Monthly Report on Short-term Transactions of Electricity in India

January, 2015

Economics Division
Central Electricity Regulatory Commission
3rd & 4th Floor, Chanderlok Building
36, Janpath, New Delhi -110001.

Contents

List of Tables and Figures

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
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 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
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

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 January, 2015 is as under:

I: Volume of Short-term Transactions of Electricity

During the month of January 2015, total electricity generation excluding generation from renewable and captive power plants in India was 86028.68 MUs (Table-1).

Of the total electricity generation, 8646.10 MUs (10.05%) were transacted through short-term, comprising of 4545.22 MUs (5.28%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2375.27 MUs (2.76%) through day ahead collective transactions on Power Exchanges (IEX and PXIL) and 1725.61 MUs (2.01%) through DSM (Table-1 & Figure-2).

Of the total short-term transactions, Bilateral constitute 52.57% (36.27% through traders and term-ahead contracts on Power Exchanges and 16.30% directly between distribution companies) followed by 27.47% through day ahead collective transactions on Power Exchanges and 19.96% 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 through power exchanges. Here, the volume of electricity transacted by the trading licensees includes bilateral transactions and the transactions undertaken through power exchanges. There were 46 trading licensees as on 31.01.2015, of which only 24 have engaged in trading during January 2015. Top 5 trading licensees had a share of 65.34% 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 power, whereas decrease indicates the opposite. A HHI below 0.15 indicates non-concentration, a HHI between 0.15 to 0.25 indicates moderate concentration and a HHI above 0.25 indicates high concentration. The HHI computed for volume of electricity traded by trading licensees (inter-state & intra-state) was 0.1170 for the month of January 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 2337.10 MUs and 38.17 MUs respectively. The volume of total Buy bids and Sale bids was 3027.68 MUs and 4057.64 MUs respectively in IEX and 74.31 MUs and 63.48 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 IEX (0.75 times) and greater demand in PXIL (1.17 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 3.35 MUs and 94.46 MUs respectively (Table-6 & Table-7).

II: Price of Short-term Transactions of Electricity

(i) ***Price of electricity transacted through Traders:*** Weighted average sale price has been computed for the electricity transacted through traders and it was ₹4.39/kWh. Weighted average sale price was also computed for the transactions during Round the Clock (RTC), Peak, and Off-Peak periods separately, and the sale prices were ₹4.43/kWh, ₹4.15/kWh and ₹3.53/kWh respectively. Minimum and Maximum sale prices were ₹3.07/kWh and ₹7.99/kWh respectively (Table-3 & 4).

(ii*) Price of electricity transacted Through Power Exchanges:* 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 ₹1.27/kWh, ₹17.50/kWh and ₹2.95/kWh respectively in IEX and ₹1.40/kWh, ₹4.60/kWh and ₹2.67/kWh respectively in PXIL (Table-5).

The price of electricity transacted through IEX and PXIL in the term-ahead market was ₹3.89/kWh and ₹2.98/kWh respectively (Table-6 and Table-7).

(iii*) Price of electricity transacted under DSM:* The average deviation settlement price was ₹1.77/kWh for all India grid. Minimum and Maximum Deviation prices were ₹0.00/kWh and ₹8.24/kWh respectively in the All India Grid.

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 Entity[1]-Wise)

Of the total bilateral transactions, top 5 regional entities sold 64.51% of the volume, and these were Haryana, Delhi, Karnataka, Simhapuri Energy Private Ltd and Jindal Power Ltd. Top 5 regional entities purchased 47.27% of the volume, and these were Rajasthan, Himachal Pradesh, Jammu and Kashmir, Maharashtra and Telangana. (Table-9, 10 & 19).

Of the total Power Exchange transactions, top 5 regional entities sold 35.39% of the volume, and these were Madhya Pradesh, Jindal Power Ltd, Donga Mahua Captive Power Plant, Karnataka and Maharashtra. Top 5 regional entities purchased 54.13% of the volume, and these were Rajasthan, Gujarat, Uttarakhand, Maharashtra and Delhi. (Table-11, 12 & 19).

Of the total DSM transactions, top 5 regional entities underdrew 54.77% of the volume, and these were Uttar Pradesh, Maharashtra, Haryana, Gujarat and Bihar. Top 5 regional entities overdrew 33.26% of the volume, and these were Rajasthan, Maharashtra, Karnataka, Punjab and Kerala. (Table-13, 14 & 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.*

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 Haryana, Jindal Power Ltd, Karnataka, Sterlite India Ltd and Uttar Pradesh. Top 5 electricity purchasing regional entities were Rajasthan, Jammu and Kashmir, Uttarakhand, Telangana and Kerala.

IV: Congestion[2] 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 January 2015, congestion occurred in both the power exchanges, the details of which 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 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 7.79% and 9.88% of the unconstrained cleared volume in

[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.

IEX and PXIL, respectively. In terms of time, congestion occurred was 93.35% in IEX and 58.13% in PXIL.

V: Analysis of Bilateral Contracts executed by Traders in February 2015[4]

(i) *Duration of bilateral contracts:*

During February 2015, a total of 145 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 1628 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 71.0% of the contracts were executed for a duration of up to one week, followed by 28.3% of the contracts executed for a duration of more than a week and upto one month and 0.7% of the contracts executed for a duration of more than one month and upto three months.

During the same period, 45 banking/swapping bilateral contracts were also executed for the volume of 522 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 March 2015 to May 2016 based on bilateral contracts[5] executed till February, 2015. The forward curve drawn for January 2015 has also been depicted for the period March 2015 onwards for comparison purposes. It is observed that with the execution of new contracts in February 2015, there is an increase in the forward prices in March 2015 and a decrease in

[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*

forward prices in May 2015. However, forward prices remain same for period beyond May 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 January 2015 are shown in Table-20. The market clearing volume of Solar RECs transacted on IEX and PXIL were 30650 and 1490 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 393081 and 143928 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 0.45 and 0.002 for IEX and PXIL respectively. For Non-Solar RECs, the ratio of buy and sell bids was 0.06 for IEX and 0.03 for PXIL.

VII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 10.05%.

- Of the total short-term transactions of electricity, 52.57% was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 27.47% through Power Exchanges and 19.96% through DSM.

- Top 5 trading licensees had a share of 65.34% in the total volume traded by all the trading licensees.

- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.1170, indicating non-concentration of market power.

- The price of electricity transacted through trading licensees was ₹4.39/kWh. The prices of electricity transacted through IEX and PXIL were ₹2.95/kWh and ₹2.67/kWh respectively.

- The price of electricity transacted under DSM was ₹1.77/kWh

- The gap between the volume of buy bids and sale bids placed through power exchanges indicates that there was less demand in IEX (1: 0.75) and more demand in PXIL (1: 1.17) when compared with the supply offered through these exchanges.

- Top 5 electricity selling regional entities were Haryana, Jindal Power Ltd, Karnataka, Sterlite India Ltd and Uttar Pradesh. Top 5 electricity purchasing regional entities were Rajasthan, Jammu and Kashmir, Uttarakhand, Telangana and Kerala.

- The volume of electricity that could not be cleared in the power exchanges due to congestion was 7.79% and 9.88% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 93.35% in IEX and 58.13% in PXIL.

- In February 2015, 71% of the contracts were executed for a duration of up to one week, followed by 28.3% of the contracts executed for a duration of more than a week and upto one month and 0.7% of the contracts executed for a duration of more than one month and upto three months.

- There is an increase in forward prices in March 2015 and a decrease in forward prices in May 2015. However, forward prices remain same for period beyond May 2015. The increase in prices is attributed to contracts executed at higher prices for delivery in March 2015. Similarly, decrease in prices is attributed to contracts executed at lower prices for delivery in May 2015.

