Monthly Report on Short-term Transactions of Electricity in India

December, 2014

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

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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 Aluminium 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
DHARIWAL POWER	Dhariwal Power Station
DVC	Damodar Valley Corporation
EMCO	EMCO Energy Limited
ESSAR STEEL	Essar Steel Ltd
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
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
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
UI	Unscheduled Interchange
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 Unscheduled Interchange (UI). 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 December, 2014 is as under:

I: Volume of Short-term Transactions of Electricity

During the month of December 2014, total electricity generation excluding generation from renewable and captive power plants in India was 85994.74 MUs (Table-1).

Of the total electricity generation, 8479.48 MUs (9.86%) were transacted through short-term, comprising of 4652.57 MUs (5.41%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2200.06 MUs (2.56%) through day ahead collective transactions on Power Exchanges (IEX and PXIL) and 1626.84 MUs (1.89%) through UI (Table-1 & Figure-2).

Of the total short-term transactions, Bilateral constitute 54.87% (38.97% through traders and term-ahead contracts on Power Exchanges and 15.90% directly between distribution companies) followed by 25.95% through day ahead collective transactions on Power Exchanges and 19.19% through UI (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 47 trading licensees as on 31.12.2014, of which only 23 have engaged in trading during December 2014. Top 5 trading licensees had a share of 65.35% 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 0.1310 for the month of December 2014, which indicates non-concentration of market power (Table-2).

The volume of electricity transacted through IEX and PXIL in the day ahead market was 2168.82 MUs and 31.24 MUs respectively. The volume of total Buy bids and Sale bids was 3176.84 MUs and 3517.25 MUs respectively in IEX and 56.36 MUs and 44.01 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 (0.90 times) and greater demand in PXIL (1.28 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 8.99 MUs and 100.29 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 ₹4.33/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 ₹4.37/kWh, ₹4.32/kWh and ₹3.45/kWh respectively. Minimum and Maximum sale prices were ₹1.54/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 ₹1.10/kWh, ₹20/kWh and ₹3.20/kWh respectively in IEX and ₹1.33/kWh, ₹4.87/kWh and ₹2.85/kWh respectively in PXIL (Table-5).

The price of electricity transacted through IEX and PXIL in the term-ahead market was ₹3.79/kWh and ₹3.17/kWh respectively (Table-6 and Table-7).

(iii*) Price of electricity transacted Through UI:* The average UI price was ₹1.84/kWh for all India grid. Minimum and Maximum UI 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 UI 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 57.73% of the volume, and these were Haryana, Delhi, Jindal Power Ltd, Punjab and Karnataka. Top 5 regional entities purchased 55.97% of the volume, and these were Rajasthan, Madhya Pradesh, Andhra Pradesh, Himachal Pradesh and Jammu and Kashmir. (Table-9, 10 & 19).

Of the total Power Exchange transactions, top 5 regional entities sold 35.34% of the volume, and these were Donga Mahua Captive Power Plant, Karnataka, Chhattisgarh, Sterlite India Ltd and Maharashtra. Top 5 regional entities purchased 57.08% of the volume, and these were Rajasthan, Uttarakhand, Gujarat, Delhi and Kerala. (Table-11, 12 & 19).

Of the total UI transactions, top 5 regional entities underdrew 48.40% of the volume, and these were Maharashtra, Uttar Pradesh, Haryana, Bihar and Tamilnadu. Top 5 regional entities overdrew 31.35% of the volume, and these were Punjab, Kerala, Jammu and Kashmir, Rajasthan and Orissa. (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 UI is shown in Table-15 & 19. Top 5 electricity selling regional entities were Haryana, Jindal Power Ltd, Karnataka, Sterlite India Ltd and Delhi. Top 5 electricity purchasing regional entities were Rajasthan, Andhra Pradesh, Jammu and Kashmir, Uttarakhand and Madhya Pradesh.

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 December 2014, 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 6.46% and 5.65% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 96.61% in IEX and 19.93% in PXIL.

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[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.

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

(i) *Duration of bilateral contracts:*

During January, 2015, a total of 177 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 1942 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 61% of the contracts were executed for a duration of up to one week, followed by 38.4% of the contracts executed for a duration of more than a week and upto one month and with a small contribution of 0.6% of the contracts executed for a duration more than one month and upto 3 months.

During the same period, 99 banking/swapping bilateral contracts were also executed for the volume of 672 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 February 2015 to May 2016 based on bilateral contracts[5] executed till January, 2015. The forward curve drawn for December 2014 has also been depicted for the period February 2015 onwards for comparison purposes. It is observed that with the execution of new contracts in January 2014, there is a dip in the forward prices for the period from March 2015 to June 2015. However, forward prices remain same for period beyond June 2015.

[4] *'Monthly OTC (Electricity Traders) report' based on analysis of weekly reports has been discontinued and Analysis of Bilateral Contracts is being presented in this report hereinafter.*
[5] *Excluding Banking/Swapping contracts*

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 December 2014 are shown in Table-20. The market clearing volume of Solar RECs transacted on IEX and PXIL were 366 and 1693 respectively and the market clearing price of these RECs was ₹9300/MWh on both the power exchanges. Market clearing volume of Non-Solar RECs transacted on IEX and PXIL were 177960 and 157763 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 0.002 and 0.005 for IEX and PXIL respectively. For Non-Solar RECs, the ratio of buy and sell bids was 0.03 for both IEX and PXIL.

VII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 9.86%.

- Of the total short-term transactions of electricity, 54.87% was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 25.95% through Power Exchanges and 19.19% through UI.

- Top 5 trading licensees had a share of 65.35% in the total volume traded by all the trading licensees.

- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.1310, indicating non-concentration of market power.

- The price of electricity transacted through trading licensees was ₹4.33/kWh). The prices of electricity transacted through IEX and PXIL were ₹3.20/kWh and ₹2.85/kWh) respectively.

- The price of electricity transacted through UI was ₹1.84/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: 0.90) and more demand in PXIL (1: 1.28) 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 Delhi. Top 5 electricity purchasing regional entities were Rajasthan, Andhra Pradesh, Jammu and Kashmir, Uttarakhand and Madhya Pradesh.

