b>Total</b>	<b>18.40</b>	<b>3.27</b>

Source: IEX

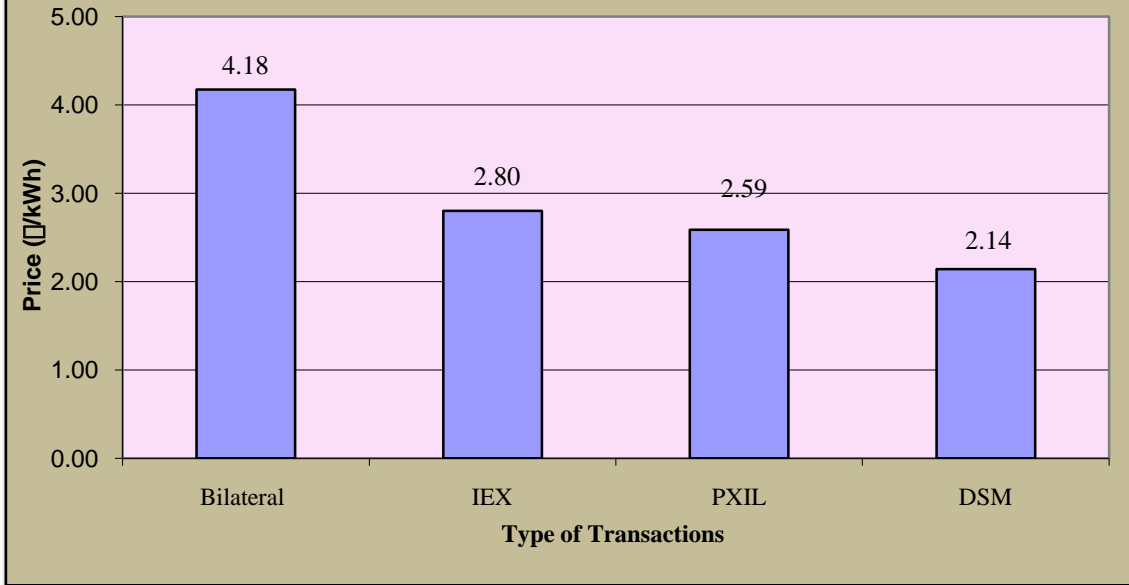
Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, AUGUST 2015			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹ /kWh)
1	Day Ahead Contingency Contracts	2.73	2.47
2	Weekly Contracts	25.13	2.60
3	Intra-Day Contracts	69.83	2.54
4	Daily Contracts	44.66	2.67
	<b>Total</b>	<b>142.34</b>	<b>2.59</b>

Source: PXIL

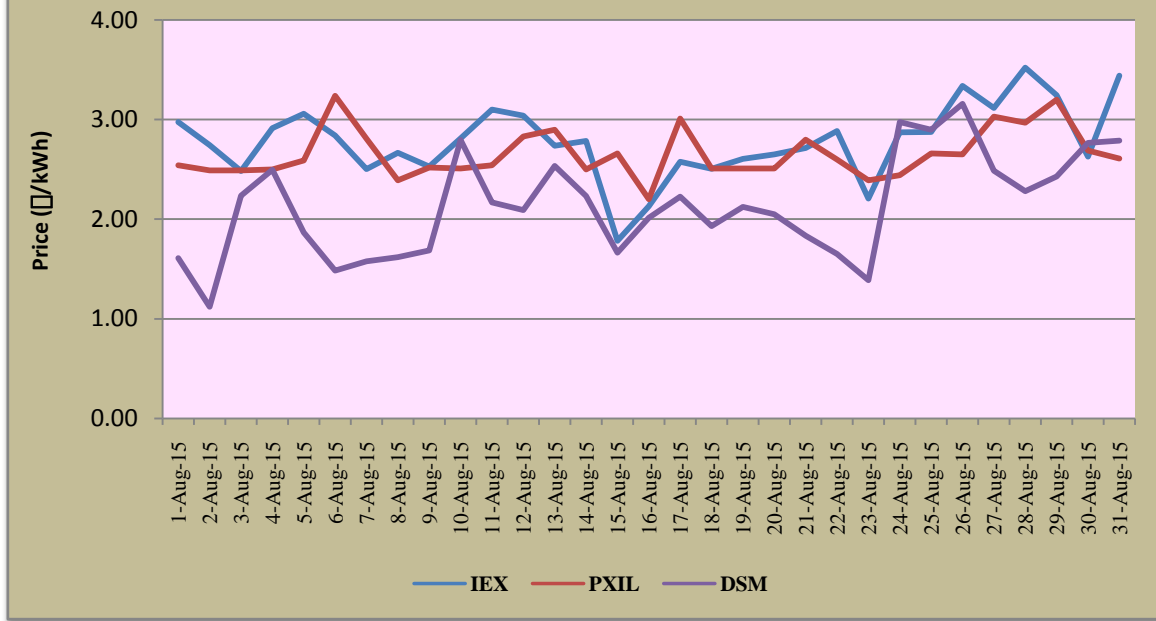
Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH DSM, AUGUST 2015		
Sr.No		Price in All India Grid (₹ /kWh)
1	Minimum	0
2	Maximum	8.24
3	Average	2.14