- The market clearing volume of Solar RECs transacted on IEX and PXIL were 30650 and 1490 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 393081 and 143928 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), JANUARY 2015				
Sr.No	**Short-term transactions**	**Volume (MUs)**	**% to Volume of short-term transactions**	**% to Total Generation**
1	Bilateral	4545.22	52.57%	5.28%
	(i) Through Traders and PXs	*3136.06*	36.27%	3.65%
	(ii) Direct	*1409.16*	16.30%	1.64%
2	Through Power Exchanges	2375.27	27.47%	2.76%
	(i) IEX	*2337.10*	27.03%	2.72%
	(ii) PXIL	*38.17*	0.44%	0.04%
3	Through DSM	1725.61	19.96%	2.01%
	Total	**8646.10**	**100.00%**	**10.05%**
	Total Generation	**86028.68**	_	_
Source: NLDC				

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

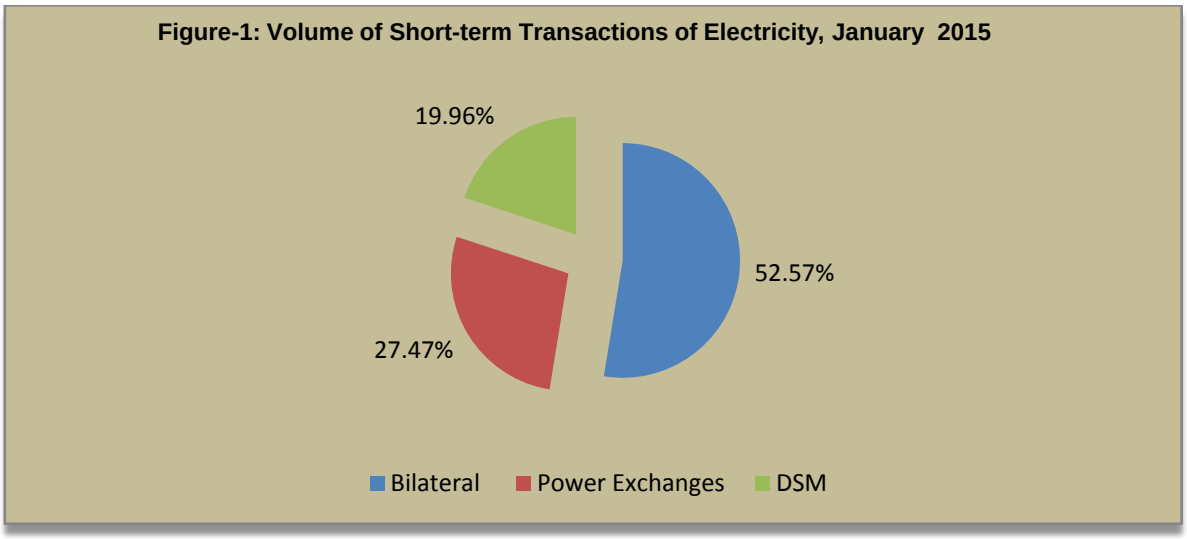
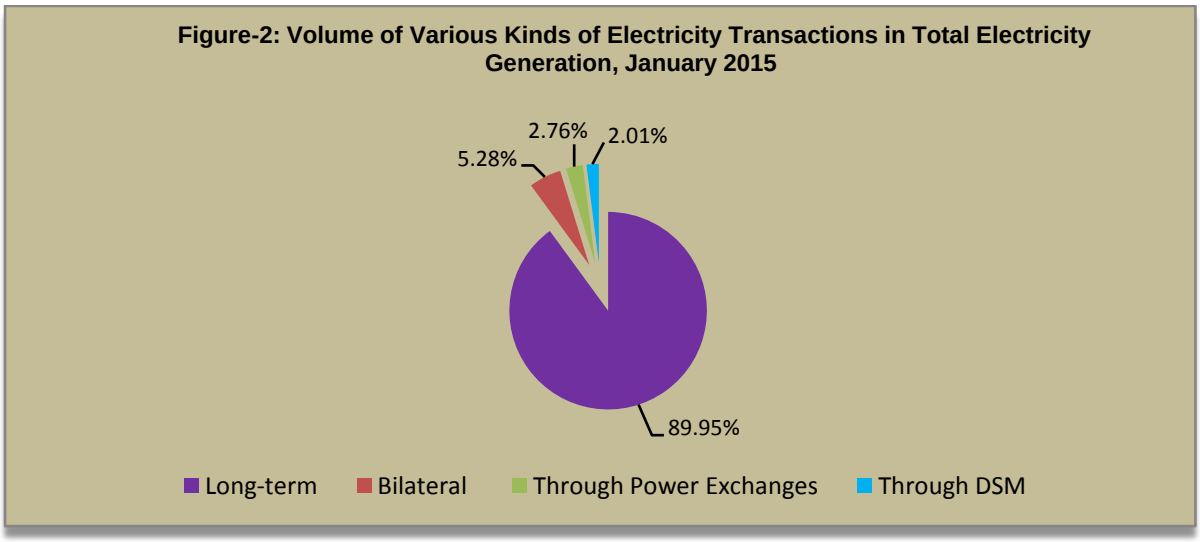


Figure-2: Volume of Various Kinds of Electricity Transactions in Total Electricity Generation, January 2015



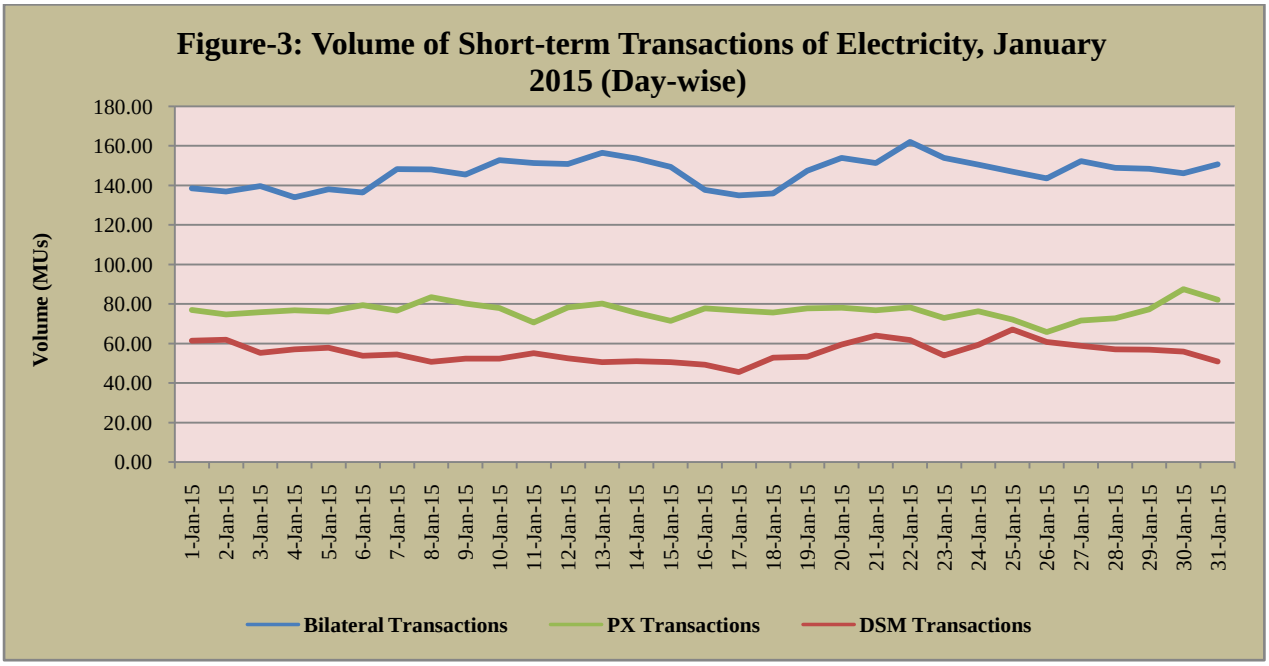


Figure-3: Volume of Short-term Transactions of Electricity, January 2015 (Day-wise)
Volume (MUs)
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
1-Jan-15
2-Jan-15
3-Jan-15
4-Jan-15
5-Jan-15
6-Jan-15
7-Jan-15
8-Jan-15
9-Jan-15
10-Jan-15
11-Jan-15
12-Jan-15
13-Jan-15
14-Jan-15
15-Jan-15
16-Jan-15
17-Jan-15
18-Jan-15
19-Jan-15
20-Jan-15
21-Jan-15
22-Jan-15
23-Jan-15
24-Jan-15
25-Jan-15
26-Jan-15
27-Jan-15
28-Jan-15
29-Jan-15
30-Jan-15
31-Jan-15
Bilateral Transactions
PX Transactions
DSM Transactions

Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, JANUARY 2015			
Sr.No	**Name of the Trading Licensee**	**% Share in total Volume transacted by Trading Licensees**	**Herfindahl-Hirschman Index**
1	PTC India Ltd.	23.06%	0.0532
2	Mittal Processors (P) Ltd.	14.36%	0.0206
3	GMR Energy Trading Ltd.	12.85%	0.0165
4	Tata Power Trading Company (P) Ltd.	8.19%	0.0067
5	JSW Power Trading Company Ltd	6.88%	0.0047
6	NTPC Vidyut Vyapar Nigam Ltd.	6.57%	0.0043
7	Shree Cement Ltd.	5.81%	0.0034
8	Knowledge Infrastructure Systems (P) Ltd	5.14%	0.0026
9	Manikaran Power Ltd.	4.75%	0.0023
10	Adani Enterprises Ltd.	4.44%	0.0020
11	Instinct Infra & Power Ltd.	1.38%	0.0002
12	National Energy Trading & Services Ltd.	1.20%	0.0001
13	RPG Power Trading Company Ltd.	0.93%	0.0001
14	Ambitious Power Trading Company Ltd.	0.90%	0.0001
15	Reliance Energy Trading (P) Ltd	0.85%	0.0001
16	Jaiprakash Associates Ltd.	0.69%	0.0000
17	Arunachal Pradesh Power Corporation (P) ltd	0.57%	0.0000
18	My Home Power Private Ltd.	0.42%	0.0000
19	Indrajit Power Technology (P) Ltd.	0.32%	0.0000
20	SN Power Markets Pvt. Ltd.	0.27%	0.0000
21	Essar Electric Power Development Corp. Ltd.	0.21%	0.0000
22	Customized Energy Solutions India (P) Ltd.	0.16%	0.0000
23	Vandana Vidyut Limited	0.04%	0.0000
24	Vedprakash Power Private Limited, New Delhi	0.001%	0.0000
TOTAL		**100.00%**	**0.1170**
Top 5 trading licensees		**65.34%**	
Note 1: Volume of electricity transacted by the trading licensees includes bilateral transactions (inter-state & intra-state) and the transactions undertaken through power exchanges.			
Note 2: Volume of electricity transacted by Global Energy Ltd is not included.			
Source: Information submitted by trading licensees			

Figure- 4 : Percentage Share of Electricity Transacted by Trading Licensees, January 2015

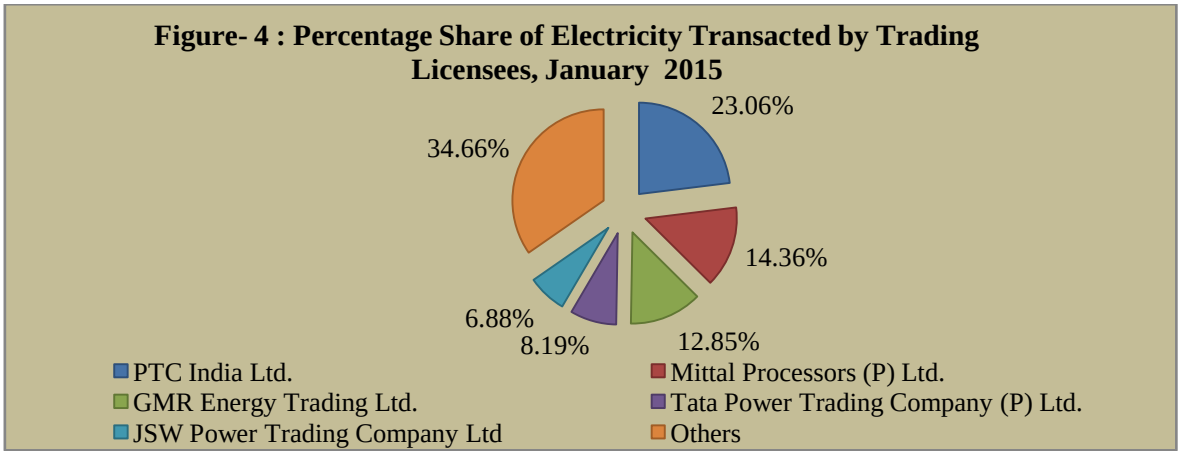


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, JANUARY 2015		
Sr.No		**Sale Price of Traders (₹/kWh)**
1	Minimum	3.07
2	Maximum	7.99
3	Weighted Average	4.39

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), JANUARY 2015		
Sr.No	**Period of Trade**	**Sale Price of Traders (₹/kWh)**
1	RTC	4.43
2	PEAK	4.15
3	OFF PEAK	3.53

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, JANUARY 2015			
Sr.No	**ACP**	**Price in IEX (₹/kWh)**	**Price in PXIL (₹/kWh)**
1	Minimum	1.27	1.40
2	Maximum	17.50	4.60
3	Weighted Average	2.95	2.67

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, JANUARY 2015			
Sr.No	**Term ahead contracts**	**Actual Scheduled Volume (MUs)**	**Weighted Average Price (₹/kWh)**
1	Intra-Day Contracts	2.95	3.91
2	Day Ahead Contingency Contracts	0.40	3.78
	Total	**3.35**	**3.89**

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, JANUARY 2015			
Sr.No	**Term ahead contracts**	**Actual Scheduled Volume (MUs)**	**Weighted Average Price (₹/kWh)**
1	Intra-Day Contracts	17.93	2.93
2	Daily Contracts	32.88	2.97
3	Weekly Contracts	43.65	3.00
	Total	**94.46**	**2.98**

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH DSM, JANUARY 2015		
Sr.No		**Price in All India Grid (₹/kWh)**
1	Minimum	0.00
2	Maximum	8.24
3	Average	1.77

Source: NLDC

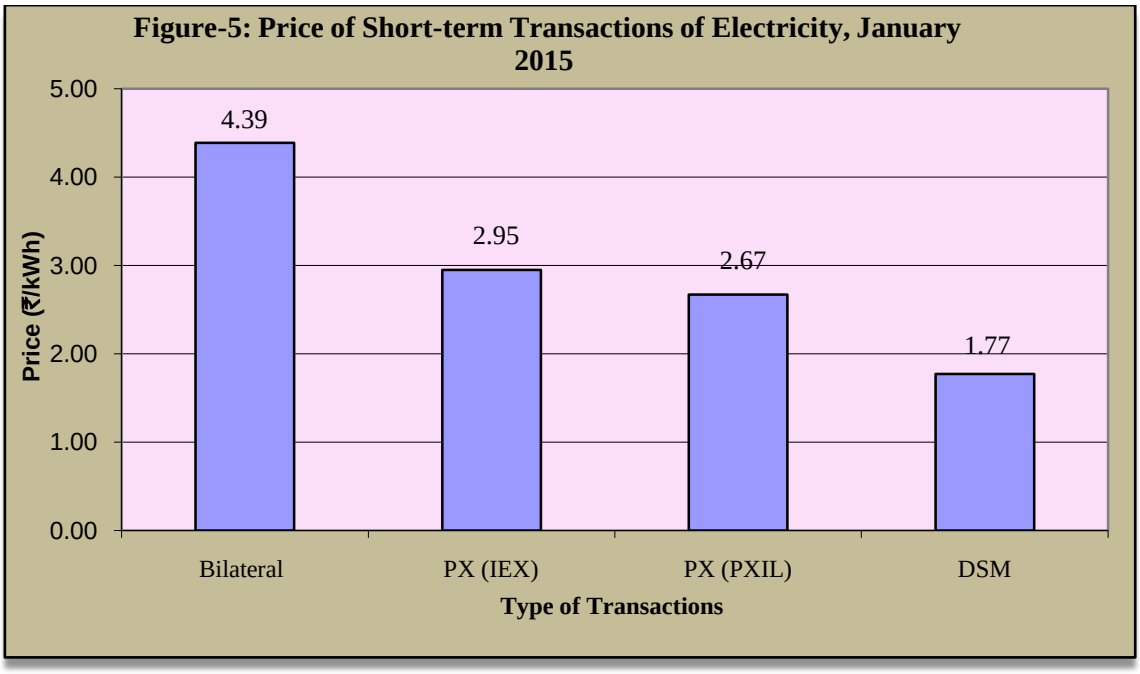


Figure-5: Price of Short-term Transactions of Electricity, January 2015
5.00
4.00
3.00
2.00
1.00
0.00
Price (₹/kWh)
4.39
2.95
2.67
1.77
Bilateral
PX (IEX)
PX (PXIL)
DSM
Type of Transactions