- The volume of electricity that could not be cleared in the power exchanges due to congestion was 6.46% and 5.65% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 96.61% in IEX and 19.93% in PXIL.

- In January 2015, 61.0% of the bilateral contracts (excluding banking/swapping) were executed for a duration of up to one week, followed by 38.4% of the contracts were

executed for a duration of more than a week and upto one month and 0.6% of the contracts were executed for a duration of more than one month and upto three months.

- The forward prices from March, 2015 to June 2015 are lower because contracts executed in January 2015 were at lower prices when compared to contracts executed till December 2014. However, forward prices remain same for the period beyond June 2015.

- The market clearing volume of Solar RECs transacted on IEX and PXIL were 366 and 1693 respectively and the market clearing price of these RECs was ₹9300/MWh on both the power exchanges. Market clearing volume of Non-Solar RECs transacted on IEX and PXIL were 177960 and 157763 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), DECEMBER 2014				
Sr.No	**Short-term transactions**	**Volume (MUs)**	**% to Volume of short-term transactions**	**% to Total Generation**
1	Bilateral	4652.57	54.87%	5.41%
	(i) Through Traders and PXs	*3304.14*	38.97%	3.84%
	(ii) Direct	*1348.43*	15.90%	1.57%
2	Through Power Exchanges	2200.06	25.95%	2.56%
	(i) IEX	*2168.82*	25.58%	2.52%
	(ii) PXIL	*31.24*	0.37%	0.04%
3	Through UI	1626.84	19.19%	1.89%
	Total	**8479.48**	**100.00%**	**9.86%**
	Total Generation	**85994.74**	_	_
Source: NLDC				

Figure-1: Volume of Short-term Transactions of Electricity, December 2014

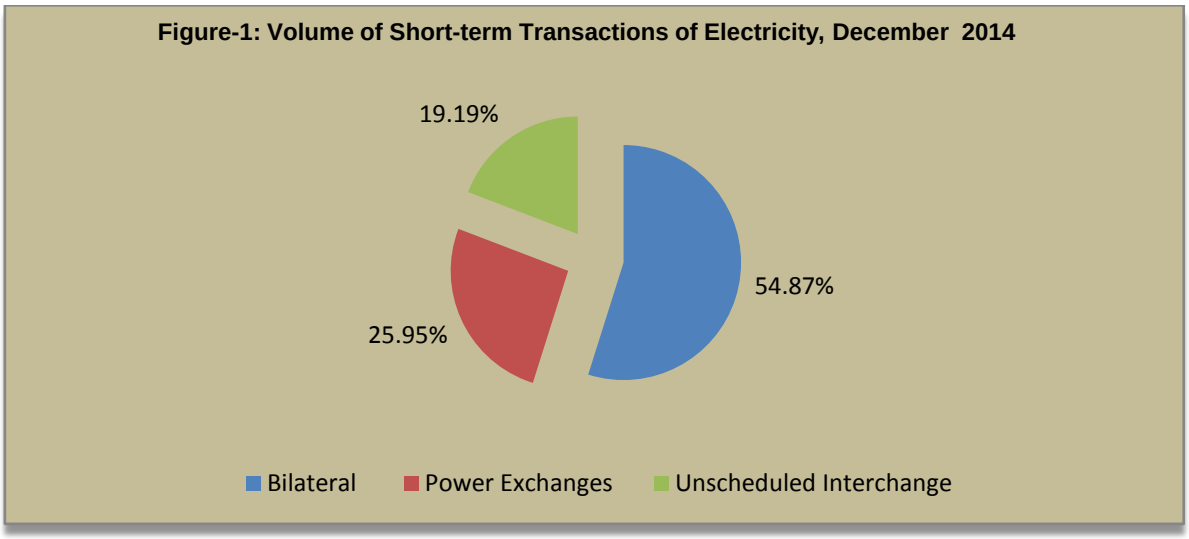
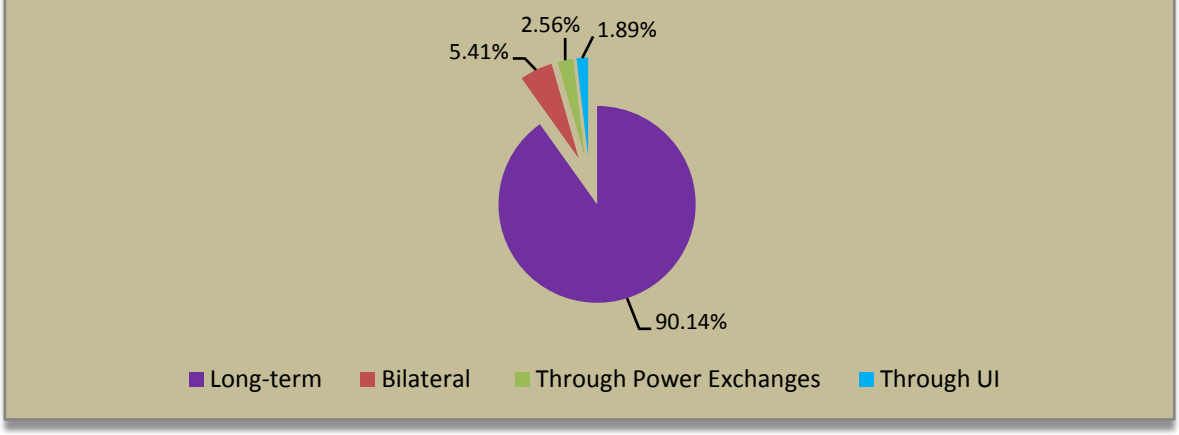


Figure-2: Volume of Various Kinds of Electricity Transactions in Total Electricity Generation, December 2014