Source: NLDC

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



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



<b>Table-9: VOLUME OF ELECTRICITY SOLD THROUGH BILATERAL TRADE, AUGUST 2015</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Sale (MUs)</b>	<b>% of Volume</b>
HIMACHAL PRADESH	734.03	11.46
MP	615.02	9.60
RAJASTHAN	560.56	8.75
J & K	409.46	6.39
GMR KAMALANGA	390.51	6.09
KARNATAKA	323.72	5.05
THERMAL POWERTECH	296.99	4.63
UTTARAKHAND	265.39	4.14
KARCHAM WANGTOO	265.01	4.14
SIMHAPURI	260.89	4.07
LANKO KONDAPALLI	241.80	3.77
SHREE CEMENT	175.83	2.74
STERLITE	175.75	2.74
JINDAL STAGE-II	171.91	2.68
ODISHA	133.58	2.08
DB POWER	116.49	1.82
MEENAKSHI	115.97	1.81
GUJARAT	110.46	1.72
JITPL	106.47	1.66
ANDHRA PRADESH	106.36	1.66
ADHUNIK POWER LTD	103.90	1.62
JINDAL POWER	93.36	1.46
MAITHON POWER LTD	92.43	1.44
EMCO	88.33	1.38
DVC	88.17	1.38
AD HYDRO	85.67	1.34
MEGHALAYA	80.00	1.25
ASSAM	61.09	0.95
WEST BENGAL	39.57	0.62
DELHI	33.00	0.51
CHHATTISGARH	26.55	0.41
TELANGANA	10.02	0.16
ACBIL	9.41	0.15
MANIPUR	6.87	0.11
DCPP	5.50	0.09
TRIPURA	4.99	0.08
KORBA WEST POWER	2.03	0.03
UTTAR PRADESH	0.23	0.00
HARYANA	0.18	0.00
<b>Total</b>	<b>6407.49</b>	<b>100.00</b>
<b>Volume of Sold by top 5 States</b>	<b>2709.58</b>	<b>42.29</b>

**Table-10: VOLUME OF ELECTRICITY PURCHASED THROUGH BILATERAL TRADE,  
AUGUST 2015**

<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Purchase (MUs)</b>	<b>% of Volume</b>
TELANGANA	1299.47	19.45
HARYANA	1217.16	18.22
PUNJAB	1090.67	16.32
UTTAR PRADESH	467.69	7.00
WEST BENGAL	383.20	5.74
ANDHRA PRADESH	376.85	5.64
DELHI	364.34	5.45
GUJARAT	318.51	4.77
MAHARASHTRA	282.20	4.22
BIHAR	195.43	2.93
UTTARAKHAND	144.79	2.17
ESSAR STEEL	108.91	1.63
TAMIL NADU	89.97	1.35
JHARKHAND	88.93	1.33
CHHATTISGARH	66.50	1.00
ODISHA	51.81	0.78
KERALA	50.75	0.76
ASSAM	49.10	0.73
RAJASTHAN	21.89	0.33
CHANDIGARH	7.44	0.11
DAMAN AND DIU	4.72	0.07
GOA	1.00	0.01
<b>Total</b>	<b>6681.33</b>	<b>100.00</b>
<b>Volume of Purchase by top 5 States</b>	<b>4458.19</b>	<b>66.73</b>

<b>Table-11: VOLUME OF ELECTRICITY SOLD THROUGH POWER EXCHANGES, AUGUST 2015</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Sale (MUs)</b>	<b>% of Volume</b>
HIMACHAL PRADESH	350.88	12.64
JITPL	335.10	12.07
GUJARAT	181.56	6.54
KARCHAM WANGTOO	162.28	5.84
MP	155.16	5.59
KARNATAKA	124.67	4.49
JINDAL POWER	122.28	4.40
HARYANA	93.19	3.36
TRIPURA	78.62	2.83
CHUZACHEN HEP	76.95	2.77
STERLITE	64.17	2.31
SIKKIM	61.85	2.23
CHHATTISGARH	60.01	2.16
NHPC STATIONS	54.31	1.96
KORBA WEST POWER	53.80	1.94
DB POWER	46.49	1.67
UTTARAKHAND	46.24	1.67
DELHI	44.16	1.59
ODISHA	43.85	1.58
J & K	43.51	1.57
LANCO BUDHIL	42.69	1.54
TELANGANA	40.45	1.46
MEGHALAYA	40.38	1.45
MAHARASHTRA	36.96	1.33
AD HYDRO	34.21	1.23
ACBIL	30.70	1.11
ADHUNIK POWER LTD	29.68	1.07
DCPP	28.89	1.04
JINDAL STAGE-II	28.30	1.02
MEENAKSHI	27.58	0.99
NJPC	26.65	0.96
THERMAL POWERTECH	24.98	0.90
ARUNACHAL PRADESH	21.28	0.77
MANIPUR	20.01	0.72
RAJASTHAN	17.49	0.63
ASSAM	16.62	0.60
MIZORAM	16.04	0.58
SHREE CEMENT	13.74	0.49
SIMHAPURI	9.69	0.35
LOKTAK	9.07	0.33
ANDHRA PRADESH	8.84	0.32
NAGALAND	8.70	0.31
MALANA	8.18	0.29
MAITHON POWER LTD	7.10	0.26
JAYPEE NIGRIE	5.39	0.19
WEST BENGAL	5.15	0.19
GOA	4.88	0.18
SPECTRUM	4.11	0.15
KERALA	2.51	0.09
MARUTI COAL	2.34	0.08
GMR KAMALANGA	1.63	0.06
CHANDIGARH	1.63	0.06
DVC	1.27	0.05
EMCO	0.20	0.01
<b>Total</b>	<b>2776.44</b>	<b>100.00</b>
<b>Volume of sale by top 5 Sellers</b>	<b>1184.98</b>	<b>42.68</b>

<b>Table-12: VOLUME OF ELECTRICITY PURCHASED THROUGH POWER EXCHANGES AUGUST 2015</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Purchase (MUs)</b>	<b>% of Volume</b>
RAJASTHAN	575.28	20.72
GUJARAT	301.29	10.85
MAHARASHTRA	253.41	9.13
WEST BENGAL	172.06	6.20
HARYANA	171.44	6.17
DELHI	157.66	5.68
BIHAR	132.49	4.77
CHHATTISGARH	114.91	4.14
TELANGANA	114.57	4.13
PUNJAB	114.27	4.12
ANDHRA PRADESH	105.16	3.79
KERALA	101.63	3.66
DADRA & NAGAR HAVELI	82.21	2.96
ESSAR STEEL	81.17	2.92
KARNATAKA	52.92	1.91
MP	50.09	1.80
DAMAN AND DIU	33.11	1.19
MEGHALAYA	26.95	0.97
UTTAR PRADESH	24.15	0.87
ODISHA	21.00	0.76
HIMACHAL PRADESH	20.05	0.72
ASSAM	17.54	0.63
GOA	15.49	0.56
TAMIL NADU	13.46	0.48
UTTARAKHAND	12.24	0.44
J & K	9.74	0.35
CHANDIGARH	1.53	0.05
JHARKHAND	0.64	0.02
<b>Total</b>	<b>2776.44</b>	<b>100.00</b>
<b>Volume of purchase by top 5 Buyers</b>	<b>1473.47</b>	<b>53.07</b>