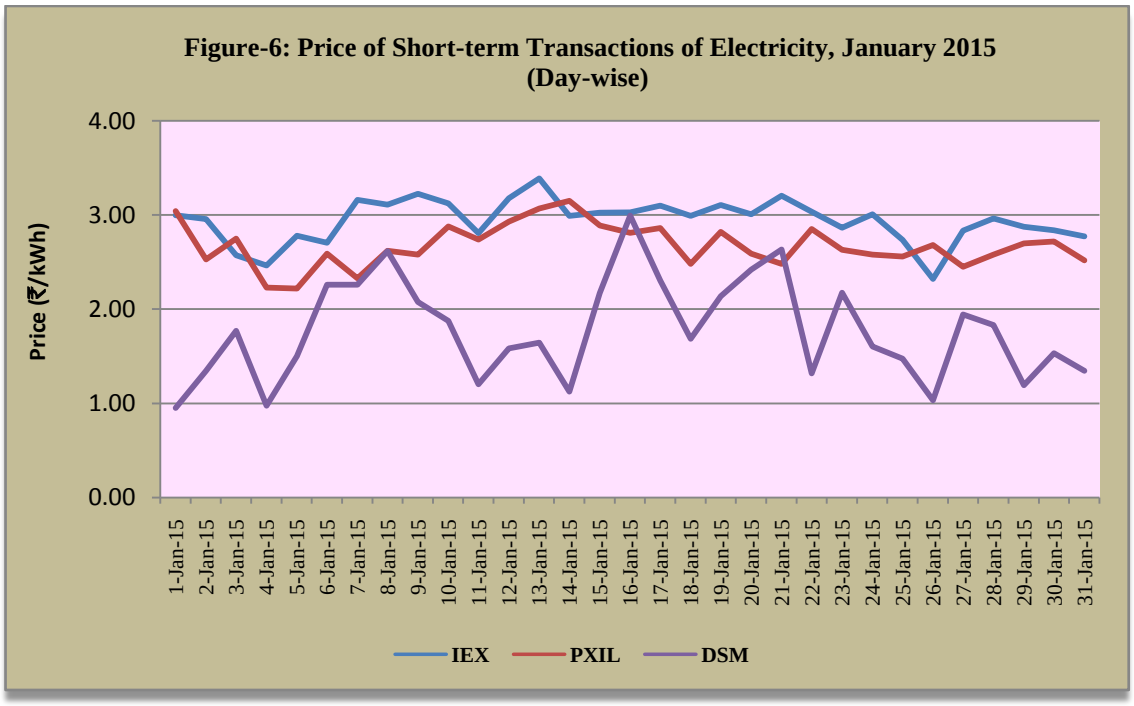


Figure-6: Price of Short-term Transactions of Electricity, January 2015 (Day-wise)
4.00
3.00
2.00
1.00
0.00
Price (₹/kWh)
1-Jan-15
2-Jan-15
3-Jan-15
4-Jan-15
5-Jan-15
6-Jan-15
7-Jan-15
8-Jan-15
9-Jan-15
10-Jan-15
11-Jan-15
12-Jan-15
13-Jan-15
14-Jan-15
15-Jan-15
16-Jan-15
17-Jan-15
18-Jan-15
19-Jan-15
20-Jan-15
21-Jan-15
22-Jan-15
23-Jan-15
24-Jan-15
25-Jan-15
26-Jan-15
27-Jan-15
28-Jan-15
29-Jan-15
30-Jan-15
31-Jan-15
IEX
PXIL
DSM

Table-9: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL, JANUARY 2015		
Name of the State/UT/Other Regional Entity	**Volume of Sale (MUs)**	**% of Volume**
Haryana	956.38	27.41%
Delhi	439.37	12.59%
Karnataka	352.21	10.10%
SIMHAPURI	255.29	7.32%
JINDAL POWER	247.32	7.09%
Gujarat	244.99	7.02%
Punjab	224.52	6.44%
Uttar Pradesh	166.08	4.76%
STERLITE	162.53	4.66%
West Bengal	130.69	3.75%
Rajasthan	56.71	1.63%
SHREE CEMENT	56.71	1.63%
Himachal Pradesh	52.12	1.49%
Orissa	49.45	1.42%
DVC	28.96	0.83%
Chattisgarh	18.28	0.52%
J & K	10.98	0.31%
Telangana	10.90	0.31%
KARCHAM WANGTOO	8.31	0.24%
UT Chandigarh	7.44	0.21%
ACBIL	6.10	0.17%
Tripura	1.36	0.04%
Manipur	0.84	0.02%
MP	0.60	0.02%
MAITHON POWER LTD	0.55	0.02%
DCPP	0.06	0.00%
Total	**3488.76**	**100.00%**
Volume of sale by top 5 States	**2250.58**	**64.51%**

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL, JANUARY 2015		
Name of the State/UT/Other Regional Entity	**Volume of Purchase (MUs)**	**% of Volume**
Rajasthan	486.65	11.07%
Himachal Pradesh	467.13	10.63%
J & K	433.61	9.86%
Maharashtra	377.76	8.59%
Telangana	313.04	7.12%
Andhra Pradesh	302.10	6.87%
Tamilnadu	283.61	6.45%
Haryana	251.94	5.73%
Kerala	226.32	5.15%
Uttarakhand	219.83	5.00%
MP	197.38	4.49%
Bihar	188.25	4.28%
Orissa	133.18	3.03%
Jharkhand	125.21	2.85%
Uttar Pradesh	119.13	2.71%
Delhi	99.24	2.26%
Meghalaya	51.50	1.17%
Chattisgarh	31.73	0.72%
Goa	22.65	0.52%
Manipur	17.00	0.39%
West Bengal	14.74	0.34%
Gujarat	12.22	0.28%
Nagaland	10.57	0.24%
Assam	5.70	0.13%
Sikkim	2.20	0.05%
Karnataka	1.05	0.02%
AD HYDRO	1.00	0.02%
Meenakshi	0.99	0.02%
Punjab	0.40	0.01%
Mizoram	0.20	0.00%
Total	**4396.31**	**100.00%**
Volume of Purchase by top 5 States	**2078.18**	**47.27%**

Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, JANUARY 2015		
Name of the State/UT/Other Regional Entity	**Volume of Sale (MUs)**	**% of Volume**
MP	207.13	8.72%
JINDAL POWER	182.41	7.68%
DCPP	160.09	6.74%
Karnataka	147.04	6.19%
Maharashtra	143.95	6.06%
Chattisgarh	142.55	6.00%
STERLITE	142.51	6.00%
Gujarat	118.45	4.99%
JAYPEE NIGRIE	103.67	4.36%
Himachal Pradesh	91.54	3.85%
West Bengal	88.08	3.71%
JINDAL STAGE-II	76.44	3.22%
ACBIL	70.49	2.97%
Haryana	65.64	2.76%
DVC	61.61	2.59%
Tripura	59.72	2.51%
MAITHON POWER LTD	58.80	2.48%
SHREE CEMENT	52.44	2.21%
KARCHAM WANGTOO	45.84	1.93%
GMR KAMALANGA	43.73	1.84%
Orissa	43.20	1.82%
Goa	28.10	1.18%
Telangana	27.12	1.14%
Andhra Pradesh	26.37	1.11%
Rajasthan	24.63	1.04%
Delhi	24.54	1.03%
Meenakshi	23.07	0.97%
KORBA WEST Power	18.18	0.77%
Sikkim	17.18	0.72%
AD HYDRO	11.20	0.47%
CHUZACHEN HEP	9.72	0.41%
ONGC PALATANA	8.72	0.37%
TEESTA HEP	8.42	0.35%
SIMHAPURI	7.67	0.32%
J & K	5.62	0.24%
Uttarakhand	5.06	0.21%
Manipur	4.89	0.21%
Meghalaya	4.61	0.19%
NJPC	4.43	0.19%
RANGIT HEP	2.44	0.10%
Kerala	2.17	0.09%
EMCO	1.92	0.08%
Mizoram	1.41	0.06%
NEEPCO Stations	1.14	0.05%
VANDANA VIDYUT	0.86	0.04%
LANCO BUDHIL	0.30	0.01%
Assam	0.11	0.00%
DGEN Mega power	0.07	0.00%
Total	**2375.27**	**100.00%**
Volume of sale by top 5 States	**840.61**	**35.39%**

Table-12: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGES, JANUARY 2015		
Name of the State/UT/Other Regional Entity	**Volume of Purchase (MUs)**	**% of Volume**
Rajasthan	465.70	19.61%
Gujarat	292.15	12.30%
Uttarakhand	247.73	10.43%
Maharashtra	145.43	6.12%
Delhi	134.72	5.67%
Telangana	122.30	5.15%
Kerala	104.01	4.38%
Andhra Pradesh	94.24	3.97%
Tamilnadu	85.42	3.60%
ESSAR STEEL	83.59	3.52%
J & K	82.18	3.46%
MP	76.74	3.23%
Haryana	74.44	3.13%
Karnataka	72.76	3.06%
Punjab	62.36	2.63%
BALCO	56.20	2.37%
West Bengal	33.26	1.40%
Daman and Diu	27.94	1.18%
Assam	26.91	1.13%
Meghalaya	17.69	0.74%
UT Chandigarh	14.80	0.62%
Dadra & Nagar Haveli	12.10	0.51%
Arunachal Pradesh	11.10	0.47%
Himachal Pradesh	10.99	0.46%
Manipur	9.71	0.41%
Chattisgarh	5.26	0.22%
Nagaland	1.55	0.07%
Orissa	1.53	0.06%
Goa	1.16	0.05%
Uttar Pradesh	1.00	0.04%
GMR Chattisgarh	0.32	0.01%
Total	**2375.27**	**100.00%**
Volume of purchase by top 5 States	**1285.73**	**54.13%**

Table-13: VOLUME OF ELECTRICITY EXPORT THROUGH DSM, JANUARY 2015		
Name of the State/UT/Other Regional Entity	**Volume of Export (MUs)**	**% of Volume**
Uttar Pradesh	243.11	18.43%
Maharashtra	151.51	11.48%
Haryana	130.78	9.91%
Gujarat	105.65	8.01%
Bihar	91.45	6.93%
Tamilnadu	72.06	5.46%
MP	69.12	5.24%
Delhi	39.76	3.01%
Chattisgarh	39.70	3.01%
Rajasthan	30.43	2.31%
DVC	27.51	2.09%
Andhra Pradesh	26.66	2.02%
NHPC Stations	24.57	1.86%
Goa	24.42	1.85%
Jharkhand	22.80	1.73%
CGPL	18.44	1.40%
Punjab	17.83	1.35%
West Bengal	17.22	1.31%
JINDAL POWER	16.09	1.22%
Orissa	15.24	1.16%
Telangana	14.91	1.13%
J & K	13.63	1.03%
Himachal Pradesh	11.84	0.90%
Karnataka	7.93	0.60%
Sikkim	6.72	0.51%
Uttarakhand	6.69	0.51%
NEEPCO Stations	6.49	0.49%
MAITHON POWER LTD	6.38	0.48%
Daman and Diu	5.67	0.43%
Meghalaya	5.61	0.43%
Assam	5.25	0.40%
Pondicherry	5.23	0.40%
STERLITE	4.86	0.37%
Dadra & Nagar Haveli	4.56	0.35%
NJPC	4.23	0.32%
KARCHAM WANGTOO	4.15	0.31%
DCPP	3.55	0.27%
LANKO_AMK	3.27	0.25%
NSPCL	2.08	0.16%
Manipur	2.06	0.16%
UT Chandigarh	1.89	0.14%
SHREE CEMENT	1.51	0.11%
Kerala	1.46	0.11%
SIMHAPURI	1.42	0.11%
ACBIL	1.07	0.08%
Tripura	0.98	0.07%
Nagaland	0.45	0.03%
BALCO	0.38	0.03%
AD HYDRO	0.27	0.02%
Arunachal Pradesh	0.19	0.01%
Mizoram	0.10	0.01%
RGPPL(Dabhol)	0.02	0.00%
Total	**1319.21**	**100.00%**
Volume of Export by top 5 States	**722.50**	**54.77%**

Table-14: VOLUME OF ELECTRICITY IMPORT THROUGH DSM, JANUARY 2015		
Name of the State/UT/Other Regional Entity	**Volume of Import (MUs)**	**% of Volume**
Rajasthan	121.05	9.61%
Maharashtra	83.34	6.62%
Karnataka	78.48	6.23%
Punjab	68.96	5.48%
Kerala	67.07	5.32%
Telangana	66.77	5.30%
J & K	59.49	4.72%
West Bengal	55.60	4.41%
Orissa	51.27	4.07%
Uttarakhand	45.88	3.64%
Gujarat	44.29	3.52%
Haryana	40.64	3.23%
Andhra Pradesh	38.27	3.04%
Chattisgarh	37.82	3.00%
MP	35.34	2.81%
Himachal Pradesh	27.56	2.19%
DVC	27.40	2.18%
Uttar Pradesh	25.34	2.01%
Assam	24.88	1.97%
Delhi	21.64	1.72%
Bihar	21.09	1.67%
Jharkhand	19.72	1.57%
UT Chandigarh	18.87	1.50%
STERLITE	16.15	1.28%
Tamilnadu	16.09	1.28%
Arunachal Pradesh	15.82	1.26%
CGPL	14.57	1.16%
Tripura	11.59	0.92%
Mizoram	9.41	0.75%
SIMHAPURI	8.76	0.70%
Goa	8.61	0.68%
Nagaland	7.44	0.59%
RGPPL(Dabhol)	7.40	0.59%
BALCO	7.02	0.56%
Dadra & Nagar Haveli	5.92	0.47%
NHPC Stations	5.85	0.46%
Manipur	5.72	0.45%
SHREE CEMENT	4.83	0.38%
DCPP	4.46	0.35%
ACBIL	4.02	0.32%
Pondicherry	4.01	0.32%
MAITHON POWER LTD	3.78	0.30%
KARCHAM WANGTOO	3.55	0.28%
JINDAL POWER	2.83	0.22%
NJPC	2.33	0.18%
Meghalaya	2.03	0.16%
NEEPCO Stations	1.65	0.13%
NSPCL	1.60	0.13%
Daman and Diu	1.36	0.11%
Sikkim	1.22	0.10%
LANKO_AMK	0.44	0.03%
AD HYDRO	0.42	0.03%
Total	**1259.61**	**100.00%**
Volume of Import by top 5 States	**418.90**	**33.26%**

Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), JANUARY 2015		
Sr.No.	**Name of the State/UT/Other Regional Entity**	**Total volume of net short-term transactions of electricity***
1	Rajasthan	961.63
2	J & K	545.04
3	Uttarakhand	501.69
4	Telangana	449.19
5	Kerala	393.77
6	Andhra Pradesh	381.58
7	Himachal Pradesh	350.18
8	Tamilnadu	313.06
9	Maharashtra	311.07
10	Jharkhand	122.13
11	Bihar	117.89
12	ESSAR STEEL	83.59
13	Orissa	78.09
14	BALCO	62.84
15	Meghalaya	61.00
16	Assam	52.12
17	MP	32.62
18	Arunachal Pradesh	26.73
19	Manipur	24.64
20	UT Chandigarh	24.34
21	Daman and Diu	23.62
22	Nagaland	19.11
23	Dadra & Nagar Haveli	13.45
24	Mizoram	8.09
25	RGPPL(Dabhol)	7.37
26	GMR Chattisgarh	0.32
27	DGEN Mega power	-0.07
28	LANCO BUDHIL	-0.30
29	NSPCL	-0.48
30	VANDANA VIDYUT	-0.86
31	Pondicherry	-1.22
32	EMCO	-1.92
33	RANGIT HEP	-2.44
34	LANKO_AMK	-2.84
35	CGPL	-3.87
36	NEEPCO Stations	-5.97
37	NJPC	-6.33
38	TEESTA HEP	-8.42
39	ONGC PALATANA	-8.72
40	CHUZACHEN HEP	-9.72
41	AD HYDRO	-10.05
42	KORBA WEST Power	-18.18
43	NHPC Stations	-18.71
44	Goa	-20.10
45	Sikkim	-20.48
46	Meenakshi	-22.08
47	GMR KAMALANGA	-43.73
48	Tripura	-50.48
49	KARCHAM WANGTOO	-54.75
50	MAITHON	-61.96
51	ACBIL	-73.63
52	JINDAL STAGE-II	-76.44
53	DVC	-90.69
54	JAYPEE NIGRIE	-103.67

55	SHREE CEMENT	-105.84
56	Punjab	-110.62
57	Gujarat	-120.45
58	Chattisgarh	-125.72
59	West Bengal	-132.39
60	DCPP	-159.23
61	Delhi	-248.06
62	SIMHAPURI	-255.63
63	Uttar Pradesh	-263.72
64	STERLITE	-293.76
65	Karnataka	-354.90
66	JINDAL POWER	-442.99
67	Haryana	-785.78
** 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, JANUARY 2015			
	Details of Congestion	**IEX**	**PXIL**
A	Unconstrained Cleared Volume* (MUs)	2534.45	42.36
B	Actual Cleared Volume and hence scheduled (MUs)	2337.10	38.17
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	197.35	4.18
D	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	7.79%	9.88%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	93.35%	58.13%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	21.78%	22.89%
	6.00 - 12.00 hours	26.13%	21.85%
	12.00 - 18.00 hours	26.39%	20.92%
	18.00 - 24.00 hours	25.70%	34.34%
** This power would have been scheduled had there been no congestion.*			
Source: IEX & PXIL & NLDC			

Table-17: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (MUs), JANUARY 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-Jan-15	93.79	44.72	76.52	0.54	61.48	2684.83
2-Jan-15	92.35	44.60	73.90	0.94	61.92	2658.74
3-Jan-15	98.45	41.33	74.65	1.19	55.30	2695.81
4-Jan-15	94.39	39.67	75.80	1.07	57.15	2650.99
5-Jan-15	98.51	39.66	75.29	0.90	57.97	2707.78
6-Jan-15	96.21	40.27	78.15	1.31	53.93	2783.60
7-Jan-15	99.42	48.90	75.29	1.48	54.59	2806.59
8-Jan-15	96.83	51.32	82.49	1.01	50.82	2836.78
9-Jan-15	95.11	50.39	79.50	0.81	52.36	2857.92
10-Jan-15	100.40	52.39	76.38	1.68	52.34	2855.94
11-Jan-15	101.15	50.11	69.26	1.38	55.13	2761.19
12-Jan-15	100.94	49.96	77.15	1.12	52.54	2822.65
13-Jan-15	102.25	54.28	78.98	1.36	50.56	2853.03
14-Jan-15	101.07	52.48	74.16	1.34	51.12	2764.57
15-Jan-15	102.74	46.62	70.57	0.97	50.71	2730.92
16-Jan-15	100.83	37.01	76.62	1.14	49.33	2758.02
17-Jan-15	98.77	36.31	75.54	1.13	45.63	2779.91
18-Jan-15	96.72	39.22	74.59	1.11	52.93	2757.10
19-Jan-15	101.71	45.72	76.59	1.28	53.38	2838.91
20-Jan-15	109.05	44.83	77.14	1.04	59.52	2872.19
21-Jan-15	107.90	43.49	75.79	1.07	64.01	2882.36
22-Jan-15	112.08	49.91	76.89	1.36	61.78	2782.87
23-Jan-15	107.36	46.55	71.47	1.46	54.03	2786.86
24-Jan-15	104.79	45.69	74.88	1.43	59.31	2785.17
25-Jan-15	100.56	46.49	70.73	1.40	67.11	2704.05
26-Jan-15	101.36	42.28	64.12	1.73	60.75	2623.90
27-Jan-15	105.63	46.63	70.32	1.30	58.84	2715.79
28-Jan-15	104.32	44.52	71.37	1.39	57.13	2786.00
29-Jan-15	104.48	43.97	76.07	1.31	56.91	2811.21
30-Jan-15	102.91	43.21	86.01	1.56	56.02	5673.00
31-Jan-15	104.00	46.62	80.87	1.37	51.01	
Total	**3136.06**	**1409.16**	**2337.10**	**38.17**	**1725.61**	**86028.68**
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), JANUARY 2015 (DAY-WISE)									
Market Segment	**Day ahead market of IEX**			**Day ahead market of PXIL**			**Under Drawl/Over Drawl from the Grid (DSM)**		
Date	**Mini-mum ACP**	**Maxi-mum ACP**	**Weighted Average Price***	**Mini-mum ACP**	**Maxi-mum ACP**	**Weighted Average Price***	**All India Grid**		
							Mini-mum Price	**Maxi-mum Price**	**Average Price****
1-Jan-15	1.66	5.84	3.00	1.99	4.60	3.04	0.00	5.74	0.95
2-Jan-15	1.50	5.83	2.96	1.70	3.73	2.53	0.00	8.03	1.34
3-Jan-15	1.50	5.52	2.57	1.70	3.84	2.75	0.00	5.74	1.77
4-Jan-15	1.40	5.52	2.47	1.50	3.50	2.23	0.00	5.11	0.97
5-Jan-15	1.40	5.51	2.78	1.46	3.50	2.22	0.00	4.91	1.50
6-Jan-15	1.40	5.53	2.71	1.40	3.70	2.59	0.00	6.36	2.26
7-Jan-15	1.50	5.53	3.16	1.47	3.56	2.33	0.00	6.36	2.26
8-Jan-15	1.50	5.53	3.11	1.50	3.85	2.62	0.00	7.82	2.61
9-Jan-15	1.50	5.53	3.23	1.50	4.00	2.58	0.00	6.16	2.07
10-Jan-15	1.40	6.00	3.12	1.60	3.85	2.88	0.00	7.20	1.88
11-Jan-15	1.55	7.50	2.81	1.50	4.00	2.74	0.00	3.45	1.20
12-Jan-15	1.50	7.52	3.18	1.55	4.20	2.93	0.00	5.95	1.58
13-Jan-15	1.90	7.52	3.39	1.75	4.31	3.07	0.00	6.16	1.64
14-Jan-15	1.60	7.02	2.99	1.90	4.31	3.15	0.00	3.45	1.12
15-Jan-15	1.60	6.52	3.03	1.60	3.82	2.89	0.00	8.24	2.17
16-Jan-15	1.60	15.00	3.03	1.68	3.62	2.81	0.00	7.20	2.99
17-Jan-15	1.60	15.00	3.10	1.73	3.59	2.86	0.00	6.36	2.30
18-Jan-15	1.30	15.55	2.99	1.55	3.34	2.48	0.00	4.91	1.68
19-Jan-15	1.35	17.50	3.11	1.60	3.74	2.82	0.00	6.16	2.14
20-Jan-15	1.27	5.87	3.01	1.67	4.31	2.59	0.00	7.20	2.42
21-Jan-15	1.60	5.81	3.20	1.40	4.31	2.48	0.00	8.24	2.63
22-Jan-15	1.40	6.00	3.04	1.60	3.75	2.85	0.00	3.45	1.32
23-Jan-15	1.30	6.00	2.87	1.50	3.60	2.63	0.00	6.36	2.17
24-Jan-15	1.57	5.76	3.01	1.52	4.31	2.58	0.00	6.16	1.60
25-Jan-15	1.50	15.00	2.74	1.52	4.31	2.56	0.00	8.24	1.47
26-Jan-15	1.40	5.77	2.32	1.42	4.31	2.68	0.00	3.45	1.03
27-Jan-15	1.40	5.77	2.84	1.50	4.31	2.45	0.00	6.36	1.94
28-Jan-15	1.55	5.76	2.96	1.40	4.31	2.58	0.00	5.74	1.83
29-Jan-15	1.40	6.00	2.88	1.56	4.31	2.70	0.00	5.11	1.19
30-Jan-15	1.40	6.50	2.84	1.60	4.31	2.72	0.00	5.74	1.53
31-Jan-15	1.40	15.00	2.77	1.57	4.31	2.52	0.00	4.91	1.34
	1.27#	**17.50#**	**2.95**	**1.40#**	**4.60#**	**2.67**	**0.00#**	**8.24#**	**1.77**