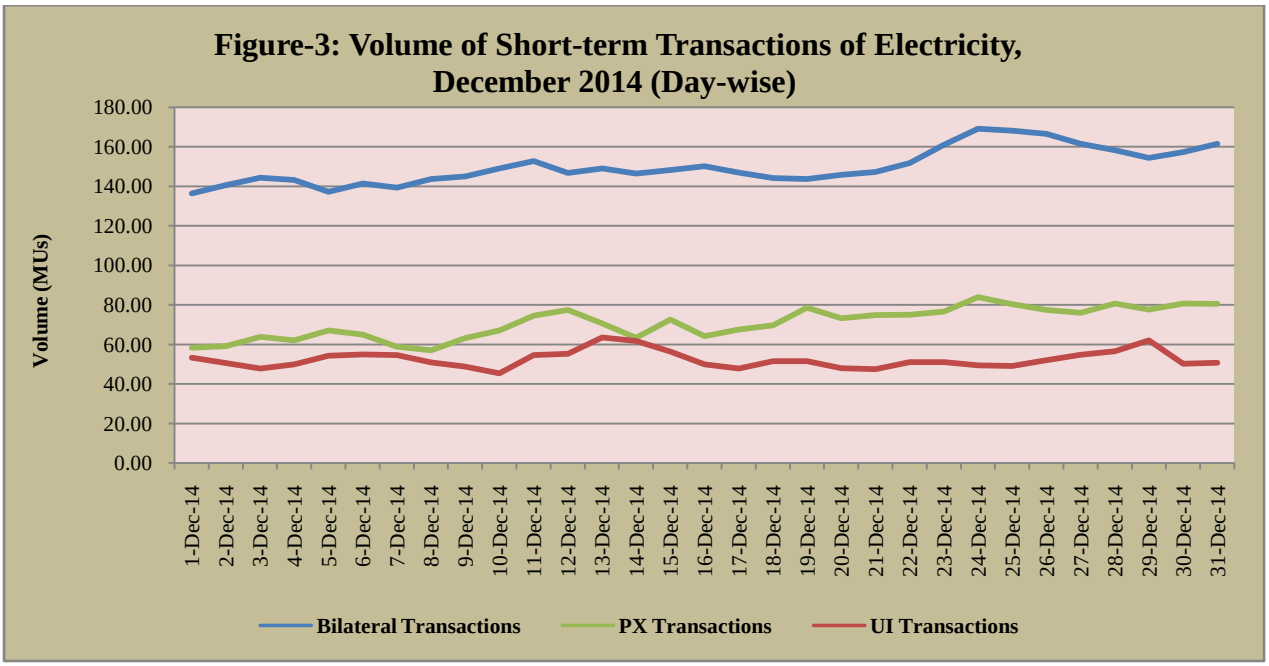


Figure-3: Volume of Short-term Transactions of Electricity, December 2014 (Day-wise)
Volume (MUs)
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
1-Dec-14
2-Dec-14
3-Dec-14
4-Dec-14
5-Dec-14
6-Dec-14
7-Dec-14
8-Dec-14
9-Dec-14
10-Dec-14
11-Dec-14
12-Dec-14
13-Dec-14
14-Dec-14
15-Dec-14
16-Dec-14
17-Dec-14
18-Dec-14
19-Dec-14
20-Dec-14
21-Dec-14
22-Dec-14
23-Dec-14
24-Dec-14
25-Dec-14
26-Dec-14
27-Dec-14
28-Dec-14
29-Dec-14
30-Dec-14
31-Dec-14
Bilateral Transactions
PX Transactions
UI Transactions

Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, DECEMBER 2014			
Sr.No	**Name of the Trading Licensee**	**% Share in total Volume transacted by Trading Licensees**	**Herfindahl-Hirschman Index**
1	PTC India Ltd.	28.28%	0.0800
2	GMR Energy Trading Ltd.	11.68%	0.0136
3	Mittal Processors (P) Ltd.	10.81%	0.0117
4	Tata Power Trading Company (P) Ltd.	7.92%	0.0063
5	JSW Power Trading Company Ltd	6.66%	0.0044
6	NTPC Vidyut Vyapar Nigam Ltd.	6.38%	0.0041
7	Shree Cement Ltd.	5.57%	0.0031
8	Adani Enterprises Ltd.	5.08%	0.0026
9	Knowledge Infrastructure Systems (P) Ltd	4.77%	0.0023
10	Manikaran Power Ltd.	3.58%	0.0013
11	Jaiprakash Associates Ltd.	3.43%	0.0012
12	RPG Power Trading Company Ltd.	1.29%	0.0002
13	Instinct Infra & Power Ltd.	0.96%	0.0001
14	Reliance Energy Trading (P) Ltd	0.93%	0.0001
15	National Energy Trading & Services Ltd.	0.61%	0.0000
16	Arunachal Pradesh Power Corporation (P) ltd	0.59%	0.0000
17	My Home Power Private Ltd.	0.44%	0.0000
18	Essar Electric Power Development Corp. Ltd.	0.44%	0.0000
19	SN Power Markets Pvt. Ltd.	0.32%	0.0000
20	Customized Energy Solutions India (P) Ltd.	0.12%	0.0000
21	Ambitious Power Trading Company Ltd.	0.06%	0.0000
22	Pune Power Development (P) Ltd.	0.05%	0.0000
23	Vandana Vidyut Limited	0.03%	0.0000
TOTAL		**100.00%**	**0.1310**
Top 5 trading licensees		**65.35%**	
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, December 2014