**Table-13: VOLUME OF ELECTRICITY UNDER DRAWAL THROUGH DSM, AUGUST 2015**

Name of the State/UT/Other Regional Entity	Volume of Under drawal (MUs)	% of Volume
MAHARASHTRA	171.32	10.30
UTTAR PRADESH	148.92	8.95
NTPC STATIONS WR	124.28	7.47
DELHI	119.10	7.16
MP	104.47	6.28
GUJARAT	103.69	6.23
TAMIL NADU	63.72	3.83
NHPC STATIONS	60.21	3.62
TELANGANA	59.97	3.60
RAJASTHAN	47.16	2.83
J & K	44.71	2.69
NTPC STATIONS NR	37.50	2.25
PUNJAB	34.93	2.10
ANDHRA PRADESH	34.76	2.09
BIHAR	32.97	1.98
DVC	32.32	1.94
HARYANA	30.98	1.86
JHARKHAND	24.17	1.45
WEST BENGAL	24.10	1.45
ESSAR STEEL	23.80	1.43
CHHATTISGARH	21.08	1.27
JITPL	18.39	1.10
ODISHA	18.36	1.10
NTPC STATIONS ER	17.88	1.07
TEESTA HEP	15.20	0.91
CGPL(COASTAL GUJARAT POWER LTD)	14.31	0.86
KARCHAM WANGTOO	14.28	0.86
ASSAM	14.10	0.85
UTTARAKHAND	13.35	0.80
NEEPCO STATIONS	13.00	0.78
JINDAL POWER	11.98	0.72
NTPC STATIONS SR	10.71	0.64
MEGHALAYA	10.48	0.63
GOA	10.39	0.62
MAITHON POWER LTD	8.93	0.54
HIMACHAL PRADESH	8.50	0.51
KARNATAKA	7.23	0.43
ARUNACHAL PRADESH	6.64	0.40
SIKKIM	5.64	0.34
NJPC	5.56	0.33
DADRA & NAGAR HAVELI	5.47	0.33
JAYPEE NIGRIE	4.84	0.29
STERLITE	4.76	0.29
TRIPURA	4.73	0.28
NAGALAND	4.34	0.26

AD HYDRO	4.14	0.25
NSPCL	4.11	0.25
CHANDIGARH	3.79	0.23
PONDICHERRY	3.70	0.22
MANIPUR	3.59	0.22
THERMAL POWERTECH	3.58	0.21
KERALA	3.51	0.21
CHUZACHEN HEP	3.29	0.20
URI-2	3.26	0.20
LANKO_AMK	3.15	0.19
GMR KAMALANGA	2.99	0.18
KSK MAHANADI	2.89	0.17
BALCO	2.68	0.16
MIZORAM	2.53	0.15
MB POWER	2.11	0.13
DB POWER	1.92	0.12
SHREE CEMENT	1.91	0.12
EMCO	1.75	0.11
DCPP	1.75	0.11
ACBIL	1.72	0.10
DAMAN AND DIU	1.69	0.10
DGEN MEGA POWER	1.56	0.09
SIMHAPURI	1.46	0.09
RANGIT HEP	1.39	0.08
ADHUNIK POWER LTD	1.06	0.06
COASTGEN	0.97	0.06
KORBA WEST POWER	0.94	0.06
LOKTAK	0.93	0.06
MEENAKSHI	0.77	0.05
DAGACHU	0.60	0.04
LANCO BUDHIL	0.27	0.02
MALANA	0.25	0.01
LANKO KONDAPALLI	0.22	0.01
VANDANA VIDYUT	0.15	0.01
DHARIWAL POWER	0.00	0.00
RGPPL	0.00	0.00
ESSAR POWER	0.00	0.00
<b>Total</b>	<b>1663.85</b>	<b>100.00</b>
<b>Volume of Export by top 5 States</b>	<b>668.08</b>	<b>40.15</b>



<b>Table-14: VOLUME OF ELECTRICITY OVER DRAWAL THROUGH DSM, AUGUST 2015</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Over drawal (MUs)</b>	<b>% of Volume</b>
HARYANA	143.03	8.04
KARNATAKA	108.08	6.08
PUNJAB	101.54	5.71
NTPC STATIONS NR	92.97	5.23
NTPC STATIONS ER	90.00	5.06
CHHATTISGARH	80.43	4.52
RAJASTHAN	72.19	4.06
UTTAR PRADESH	69.82	3.93
MAHARASHTRA	62.42	3.51
KERALA	59.39	3.34
NTPC STATIONS WR	58.19	3.27
UTTARAKHAND	56.49	3.18
STERLITE	55.82	3.14
WEST BENGAL	49.62	2.79
BIHAR	46.87	2.64
ANDHRA PRADESH	40.73	2.29
ODISHA	38.82	2.18
HIMACHAL PRADESH	37.93	2.13
GUJARAT	37.67	2.12
NTPC STATIONS SR	37.30	2.10
ASSAM	34.51	1.94
TELANGANA	33.76	1.90
TAMIL NADU	32.67	1.84
MP	22.97	1.29
J & K	18.61	1.05
ESSAR STEEL	14.01	0.79
DVC	13.88	0.78
DAMAN AND DIU	13.68	0.77
GOA	13.63	0.77
GMR KAMALANGA	13.46	0.76
JHARKHAND	13.45	0.76
TRIPURA	12.49	0.70
LANKO KONDAPALLI	11.94	0.67
DELHI	11.20	0.63
ACBIL	10.53	0.59
DCPP	10.23	0.58
ADHUNIK POWER LTD	8.39	0.47
CHANDIGARH	8.07	0.45
NHPC STATIONS	8.07	0.45
SHREE CEMENT	7.93	0.45
KARCHAM WANGTOO	6.76	0.38
CGPL	5.81	0.33