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), JANUARY 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**	Export (Under Drawl)	Import (Over Drawl)	Net**	
Punjab	224.52	0.40	-224.12	0.00	62.36	62.36	17.83	68.96	51.14	-110.62
Haryana	956.38	251.94	-704.45	65.64	74.44	8.81	130.78	40.64	-90.15	-785.78
Rajasthan	56.71	486.65	429.94	24.63	465.70	441.07	30.43	121.05	90.62	961.63
Delhi	439.37	99.24	-340.13	24.54	134.72	110.19	39.76	21.64	-18.11	-248.06
Uttar Pradesh	166.08	119.13	-46.95	0.00	1.00	1.00	243.11	25.34	-217.77	-263.72
Uttarakhand	0.00	219.83	219.83	5.06	247.73	242.66	6.69	45.88	39.19	501.69
Himachal Pradesh	52.12	467.13	415.01	91.54	10.99	-80.55	11.84	27.56	15.71	350.18
J & K	10.98	433.61	422.62	5.62	82.18	76.55	13.63	59.49	45.86	545.04
UT Chandigarh	7.44	0.00	-7.44	0.00	14.80	14.80	1.89	18.87	16.98	24.34
MP	0.60	197.38	196.78	207.13	76.74	-130.39	69.12	35.34	-33.77	32.62
Maharashtra	0.00	377.76	377.76	143.95	145.43	1.48	151.51	83.34	-68.17	311.07
Gujarat	244.99	12.22	-232.78	118.45	292.15	173.69	105.65	44.29	-61.36	-120.45
Chattisgarh	18.28	31.73	13.46	142.55	5.26	-137.29	39.70	37.82	-1.88	-125.72
Daman and Diu	0.00	0.00	0.00	0.00	27.94	27.94	5.67	1.36	-4.31	23.62
Dadra & Nagar Haveli	0.00	0.00	0.00	0.00	12.10	12.10	4.56	5.92	1.36	13.45
Andhra Pradesh	0.00	302.10	302.10	26.37	94.24	67.88	26.66	38.27	11.61	381.58
Karnataka	352.21	1.05	-351.16	147.04	72.76	-74.29	7.93	78.48	70.54	-354.90
Kerala	0.00	226.32	226.32	2.17	104.01	101.84	1.46	67.07	65.61	393.77
Tamilnadu	0.00	283.61	283.61	0.00	85.42	85.42	72.06	16.09	-55.97	313.06
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	5.23	4.01	-1.22	-1.22
Telangana	10.90	313.04	302.14	27.12	122.30	95.19	14.91	66.77	51.86	449.19
West Bengal	130.69	14.74	-115.94	88.08	33.26	-54.82	17.22	55.60	38.38	-132.39
Orissa	49.45	133.18	83.73	43.20	1.53	-41.68	15.24	51.27	36.03	78.09
Bihar	0.00	188.25	188.25	0.00	0.00	0.00	91.45	21.09	-70.36	117.89
Jharkhand	0.00	125.21	125.21	0.00	0.00	0.00	22.80	19.72	-3.08	122.13
Sikkim	0.00	2.20	2.20	17.18	0.00	-17.18	6.72	1.22	-5.50	-20.48
DVC	28.96	0.00	-28.96	61.61	0.00	-61.61	27.51	27.40	-0.11	-90.69
Arunachal Pradesh	0.00	0.00	0.00	0.00	11.10	11.10	0.19	15.82	15.63	26.73
Assam	0.00	5.70	5.70	0.11	26.91	26.80	5.25	24.88	19.62	52.12
Manipur	0.84	17.00	16.16	4.89	9.71	4.82	2.06	5.72	3.66	24.64
Meghalaya	0.00	51.50	51.50	4.61	17.69	13.08	5.61	2.03	-3.58	61.00
Mizoram	0.00	0.20	0.20	1.41	0.00	-1.41	0.10	9.41	9.30	8.09
Nagaland	0.00	10.57	10.57	0.00	1.55	1.55	0.45	7.44	6.99	19.11
Tripura	1.36	0.00	-1.36	59.72	0.00	-59.72	0.98	11.59	10.60	-50.48
Goa	0.00	22.65	22.65	28.10	1.16	-26.95	24.42	8.61	-15.80	-20.10
NHPC Stations	0.00	0.00	0.00	0.00	0.00	0.00	24.57	5.85	-18.71	-18.71
NJPC	0.00	0.00	0.00	4.43	0.00	-4.43	4.23	2.33	-1.90	-6.33

AD HYDRO	0.00	1.00	1.00	11.20	0.00	-11.20	0.27	0.42	0.15	-10.05
KARCHAM WANGTOO	8.31	0.00	-8.31	45.84	0.00	-45.84	4.15	3.55	-0.60	-54.75
SHREE CEMENT	56.71	0.00	-56.71	52.44	0.00	-52.44	1.51	4.83	3.32	-105.84
LANCO BUDHIL	0.00	0.00	0.00	0.30	0.00	-0.30	0.00	0.00	0.00	-0.30
JINDAL POWER	247.32	0.00	-247.32	182.41	0.00	-182.41	16.09	2.83	-13.26	-442.99
LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	3.27	0.44	-2.84	-2.84
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	2.08	1.60	-0.48	-0.48
ACBIL	6.10	0.00	-6.10	70.49	0.00	-70.49	1.07	4.02	2.95	-73.63
BALCO	0.00	0.00	0.00	0.00	56.20	56.20	0.38	7.02	6.64	62.84
RGPPL(Dabhol)	0.00	0.00	0.00	0.00	0.00	0.00	0.02	7.40	7.37	7.37
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	18.44	14.57	-3.87	-3.87
DCPP	0.06	0.00	-0.06	160.09	0.00	-160.09	3.55	4.46	0.91	-159.23
EMCO	0.00	0.00	0.00	1.92	0.00	-1.92	0.00	0.00	0.00	-1.92
VANDANA VIDYUT	0.00	0.00	0.00	0.86	0.00	-0.86	0.00	0.00	0.00	-0.86
ESSAR STEEL	0.00	0.00	0.00	0.00	83.59	83.59	0.00	0.00	0.00	83.59
JINDAL STAGE-II	0.00	0.00	0.00	76.44	0.00	-76.44	0.00	0.00	0.00	-76.44
JAYPEE NIGRIE	0.00	0.00	0.00	103.67	0.00	-103.67	0.00	0.00	0.00	-103.67
DGEN Mega power	0.00	0.00	0.00	0.07	0.00	-0.07	0.00	0.00	0.00	-0.07
GMR Chattisgarh	0.00	0.00	0.00	0.00	0.32	0.32	0.00	0.00	0.00	0.32
KORBA WEST Power	0.00	0.00	0.00	18.18	0.00	-18.18	0.00	0.00	0.00	-18.18
SIMHAPURI	255.29	0.00	-255.29	7.67	0.00	-7.67	1.42	8.76	7.34	-255.63
Meenakshi	0.00	0.99	0.99	23.07	0.00	-23.07	0.00	0.00	0.00	-22.08
STERLITE	162.53	0.00	-162.53	142.51	0.00	-142.51	4.86	16.15	11.29	-293.76
MAITHON	0.55	0.00	-0.55	58.80	0.00	-58.80	6.38	3.78	-2.61	-61.96
CHUZACHEN HEP	0.00	0.00	0.00	9.72	0.00	-9.72	0.00	0.00	0.00	-9.72
RANGIT HEP	0.00	0.00	0.00	2.44	0.00	-2.44	0.00	0.00	0.00	-2.44
GMR KAMALANGA	0.00	0.00	0.00	43.73	0.00	-43.73	0.00	0.00	0.00	-43.73
TEESTA HEP	0.00	0.00	0.00	8.42	0.00	-8.42	0.00	0.00	0.00	-8.42
NEEPCO Stations	0.00	0.00	0.00	1.14	0.00	-1.14	6.49	1.65	-4.84	-5.97
ONGC PALATANA	0.00	0.00	0.00	8.72	0.00	-8.72	0.00	0.00	0.00	-8.72
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 February, 2015