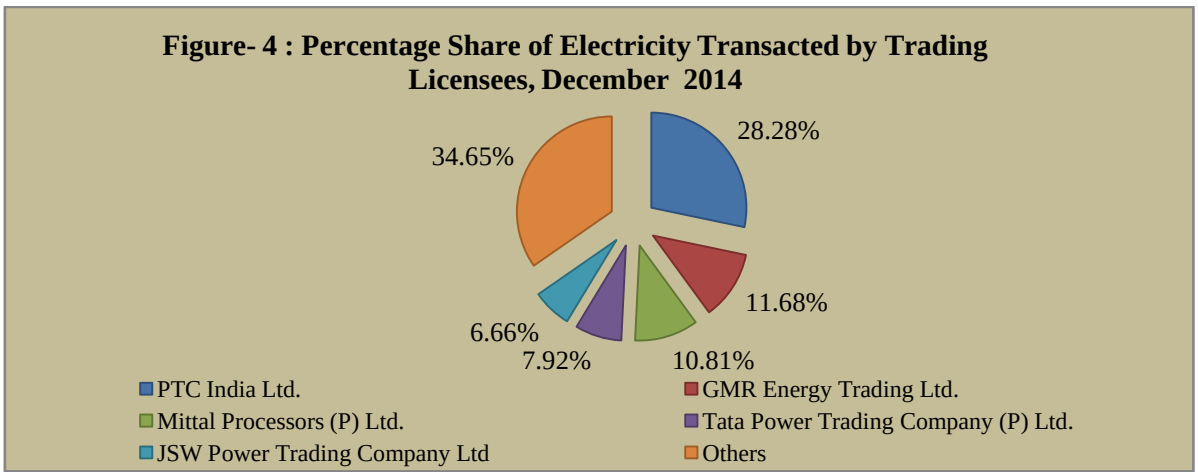


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, DECEMBER 2014		
Sr.No		**Sale Price of Traders (₹/kWh)**
1	Minimum	1.54
2	Maximum	7.99
3	Weighted Average	4.33

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), DECEMBER 2014		
Sr.No	**Period of Trade**	**Sale Price of Traders (₹/kWh)**
1	RTC	4.37
2	PEAK	4.32
3	OFF PEAK	3.45

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, DECEMBER 2014			
Sr.No	**ACP**	**Price in IEX (₹/kWh)**	**Price in PXIL (₹/kWh)**
1	Minimum	1.10	1.33
2	Maximum	20.00	4.87
3	Weighted Average	3.20	2.85

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, DECEMBER 2014			
Sr.No	**Term ahead contracts**	**Actual Scheduled Volume (MUs)**	**Weighted Average Price (₹/kWh)**
1	Intra-Day Contracts	7.60	3.80
2	Day Ahead Contingency Contracts	1.39	3.70
	Total	**8.99**	**3.79**

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, DECEMBER 2014			
Sr.No	**Term ahead contracts**	**Actual Scheduled Volume (MUs)**	**Weighted Average Price (₹/kWh)**
1	Intra-Day Contracts	17.34	3.50
2	Daily Contracts	16.40	3.15
3	Weekly Contracts	66.55	3.09
	Total	**100.29**	**3.17**

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH UI, DECEMBER 2014		
Sr.No		**Price in All India Grid (₹/kWh)**
1	Minimum	0.00
2	Maximum	8.24
3	Average	1.84

Source: NLDC

Figure-5: Price of Short-term Transactions of Electricity, December 2014

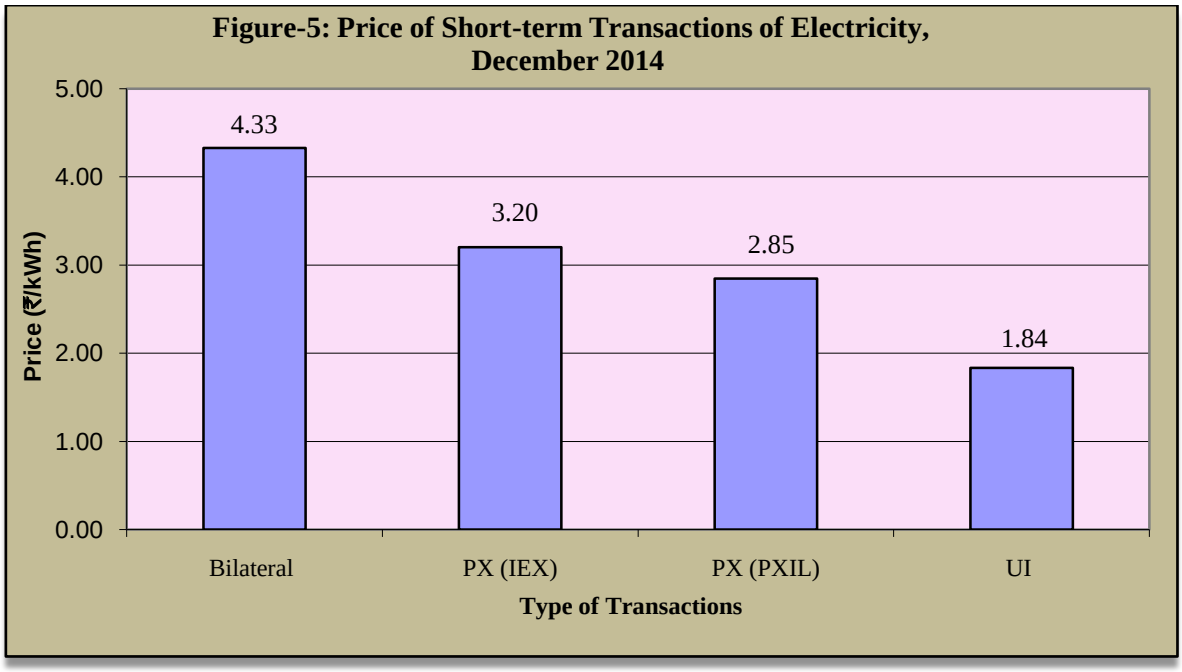


Figure-6: Price of Short-term Transactions of Electricity, December 2014 (Day-wise)