THERMAL POWERTECH	5.65	0.32
AD HYDRO	5.56	0.31
NJPC	5.53	0.31
LANCO BUDHIL	5.16	0.29
BALCO	4.85	0.27
KORBA WEST POWER	4.79	0.27
PONDICHERRY	4.48	0.25
JINDAL POWER	4.41	0.25
RGPPL	4.34	0.24
EMCO	4.17	0.23
NAGALAND	4.05	0.23
NSPCL	4.01	0.23
DADRA & NAGAR HAVELI	3.99	0.22
MANIPUR	3.75	0.21
ARUNACHAL PRADESH	3.63	0.20
JITPL	3.56	0.20
MAITHON POWER LTD	3.55	0.20
SIKKIM	3.08	0.17
MEGHALAYA	3.08	0.17
NEEPCO STATIONS	3.03	0.17
GMR CHHATTISGARH	2.94	0.17
COASTGEN	2.61	0.15
MB POWER	2.48	0.14
JAYPEE NIGRIE	2.39	0.13
DAGACHU	2.35	0.13
MIZORAM	2.30	0.13
SIMHAPURI	1.71	0.10
URI-2	1.57	0.09
KSK MAHANADI	1.45	0.08
DB POWER	1.44	0.08
ESSAR POWER	1.39	0.08
LANKO_AMK	1.38	0.08
MEENAKSHI	1.06	0.06
DGEN MEGA POWER	0.80	0.04
MALANA	0.67	0.04
CHUZACHEN HEP	0.65	0.04
DHARIWAL POWER	0.58	0.03
LOKTAK	0.36	0.02
RANGIT HEP	0.36	0.02
TEESTA HEP	0.03	0.00
<b>Total</b>	<b>1778.52</b>	<b>100.00</b>
<b>Volume of Export by top 5 States</b>	<b>535.61</b>	<b>30.12</b>

**Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY  
(REGIONAL ENTITY-WISE), AUGUST 2015**

<b>Sr. No.</b>	<b>Name of the State/UT/Other Regional Entity</b>	<b>Total volume of net short-term transactions of electricity in (MUs)*</b>
1	HARYANA	1407.28
2	TELANGANA	1337.35
3	PUNJAB	1271.54
4	WEST BENGAL	536.05
5	UTTAR PRADESH	412.51
6	MAHARASHTRA	389.75
7	ANDHRA PRADESH	372.80
8	BIHAR	341.83
9	DELHI	336.94
10	GUJARAT	261.75
11	KERALA	205.75
12	ESSAR STEEL	180.29
13	CHHATTISGARH	154.21
14	DADRA & NAGAR HAVELI	80.72
15	JHARKHAND	78.85
16	TAMIL NADU	72.38
17	NTPC STATIONS ER	72.11
18	NTPC STATIONS NR	55.47
19	DAMAN AND DIU	49.83
20	RAJASTHAN	44.15
21	NTPC STATIONS SR	26.59
22	GOA	14.85
23	CHANDIGARH	11.62
24	ASSAM	9.32
25	RGPPL	4.34
26	GMR CHHATTISGARH	2.94
27	BALCO	2.17
28	DAGACHU	1.75
29	COASTGEN	1.64
30	ESSAR POWER	1.39
31	PONDICHERRY	0.78
32	DHARIWAL POWER	0.58
33	MB POWER	0.37
34	MARUTI COAL	0.00
35	NSPCL	-0.10
36	VANDANA VIDYUT	-0.15
37	DGEN MEGA POWER	-0.77
38	RANGIT HEP	-1.03
39	KSK MAHANADI	-1.45
40	URI-2	-1.69
41	LANKO_AMK	-1.77
42	MALANA	-7.76
43	JAYPEE NIGRIE	-7.84
44	CGPL	-8.50
45	NAGALAND	-8.99
46	LOKTAK	-9.65
47	NEEPCO STATIONS	-9.98
48	TEESTA HEP	-15.16
49	MIZORAM	-16.27
50	ARUNACHAL PRADESH	-24.30
51	DCPP	-25.90
52	NJPC	-26.67

53	MANIPUR	-26.72
54	ACBIL	-31.30
55	LANCO BUDHIL	-37.81
56	KORBA WEST POWER	-51.98
57	SIKKIM	-64.41
58	NTPC STATIONS WR	-66.09
59	TRIPURA	-75.84
60	CHUZACHEN HEP	-79.60
61	ODISHA	-84.16
62	EMCO	-86.11
63	MEGHALAYA	-100.83
64	MAITHON POWER LTD	-104.91
65	NHPC STATIONS	-106.46
66	DVC	-107.88
67	UTTARAKHAND	-111.46
68	AD HYDRO	-118.46
69	ADHUNIK POWER LTD	-126.24
70	MEENAKSHI	-143.25
71	DB POWER	-163.46
72	SHREE CEMENT	-183.55
73	STERLITE	-188.86
74	JINDAL STAGE-II	-200.21
75	JINDAL POWER	-223.21
76	LANKO KONDAPALLI	-230.08
77	SIMHAPURI	-270.33
78	KARNATAKA	-294.63
79	THERMAL POWERTECH	-319.90
80	GMR KAMALANGA	-381.67
81	KARCHAM WANGTOO	-434.82
82	JITPL	-456.40
83	J & K	-469.33
84	MP	-801.58
85	HIMACHAL PRADESH	-1035.43