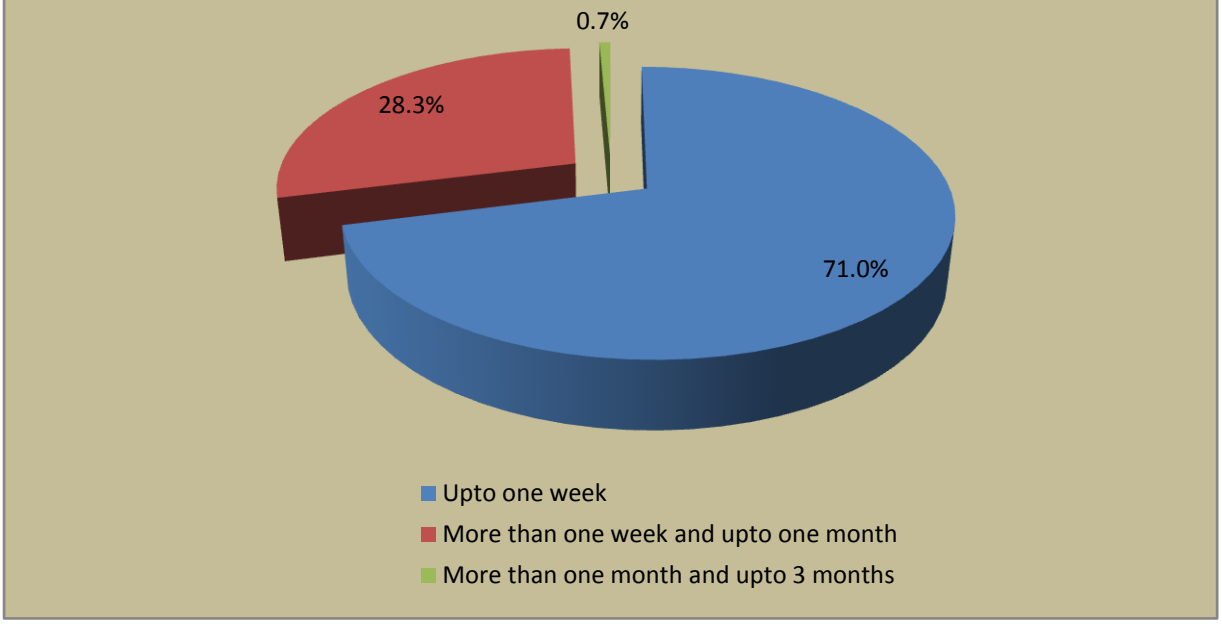


Figure-8: Forward Curve based on Prices of Bilateral Contracts

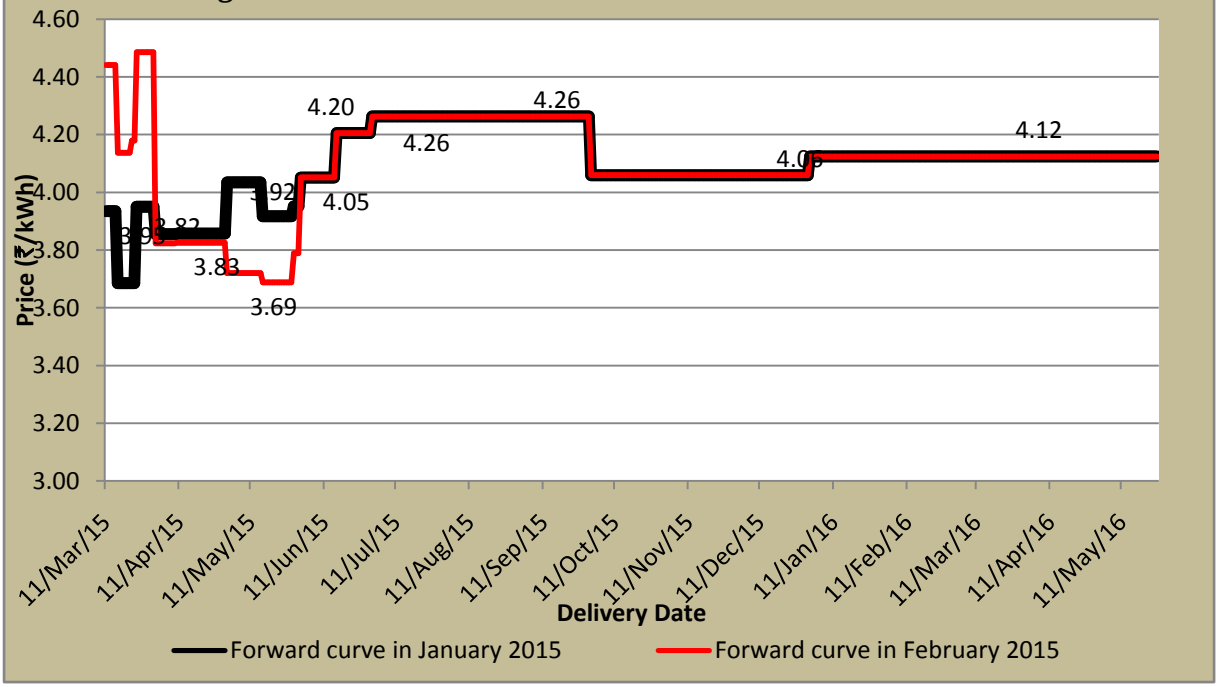


Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTED THROUGH POWER EXCHANGES, JANUARY 2015					
Sr.No.	**Details of REC Transactions**	**IEX**		**PXIL**	
		Solar	**Non-Solar**	**Solar**	**Non Solar**
A	Volume of Buy Bid	30650	393081	1490	143928
B	Volume of Sell Bid	68851	6720193	730388	4459132
C	Ratio of Buy Bid to Sell Bid Volume	0.45	0.06	0.002	0.03
D	Market Clearing Volume (MWh)	30650	393081	1490	143928
E	Market Clearing Price (₹/MWh)	3500	1500	3500	1500

Source: IEX and PXIL

Note 1: 1 REC = 1 MWh

Note 2:

Forbearance and Floor Price w.e.f 1st January 2015		
Type of REC	*Floor Price (₹/MWh)*	*Forbearance Price (₹/MWh)*
Solar	*3500.00*	*5800.00*
Non-Solar	*1500.00*	*3300.00*