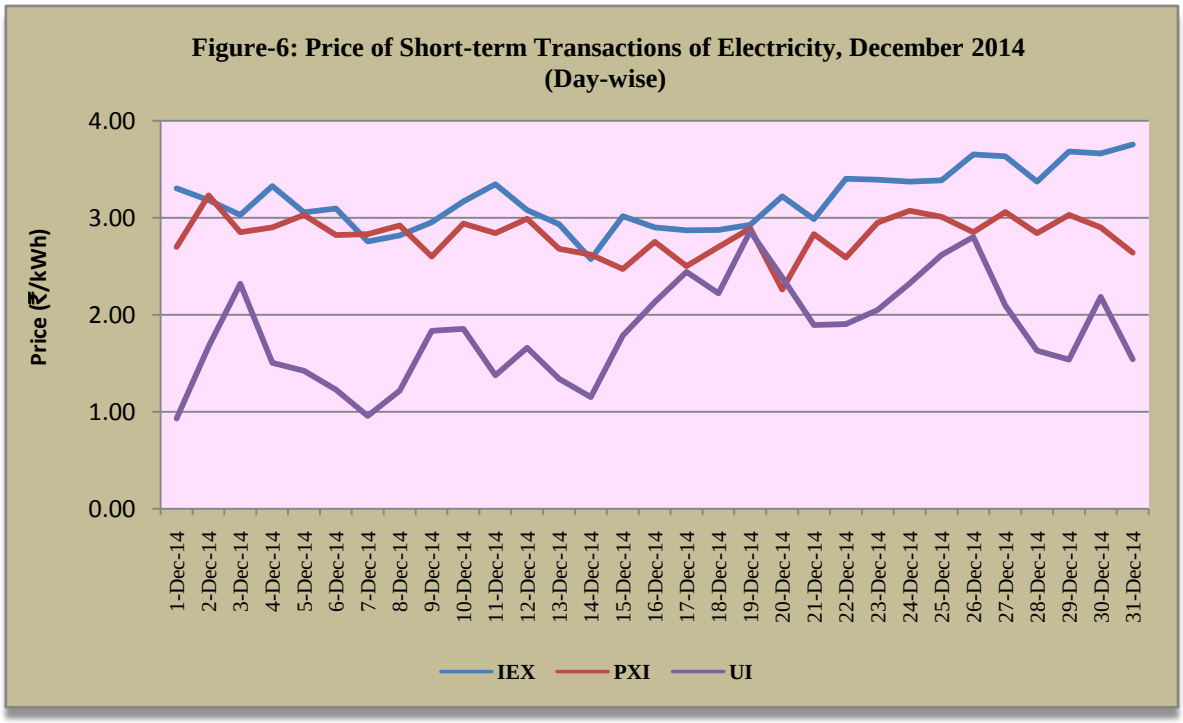


Table-9: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL, DECEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Sale (MUs)**	**% of Volume**
Haryana	916.34	22.80%
Delhi	438.87	10.92%
JINDAL POWER	329.00	8.19%
Punjab	321.47	8.00%
Karnataka	314.75	7.83%
Gujarat	286.89	7.14%
West Bengal	277.29	6.90%
SIMHAPURI	262.61	6.53%
STERLITE	208.26	5.18%
Chattisgarh	113.27	2.82%
Rajasthan	112.93	2.81%
SHREE CEMENT	110.53	2.75%
Uttar Pradesh	74.51	1.85%
Orissa	58.41	1.45%
DVC	50.90	1.27%
MP	38.08	0.95%
Himachal Pradesh	37.34	0.93%
MAITHON POWER LTD	20.26	0.50%
J & K	12.89	0.32%
Telangana	12.82	0.32%
ACBIL	9.80	0.24%
UT Chandigarh	7.44	0.19%
Tripura	2.62	0.07%
Manipur	1.12	0.03%
Goa	0.30	0.01%
KARCHAM WANGTOO	0.27	0.01%
AD HYDRO	0.22	0.01%
DCPP	0.06	0.00%
Total	**4019.24**	**100.00%**
Volume of sale by top 5 States	**2320.43**	**57.73%**

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL, DECEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Purchase (MUs)**	**% of Volume**
Rajasthan	603.39	13.94%
MP	548.93	12.68%
Andhra Pradesh	476.98	11.02%
Himachal Pradesh	414.11	9.57%
J & K	379.30	8.76%
Maharashtra	355.03	8.20%
Telangana	329.38	7.61%
Bihar	216.66	5.01%
Haryana	207.99	4.81%
Uttarakhand	162.02	3.74%
Jharkhand	113.11	2.61%
Uttar Pradesh	111.75	2.58%
Orissa	97.96	2.26%
Kerala	94.62	2.19%
Meghalaya	40.84	0.94%
Tamilnadu	32.96	0.76%
West Bengal	30.47	0.70%
Goa	29.14	0.67%
Gujarat	20.10	0.46%
Delhi	19.78	0.46%
Manipur	17.31	0.40%
Nagaland	10.89	0.25%
Assam	5.86	0.14%
Chattisgarh	3.72	0.09%
Sikkim	2.88	0.07%
Mizoram	1.30	0.03%
AD HYDRO	1.00	0.02%
Meenakshi	0.99	0.02%
Total	**4328.48**	**100.00%**
Volume of Purchase by top 5 States	**2422.71**	**55.97%**

Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, DECEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Sale (MUs)**	**% of Volume**
DCPP	165.83	7.54%
Karnataka	159.34	7.24%
Chattisgarh	156.49	7.11%
STERLITE	151.46	6.88%
Maharashtra	144.43	6.56%
Gujarat	135.93	6.18%
JAYPEE NIGRIE	129.72	5.90%
MP	113.18	5.14%
Himachal Pradesh	102.89	4.68%
JINDAL POWER	91.46	4.16%
Rajasthan	66.50	3.02%
KARCHAM WANGTOO	62.18	2.83%
GMR KAMALANGA	61.67	2.80%
DVC	58.99	2.68%
MAITHON POWER LTD	53.64	2.44%
West Bengal	51.05	2.32%
Tripura	50.31	2.29%
Andhra Pradesh	40.63	1.85%
ACBIL	37.65	1.71%
Telangana	30.72	1.40%
Meenakshi	29.81	1.36%
ONGC PALATANA	27.81	1.26%
EMCO	27.24	1.24%
Orissa	26.10	1.19%
DHARIWAL POWER	26.06	1.18%
SHREE CEMENT	25.74	1.17%
Goa	20.03	0.91%
Delhi	20.03	0.91%
SIMHAPURI	19.85	0.90%
Sikkim	16.82	0.76%
AD HYDRO	14.27	0.65%
VANDANA VIDYUT	13.07	0.59%
CHUZACHEN HEP	12.66	0.58%
J & K	11.53	0.52%
TEESTA HEP	7.97	0.36%
Manipur	5.97	0.27%
Uttarakhand	5.30	0.24%
NJPC	4.95	0.22%
Haryana	4.83	0.22%
RANGIT HEP	3.65	0.17%
Kerala	2.75	0.13%
Assam	2.61	0.12%
LANCO BUDHIL	2.55	0.12%
NEEPCO Stations	1.30	0.06%
Mizoram	1.20	0.05%
Bihar	1.06	0.05%
ADHUNIK POWER LTD	0.41	0.02%
MALANA	0.39	0.02%
UT Chandigarh	0.01	0.00%
Total	**2200.06**	**100.00%**
Volume of sale by top 5 States	**777.56**	**35.34%**