*\* 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*

<b>Table-16: DETAILS OF CONGESTION IN POWER EXCHANGES, AUGUST 2015</b>			
	<b>Details of Congestion</b>	<b>IEX</b>	<b>PXIL</b>
A	Unconstrained Cleared Volume* (MUs)	3112.97	7.96
B	Actual Cleared Volume and hence scheduled (MUs)	2768.77	7.70
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	344.20	0.26
D	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	11.06%	3.25%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	98.89%	95.03%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	25.18%	23.48%
	6.00 - 12.00 hours	25.28%	25.46%
	12.00 - 18.00 hours	25.28%	25.46%
	18.00 - 24.00 hours	24.26%	25.60%
<i>* This power would have been scheduled had there been no congestion.</i>			
<i>Source: IEX &amp; PXIL &amp; NLDC</i>			

<b>Table-17: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (MUs), AUGUST 2015 (DAY-WISE)</b>						<b>Total Electricity Generation (MU) as given at CEA Website *</b>
<b>Date</b>	<b>Bilateral</b>		<b>Power Exchange (Area Clearing Volume# of Day Ahead Market)</b>		<b>Deviation Settlement (Over Drawal+ Under Generation)</b>	
	<b>Through Traders and PXs**</b>	<b>Direct</b>	<b>IEX</b>	<b>PXI</b>		
1-Aug-15	127.41	74.39	77.92	0.25	52.29	2858.96
2-Aug-15	126.73	66.04	73.79	0.27	58.19	2807.57
3-Aug-15	131.72	71.82	71.51	0.26	55.88	2909.14
4-Aug-15	130.26	74.90	81.19	0.24	64.42	2925.31
5-Aug-15	130.83	85.52	79.94	0.23	63.43	2980.90
6-Aug-15	135.21	85.40	100.42	0.48	59.35	3011.50
7-Aug-15	134.87	91.45	92.79	0.31	54.33	2999.10
8-Aug-15	140.48	89.50	94.45	0.29	59.89	2949.91
9-Aug-15	130.43	82.33	87.35	0.29	67.89	3098.60
10-Aug-15	140.88	89.72	103.23	0.21	59.26	3098.60
11-Aug-15	143.37	88.69	98.48	0.23	62.26	3076.00
12-Aug-15	145.05	91.04	101.38	0.22	62.31	3036.90
13-Aug-15	146.29	81.84	96.69	0.23	57.63	3040.80
14-Aug-15	140.85	79.79	93.52	0.23	55.03	3049.90
15-Aug-15	131.97	80.21	67.45	0.19	63.25	2939.80
16-Aug-15	122.54	78.75	80.14	0.19	55.55	2961.70
17-Aug-15	137.53	83.44	79.92	0.22	56.51	3124.70
18-Aug-15	145.20	84.75	81.23	0.22	60.40	3184.70
19-Aug-15	138.17	84.32	81.89	0.19	56.85	3180.70
20-Aug-15	142.49	82.69	97.91	0.22	55.69	3195.30
21-Aug-15	146.29	68.05	109.67	0.26	60.25	3174.80
22-Aug-15	142.62	67.93	99.58	0.26	56.92	3177.80
23-Aug-15	128.13	64.69	86.60	0.26	56.06	2977.50
24-Aug-15	135.52	68.20	98.01	0.24	54.29	3094.80
25-Aug-15	140.81	82.02	87.38	0.24	54.70	3202.17
26-Aug-15	142.95	74.09	91.16	0.25	56.88	3259.40
27-Aug-15	137.34	78.10	91.32	0.24	58.54	3280.50
28-Aug-15	138.50	78.54	91.37	0.24	52.97	3288.77
29-Aug-15	129.65	73.61	88.51	0.23	64.57	3232.60
30-Aug-15	124.04	76.38	86.88	0.24	62.04	3156.70
31-Aug-15	137.10	81.03	97.06	0.27	58.34	3284.00
<b>Total</b>	<b>4225.25</b>	<b>2459.22</b>	<b>2768.75</b>	<b>7.70</b>	<b>1815.97</b>	<b>95559.13</b>

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 ELECTRICITY IN SHORT-TERM TRANSACTIONS (₹/kWh), AUGUST 2015 (DAY-WISE)**

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawal/Over Drawal 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-Aug-15	1.90	8.01	2.97	2.00	4.46	2.54	0.00	5.32	1.61
2-Aug-15	1.78	8.01	2.74	2.00	3.27	2.49	0.00	3.45	1.12
3-Aug-15	1.03	6.75	2.48	1.85	3.25	2.49	0.00	8.24	2.24
4-Aug-15	1.30	8.01	2.91	1.36	3.79	2.50	0.36	6.16	2.50
5-Aug-15	1.97	8.01	3.06	1.58	4.01	2.59	0.00	5.74	1.87
6-Aug-15	1.97	6.75	2.84	2.34	5.41	3.24	0.00	3.45	1.49
7-Aug-15	1.90	5.50	2.50	2.15	5.51	2.81	0.00	3.45	1.58
8-Aug-15	1.85	6.75	2.67	1.90	3.45	2.39	0.00	3.45	1.62
9-Aug-15	1.85	6.75	2.53	1.76	3.40	2.52	0.00	5.95	1.69
10-Aug-15	2.00	6.75	2.81	2.08	3.50	2.51	0.00	8.03	2.79
11-Aug-15	2.25	8.01	3.10	2.05	4.04	2.54	0.00	5.32	2.17
12-Aug-15	1.90	6.75	3.04	2.29	4.01	2.83	0.00	7.82	2.09
13-Aug-15	1.00	6.75	2.74	2.07	4.00	2.90	0.00	8.03	2.54
14-Aug-15	1.99	6.01	2.79	1.54	3.51	2.50	0.00	5.74	2.23
15-Aug-15	0.75	8.01	1.78	2.07	3.87	2.66	0.00	5.95	1.66
16-Aug-15	0.70	8.01	2.13	2.20	2.20	2.20	0.00	5.32	2.02
17-Aug-15	1.90	8.01	2.58	2.47	3.60	3.01	0.00	5.95	2.23
18-Aug-15	0.90	8.01	2.51	2.47	2.55	2.51	0.00	3.45	1.93
19-Aug-15	1.65	9.01	2.61	2.47	2.55	2.51	0.00	6.16	2.12
20-Aug-15	1.40	9.52	2.65	2.47	2.55	2.51	0.00	5.95	2.05
21-Aug-15	1.85	7.25	2.71	2.47	4.10	2.80	0.00	3.45	1.84
22-Aug-15	1.80	8.01	2.89	2.47	3.00	2.60	0.00	3.45	1.65
23-Aug-15	0.80	8.01	2.21	2.25	3.00	2.39	0.00	3.24	1.39
24-Aug-15	1.65	5.51	2.87	2.30	3.00	2.44	1.07	6.16	2.98
25-Aug-15	0.90	9.52	2.88	2.47	3.20	2.66	0.00	6.16	2.90
26-Aug-15	1.80	9.52	3.34	2.47	3.20	2.65	0.00	6.16	3.16
27-Aug-15	0.70	9.52	3.12	2.47	4.00	3.03	0.00	6.16	2.49
28-Aug-15	2.00	9.52	3.52	1.93	4.44	2.97	0.00	5.11	2.28
29-Aug-15	1.50	8.01	3.24	2.45	3.75	3.20	0.00	5.95	2.43
30-Aug-15	1.60	9.52	2.63	1.58	3.95	2.69	0.00	6.36	2.77
31-Aug-15	2.00	9.52	3.44	1.48	3.85	2.61	0.00	6.16	2.79
	<b>0.70#</b>	<b>9.52#</b>	<b>2.80</b>	<b>1.36#</b>	<b>5.51#</b>	<b>2.59</b>	<b>0.00#</b>	<b>8.24#</b>	<b>2.14</b>