Table-12: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGES, DECEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Purchase (MUs)**	**% of Volume**
Rajasthan	388.59	17.66%
Uttarakhand	291.68	13.26%
Gujarat	245.79	11.17%
Delhi	167.49	7.61%
Kerala	162.27	7.38%
Maharashtra	119.25	5.42%
ESSAR STEEL	100.48	4.57%
Haryana	80.01	3.64%
Telangana	76.60	3.48%
Andhra Pradesh	74.77	3.40%
MP	64.40	2.93%
J & K	63.05	2.87%
West Bengal	59.03	2.68%
Karnataka	49.74	2.26%
Punjab	38.57	1.75%
Tamilnadu	37.66	1.71%
Meghalaya	34.13	1.55%
Daman and Diu	31.26	1.42%
BALCO	30.28	1.38%
Assam	24.37	1.11%
Manipur	10.04	0.46%
Arunachal Pradesh	10.01	0.46%
Chattisgarh	9.36	0.43%
UT Chandigarh	7.02	0.32%
Himachal Pradesh	6.73	0.31%
Uttar Pradesh	6.43	0.29%
Bihar	5.55	0.25%
Goa	3.10	0.14%
Nagaland	1.47	0.07%
Orissa	0.91	0.04%
Total	**2200.06**	**100.00%**
Volume of purchase by top 5 States	**1255.81**	**57.08%**

Table-13: VOLUME OF ELECTRICITY EXPORT THROUGH UI, DECEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Export (MUs)**	**% of Volume**
Maharashtra	193.98	15.77%
Uttar Pradesh	133.80	10.88%
Haryana	101.62	8.26%
Bihar	89.97	7.31%
Tamilnadu	76.03	6.18%
Gujarat	68.85	5.60%
Delhi	67.49	5.49%
MP	65.97	5.36%
Rajasthan	54.94	4.47%
Punjab	44.89	3.65%
Chattisgarh	30.37	2.47%
NHPC Stations	26.36	2.14%
DVC	24.90	2.02%
Uttarakhand	19.45	1.58%
Andhra Pradesh	17.10	1.39%
Himachal Pradesh	17.00	1.38%
Jharkhand	15.09	1.23%
JINDAL POWER	14.58	1.19%
Goa	14.57	1.18%
West Bengal	13.79	1.12%
Orissa	12.65	1.03%
CGPL	10.90	0.89%
Sikkim	10.82	0.88%
Karnataka	10.66	0.87%
Telangana	9.94	0.81%
MAITHON POWER LTD	8.32	0.68%
STERLITE	7.76	0.63%
NEEPCO Stations	5.54	0.45%
NJPC	5.49	0.45%
J & K	5.44	0.44%
Pondicherry	5.30	0.43%
KARCHAM WANGTOO	5.02	0.41%
Daman and Diu	4.97	0.40%
Dadra & Nagar Haveli	4.31	0.35%
DCPP	4.30	0.35%
Meghalaya	3.92	0.32%
Assam	3.90	0.32%
ACBIL	3.36	0.27%
LANKO_AMK	2.99	0.24%
Manipur	2.52	0.21%
UT Chandigarh	1.82	0.15%
SHREE CEMENT	1.66	0.14%
NSPCL	1.52	0.12%
Kerala	1.44	0.12%
SIMHAPURI	1.40	0.11%
BALCO	1.31	0.11%
Tripura	1.13	0.09%
AD HYDRO	0.57	0.05%
Arunachal Pradesh	0.12	0.01%
Mizoram	0.10	0.01%
Nagaland	0.07	0.01%
RGPPL(Dabhol)	0.04	0.00%
Total	**1230.06**	**100.00%**
Volume of Export by top 5 States	**595.39**	**48.40%**

Table-14: VOLUME OF ELECTRICITY IMPORT THROUGH UI, DECEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Import (MUs)**	**% of Volume**
Punjab	93.59	7.19%
Kerala	80.79	6.20%
J & K	79.63	6.11%
Rajasthan	79.03	6.07%
Orissa	75.28	5.78%
Telangana	73.70	5.66%
Karnataka	70.58	5.42%
Gujarat	66.34	5.09%
West Bengal	62.34	4.79%
Uttar Pradesh	48.20	3.70%
Andhra Pradesh	43.38	3.33%
MP	39.05	3.00%
Haryana	38.06	2.92%
Uttarakhand	35.26	2.71%
Chattisgarh	33.93	2.61%
DVC	30.43	2.34%
Assam	25.73	1.98%
Himachal Pradesh	24.99	1.92%
Bihar	21.96	1.69%
Delhi	21.57	1.66%
Maharashtra	21.02	1.61%
Arunachal Pradesh	20.59	1.58%
Jharkhand	20.30	1.56%
STERLITE	18.97	1.46%
CGPL	17.00	1.31%
UT Chandigarh	16.86	1.29%
Tamilnadu	16.79	1.29%
Tripura	16.02	1.23%
Goa	12.22	0.94%
Nagaland	11.29	0.87%
Mizoram	10.04	0.77%
JINDAL POWER	6.90	0.53%
ACBIL	6.58	0.51%
RGPPL(Dabhol)	6.41	0.49%
BALCO	5.72	0.44%
Manipur	5.67	0.44%
SHREE CEMENT	5.05	0.39%
Meghalaya	4.90	0.38%
NHPC Stations	4.75	0.36%
MAITHON POWER LTD	4.33	0.33%
DCPP	4.30	0.33%
SIMHAPURI	4.30	0.33%
Dadra & Nagar Haveli	3.37	0.26%
Pondicherry	2.92	0.22%
KARCHAM WANGTOO	2.79	0.21%
NSPCL	2.14	0.16%
NJPC	1.53	0.12%
NEEPCO Stations	1.46	0.11%
Daman and Diu	1.37	0.10%
LANKO_AMK	1.12	0.09%
AD HYDRO	0.91	0.07%
Sikkim	0.87	0.07%
Total	**1302.32**	**100.00%**
Volume of Import by top 5 States	**408.32**	**31.35%**

Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), DECEMBER 2014		
Sr.No.	**Name of the State/UT/Other Regional Entity**	**Total volume of net short-term transactions of electricity***
1	Rajasthan	836.65
2	Andhra Pradesh	537.40
3	J & K	492.13
4	Uttarakhand	464.21
5	MP	435.15
6	Telangana	426.20
7	Kerala	333.48
8	Himachal Pradesh	288.59
9	Maharashtra	156.90
10	Bihar	153.15
11	Jharkhand	118.32
12	ESSAR STEEL	100.48
13	Orissa	76.99
14	Meghalaya	75.96
15	Assam	49.45
16	BALCO	34.69
17	Arunachal Pradesh	30.49
18	Daman and Diu	27.66
19	Nagaland	23.58
20	Manipur	23.41
21	UT Chandigarh	14.61
22	Tamilnadu	11.39
23	Mizoram	10.04
24	Goa	9.55
25	RGPPL(Dabhol)	6.37
26	CGPL	6.10
27	NSPCL	0.62
28	MALANA	-0.39
29	ADHUNIK POWER LTD	-0.41
30	Dadra & Nagar Haveli	-0.94
31	LANKO_AMK	-1.87
32	Pondicherry	-2.38
33	LANCO BUDHIL	-2.55
34	RANGIT HEP	-3.65
35	NEEPCO Stations	-5.39
36	TEESTA HEP	-7.97
37	NJPC	-8.91
38	CHUZACHEN HEP	-12.66
39	VANDANA VIDYUT	-13.07
40	AD HYDRO	-13.15
41	NHPC Stations	-21.61
42	Sikkim	-23.90
43	DHARIWAL POWER	-26.06
44	EMCO	-27.24
45	ONGC PALATANA	-27.81
46	Meenakshi	-28.82
47	Tripura	-38.03
48	Uttar Pradesh	-41.92
49	ACBIL	-44.23
50	GMR KAMALANGA	-61.67
51	KARCHAM WANGTOO	-64.68
52	MAITHON POWER LTD	-77.89
53	DVC	-104.35
54	JAYPEE NIGRIE	-129.72

55	SHREE CEMENT	-132.89
56	Gujarat	-159.45
57	DCPP	-165.88
58	West Bengal	-190.29
59	Punjab	-234.19
60	Chattisgarh	-253.13
61	SIMHAPURI	-279.56
62	Delhi	-317.57
63	STERLITE	-348.51
64	Karnataka	-364.43
65	JINDAL POWER	-428.13
66	Haryana	-696.73
** Total volume of net short-term transactions of electricity includes net of transactions of electricity through bilateral, power exchange and UI*		
(-) indicates sale and (+) indicates purchase		

Table-16: DETAILS OF CONGESTION IN POWER EXCHANGES, DECEMBER 2014			
	Details of Congestion	**IEX**	**PXIL**
A	Unconstrained Cleared Volume* (MUs)	2318.55	33.11
B	Actual Cleared Volume and hence scheduled (MUs)	2168.82	31.24
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	149.73	1.87
D	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	6.46%	5.65%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	96.61%	19.93%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	23.58%	29.68%
	6.00 - 12.00 hours	25.84%	12.14%
	12.00 - 18.00 hours	25.39%	14.84%
	18.00 - 24.00 hours	25.18%	43.34%
** 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), DECEMBER 2014 (DAY-WISE)						Total Electricity Generation (MU) as given at CEA Website
Date	Bilateral		Power Exchange (Area Clearing Volume# of Day Ahead Market)		Unscheduled Interchange (Over Drawl+ Under Generation)	
	Through Traders and PXs**	Direct	IEX	PXI		
1-Dec-14	95.91	40.54	58.05	0.38	53.32	2781.74
2-Dec-14	99.78	40.91	58.96	0.29	50.55	2817.57
3-Dec-14	103.71	40.59	63.35	0.60	47.91	2859.08
4-Dec-14	102.19	41.04	61.78	0.42	49.94	2860.47
5-Dec-14	96.52	40.82	64.93	2.29	54.43	2854.94
6-Dec-14	97.53	44.01	63.09	1.90	55.02	2834.81
7-Dec-14	96.18	43.13	57.57	1.35	54.65	2773.26
8-Dec-14	104.45	39.34	56.37	0.75	50.87	2858.50
9-Dec-14	104.19	40.76	62.41	0.91	48.82	2888.86
10-Dec-14	104.13	44.89	66.32	0.90	45.45	2873.76
11-Dec-14	105.53	47.30	73.85	0.83	54.64	2850.54
12-Dec-14	104.33	42.51	76.70	0.84	55.30	2788.13
13-Dec-14	110.04	39.02	69.77	0.90	63.57	2734.53
14-Dec-14	102.86	43.67	62.49	0.91	61.86	2574.90
15-Dec-14	104.23	44.12	72.12	0.55	56.44	2613.39
16-Dec-14	107.37	42.88	63.73	0.51	50.05	2657.84
17-Dec-14	106.15	40.83	67.10	0.51	47.80	2654.26
18-Dec-14	107.53	36.67	68.74	1.04	51.55	2660.53
19-Dec-14	107.47	36.30	77.13	1.56	51.55	2696.34
20-Dec-14	108.81	37.06	72.71	0.69	48.08	2708.77
21-Dec-14	110.83	36.46	73.79	1.18	47.59	2684.71
22-Dec-14	113.31	38.51	74.23	0.85	51.19	2759.74
23-Dec-14	116.55	44.57	75.38	1.28	51.05	2804.47
24-Dec-14	117.74	51.39	82.53	1.50	49.46	2792.97
25-Dec-14	119.70	48.50	78.94	1.47	49.13	2794.01
26-Dec-14	120.82	45.75	76.00	1.58	52.07	2814.44
27-Dec-14	114.69	46.92	74.88	1.20	54.83	2808.01
28-Dec-14	108.09	50.13	79.78	1.06	56.54	2723.00
29-Dec-14	102.31	52.12	76.38	1.30	62.08	2821.26
30-Dec-14	103.70	53.65	79.82	1.02	50.38	2840.72
31-Dec-14	107.50	54.05	79.91	0.69	50.74	2809.19
Total	**3304.14**	**1348.43**	**2168.82**	**31.24**	**1626.84**	**85994.74**