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.  
# Minimum/Maximum in the month

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

Name of the State/UT/Other Regional Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Pur- chase	Net**	Sale	Pur- chase	Net**	Over Drawal	Under Drawal	Net**	
PUNJAB	0.00	1090.67	1090.67	0.00	114.27	114.27	101.54	34.93	66.60	1271.54
HARYANA	0.18	1217.16	1216.98	93.19	171.44	78.25	143.03	30.98	112.04	1407.28
RAJASTHAN	560.56	21.89	-538.67	17.49	575.28	557.78	72.19	47.16	25.03	44.15
DELHI	33.00	364.34	331.35	44.16	157.66	113.50	11.20	119.10	-107.90	336.94
UTTAR PRADESH	0.23	467.69	467.47	0.00	24.15	24.15	69.82	148.92	-79.10	412.51
UTTARAKHAND	265.39	144.79	-120.61	46.24	12.24	-33.99	56.49	13.35	43.14	-111.46
HIMACHAL PRADESH	734.03	0.00	-734.03	350.88	20.05	-330.83	37.93	8.50	29.43	-1035.43
J & K	409.46	0.00	-409.46	43.51	9.74	-33.77	18.61	44.71	-26.10	-469.33
CHANDIGARH	0.00	7.44	7.44	1.63	1.53	-0.10	8.07	3.79	4.28	11.62
MP	615.02	0.00	-615.02	155.16	50.09	-105.07	22.97	104.47	-81.49	-801.58
MAHARASHTRA	0.00	282.20	282.20	36.96	253.41	216.45	62.42	171.32	-108.90	389.75
GUJARAT	110.46	318.51	208.05	181.56	301.29	119.73	37.67	103.69	-66.03	261.75
CHHATTISGARH	26.55	66.50	39.95	60.01	114.91	54.90	80.43	21.08	59.36	154.21
GOA	0.00	1.00	1.00	4.88	15.49	10.61	13.63	10.39	3.24	14.85
DAMAN AND DIU	0.00	4.72	4.72	0.00	33.11	33.11	13.68	1.69	11.99	49.83
DADRA & NAGAR	0.00	0.00	0.00	0.00	82.21	82.21	3.99	5.47	-1.49	80.72
ANDHRA PRADESH	106.36	376.85	270.49	8.84	105.16	96.33	40.73	34.76	5.97	372.80
KARNATAKA	323.72	0.00	-323.72	124.67	52.92	-71.75	108.08	7.23	100.84	-294.63
KERALA	0.00	50.75	50.75	2.51	101.63	99.11	59.39	3.51	55.88	205.75
TAMIL NADU	0.00	89.97	89.97	0.00	13.46	13.46	32.67	63.72	-31.05	72.38
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	4.48	3.70	0.78	0.78
TELANGANA	10.02	1299.47	1289.45	40.45	114.57	74.11	33.76	59.97	-26.20	1337.35
WEST BENGAL	39.57	383.20	343.62	5.15	172.06	166.91	49.62	24.10	25.52	536.05
ODISHA	133.58	51.81	-81.77	43.85	21.00	-22.85	38.82	18.36	20.46	-84.16
BIHAR	0.00	195.43	195.43	0.00	132.49	132.49	46.87	32.97	13.90	341.83
JHARKHAND	0.00	88.93	88.93	0.00	0.64	0.64	13.45	24.17	-10.72	78.85
SIKKIM	0.00	0.00	0.00	61.85	0.00	-61.85	3.08	5.64	-2.56	-64.41
DVC	88.17	0.00	-88.17	1.27	0.00	-1.27	13.88	32.32	-18.44	-107.88
ARUNACHAL PRADESH	0.00	0.00	0.00	21.28	0.00	-21.28	3.63	6.64	-3.01	-24.30
ASSAM	61.09	49.10	-11.99	16.62	17.54	0.91	34.51	14.10	20.41	9.32
MANIPUR	6.87	0.00	-6.87	20.01	0.00	-20.01	3.75	3.59	0.16	-26.72
MEGHALAYA	80.00	0.00	-80.00	40.38	26.95	-13.43	3.08	10.48	-7.40	-100.83
MIZORAM	0.00	0.00	0.00	16.04	0.00	-16.04	2.30	2.53	-0.23	-16.27
NAGALAND	0.00	0.00	0.00	8.70	0.00	-8.70	4.05	4.34	-0.29	-8.99
TRIPURA	4.99	0.00	-4.99	78.62	0.00	-78.62	12.49	4.73	7.77	-75.84
NTPC STATIONS NR	0.00	0.00	0.00	0.00	0.00	0.00	92.97	37.50	55.47	55.47
NHPC STATIONS	0.00	0.00	0.00	54.31	0.00	-54.31	8.07	60.21	-52.15	-106.46
NJPC	0.00	0.00	0.00	26.65	0.00	-26.65	5.53	5.56	-0.02	-26.67
AD HYDRO	85.67	0.00	-85.67	34.21	0.00	-34.21	5.56	4.14	1.42	-118.46
KARCHAM WANGTOO	265.01	0.00	-265.01	162.28	0.00	-162.28	6.76	14.28	-7.52	-434.82
SHREE CEMENT	175.83	0.00	-175.83	13.74	0.00	-13.74	7.93	1.91	6.02	-183.55
LANCO BUDHIL	0.00	0.00	0.00	42.69	0.00	-42.69	5.16	0.27	4.88	-37.81
MALANA	0.00	0.00	0.00	8.18	0.00	-8.18	0.67	0.25	0.42	-7.76
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	1.57	3.26	-1.69	-1.69
NTPC STATIONS WR	0.00	0.00	0.00	0.00	0.00	0.00	58.19	124.28	-66.09	-66.09



JINDAL POWER	93.36	0.00	-93.36	122.28	0.00	-122.28	4.41	11.98	-7.57	-223.21
LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	1.38	3.15	-1.77	-1.77
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	4.01	4.11	-0.10	-0.10
ACBIL	9.41	0.00	-9.41	30.70	0.00	-30.70	10.53	1.72	8.81	-31.30
BALCO	0.00	0.00	0.00	0.00	0.00	0.00	4.85	2.68	2.17	2.17
RGPPL	0.00	0.00	0.00	0.00	0.00	0.00	4.34	0.00	4.34	4.34
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	5.81	14.31	-8.50	-8.50
DCPP	5.50	0.00	-5.50	28.89	0.00	-28.89	10.23	1.75	8.48	-25.90
EMCO	88.33	0.00	-88.33	0.20	0.00	-0.20	4.17	1.75	2.42	-86.11
VANDANA VIDYUT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	-0.15	-0.15
ESSAR STEEL	0.00	108.91	108.91	0.00	81.17	81.17	14.01	23.80	-9.79	180.29
KSK MAHANADI	0.00	0.00	0.00	0.00	0.00	0.00	1.45	2.89	-1.45	-1.45
ESSAR POWER	0.00	0.00	0.00	0.00	0.00	0.00	1.39	0.00	1.39	1.39
JINDAL STAGE-II	171.91	0.00	-171.91	28.30	0.00	-28.30	0.00	0.00	0.00	-200.21
DB POWER	116.49	0.00	-116.49	46.49	0.00	-46.49	1.44	1.92	-0.48	-163.46
DHARIWAL POWER	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.58	0.58
JAYPEE NIGRIE	0.00	0.00	0.00	5.39	0.00	-5.39	2.39	4.84	-2.45	-7.84
DGEN MEGA POWER	0.00	0.00	0.00	0.00	0.00	0.00	0.80	1.56	-0.77	-0.77
GMR CHHATTISGARH	0.00	0.00	0.00	0.00	0.00	0.00	2.94	0.00	2.94	2.94
KORBA WEST POWER	2.03	0.00	-2.03	53.80	0.00	-53.80	4.79	0.94	3.85	-51.98
MB POWER	0.00	0.00	0.00	0.00	0.00	0.00	2.48	2.11	0.37	0.37
MARUTI COAL	0.00	0.00	0.00	2.34	0.00	0.00	0.00	0.00	0.00	0.00
SPECTRUM	0.00	0.00	0.00	4.11	0.00	0.00	0.00	0.00	0.00	0.00
NTPC STATIONS SR	0.00	0.00	0.00	0.00	0.00	0.00	37.30	10.71	26.59	26.59
LANKO KONDAPALLI	241.80	0.00	-241.80	0.00	0.00	0.00	11.94	0.22	11.72	-230.08
SIMHAPURI	260.89	0.00	-260.89	9.69	0.00	-9.69	1.71	1.46	0.25	-270.33
MEENAKSHI	115.97	0.00	-115.97	27.58	0.00	-27.58	1.06	0.77	0.29	-143.25
COASTGEN	0.00	0.00	0.00	0.00	0.00	0.00	2.61	0.97	1.64	1.64
THERMAL POWERTECH	296.99	0.00	-296.99	24.98	0.00	-24.98	5.65	3.58	2.07	-319.90
NTPC STATIONS ER	0.00	0.00	0.00	0.00	0.00	0.00	90.00	17.88	72.11	72.11
STERLITE	175.75	0.00	-175.75	64.17	0.00	-64.17	55.82	4.76	51.06	-188.86
MAITHON POWER LTD	92.43	0.00	-92.43	7.10	0.00	-7.10	3.55	8.93	-5.38	-104.91
ADHUNIK POWER LTD	103.90	0.00	-103.90	29.68	0.00	-29.68	8.39	1.06	7.33	-126.24
CHUZACHEN HEP	0.00	0.00	0.00	76.95	0.00	-76.95	0.65	3.29	-2.65	-79.60
RANGIT HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.36	1.39	-1.03	-1.03
GMR KAMALANGA	390.51	0.00	-390.51	1.63	0.00	-1.63	13.46	2.99	10.47	-381.67
JITPL	106.47	0.00	-106.47	335.10	0.00	-335.10	3.56	18.39	-14.82	-456.40
TEESTA HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.03	15.20	-15.16	-15.16
DAGACHU	0.00	0.00	0.00	0.00	0.00	0.00	2.35	0.60	1.75	1.75
NEEPCO STATIONS	0.00	0.00	0.00	0.00	0.00	0.00	3.03	13.00	-9.98	-9.98
LOKTAK	0.00	0.00	0.00	9.07	0.00	-9.07	0.36	0.93	-0.57	-9.65
<b>Total</b>	<b>6407.49</b>	<b>6681.33</b>	<b>273.84</b>	<b>2776.44</b>	<b>2776.44</b>	<b>6.46</b>	<b>1778.52</b>	<b>1663.85</b>	<b>114.67</b>	<b>394.97</b>

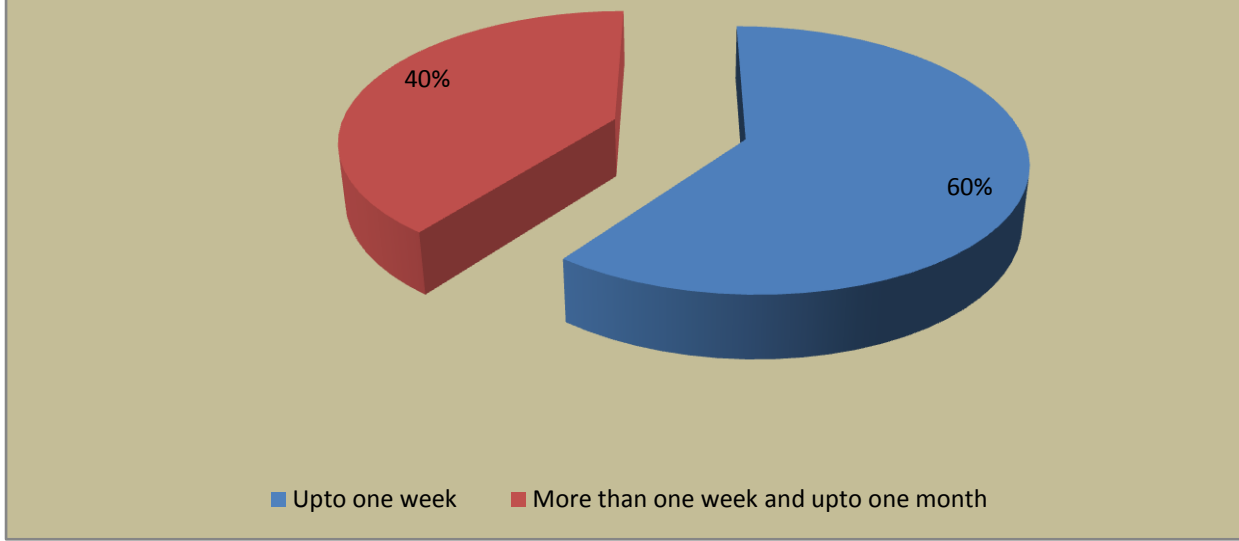
Source: NLDC

\* 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.

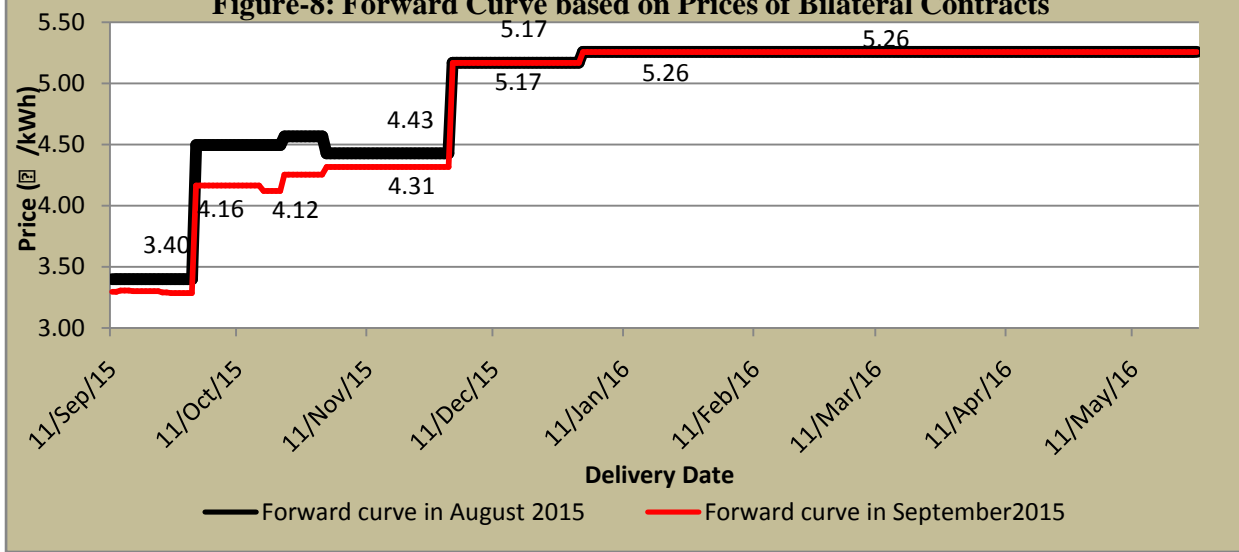
\*\* (-) indicates sale and (+) indicates purchase,

\*\*\* Total net includes net of transactions through bilateral, power exchange and DSM

**Figure 7: Bilateral Contracts executed by Traders in September, 2015**



**Figure-8: Forward Curve based on Prices of Bilateral Contracts**



**Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs)  
TRANSACTIONED THROUGH POWER EXCHANGES, AUGUST 2015**

Sr.No.	Details of REC Transactions	IEX		PXIL	
		Solar	Non-Solar	Solar	Non Solar
A	Volume of Buy Bid	26402	77236	15526	30045
B	Volume of Sell Bid	1744953	8355780	835053	3986936
C	Ratio of Buy Bid to Sell Bid Volume	0.02	0.01	0.019	0.01
D	Market Clearing Volume (MWh)	26402	77236	15526	30045
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</i> (₹/MWh)	<i>Forbearance Price</i> (₹/MWh)
<i>Solar</i>	<i>3500.00</i>	<i>5800.00</i>
<i>Non-Solar</i>	<i>1500.00</i>	<i>3300.00</i>