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), DECEMBER 2014 (DAY-WISE)									
Market Segment	**Day ahead market of IEX**			**Day ahead market of PXIL**			**Under Drawl/Over Drawl from the Grid (UI)**		
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-Dec-14	1.47	10.02	3.30	2.70	2.70	2.70	0.00	4.91	0.93
2-Dec-14	1.44	12.00	3.18	3.00	3.75	3.23	0.00	5.32	1.67
3-Dec-14	1.20	17.50	3.03	2.00	3.50	2.85	0.00	8.03	2.32
4-Dec-14	1.20	10.02	3.33	1.95	3.50	2.90	0.00	5.32	1.51
5-Dec-14	1.20	10.02	3.06	1.90	4.68	3.03	0.00	5.11	1.42
6-Dec-14	1.15	10.52	3.10	2.01	3.75	2.82	0.00	5.11	1.23
7-Dec-14	1.10	20.00	2.76	1.33	3.50	2.83	0.00	5.32	0.96
8-Dec-14	1.18	6.02	2.82	1.90	3.75	2.92	0.00	5.32	1.22
9-Dec-14	1.67	20.00	2.95	1.70	3.29	2.60	0.00	8.24	1.84
10-Dec-14	2.00	6.02	3.17	1.90	3.76	2.94	0.00	6.36	1.85
11-Dec-14	2.00	10.02	3.35	2.00	4.20	2.84	0.00	5.74	1.38
12-Dec-14	1.10	6.02	3.08	2.00	4.44	2.99	0.00	7.20	1.66
13-Dec-14	1.60	18.50	2.93	1.62	4.10	2.68	0.00	5.74	1.34
14-Dec-14	1.75	6.02	2.57	1.87	4.01	2.62	0.00	5.11	1.15
15-Dec-14	1.40	6.02	3.02	1.75	4.01	2.47	0.00	7.20	1.79
16-Dec-14	1.75	6.02	2.90	1.69	4.01	2.75	0.00	7.82	2.13
17-Dec-14	1.44	6.02	2.87	1.75	3.29	2.50	0.00	6.36	2.44
18-Dec-14	1.25	6.52	2.88	1.44	4.01	2.70	0.00	7.20	2.22
19-Dec-14	1.75	6.52	2.93	1.66	4.01	2.89	0.00	8.24	2.86
20-Dec-14	1.75	6.32	3.22	1.75	3.81	2.26	0.00	6.16	2.39
21-Dec-14	1.66	11.20	2.99	1.75	3.95	2.83	0.00	6.36	1.90
22-Dec-14	1.60	6.52	3.40	1.75	3.95	2.59	0.00	7.20	1.91
23-Dec-14	1.70	6.32	3.39	1.75	4.50	2.95	0.00	7.20	2.05
24-Dec-14	1.70	6.12	3.37	1.70	4.84	3.07	0.00	6.16	2.32
25-Dec-14	1.72	6.52	3.39	1.70	4.60	3.01	0.00	8.24	2.62
26-Dec-14	1.70	6.52	3.66	1.85	4.08	2.85	0.00	8.24	2.80
27-Dec-14	1.70	6.52	3.63	1.70	4.87	3.06	0.00	7.20	2.10
28-Dec-14	1.60	6.52	3.37	1.75	4.12	2.84	0.00	8.03	1.63
29-Dec-14	1.66	6.52	3.68	1.74	4.50	3.03	0.00	8.24	1.54
30-Dec-14	1.69	6.82	3.66	1.70	4.84	2.90	0.00	8.24	2.19
31-Dec-14	1.70	5.83	3.76	1.70	4.60	2.64	0.00	7.20	1.54
	1.10#	**20.00#**	**3.20**	**1.33#**	**4.87#**	**2.85**	**0.00#**	**8.24#**	**1.84**

Source: Data on price of PX transactions from IEX and PXIL and data on UI 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 price of UI of 96 time blocks of 15 minutes each in a day. UI price includes Ceiling UI Rate +40% additional UI charge.

Maximum/Minimum in the month

Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY*-WISE) (MUs), DECEMBER 2014										
Name of the State/UT/Other Regional Entity	Through Bilateral			Through Power Exchange			Through UI with Regional Grid			Total Net***
	Sale	Pur-chase	Net**	Sale	Pur-chase	Net**	Export (Under Drawl)	Import (Over Drawl)	Net**	
Punjab	321.47	0.00	-321.47	0.00	38.57	38.57	44.89	93.59	48.70	-234.19
Haryana	916.34	207.99	-708.35	4.83	80.01	75.18	101.62	38.06	-63.55	-696.73
Rajasthan	112.93	603.39	490.46	66.50	388.59	322.10	54.94	79.03	24.10	836.65
Delhi	438.87	19.78	-419.09	20.03	167.49	147.45	67.49	21.57	-45.93	-317.57
Uttar Pradesh	74.51	111.75	37.24	0.00	6.43	6.43	133.80	48.20	-85.60	-41.92
Uttarakhand	0.00	162.02	162.02	5.30	291.68	286.38	19.45	35.26	15.82	464.21
Himachal Pradesh	37.34	414.11	376.77	102.89	6.73	-96.16	17.00	24.99	7.99	288.59
J & K	12.89	379.30	366.41	11.53	63.05	51.53	5.44	79.63	74.19	492.13
UT Chandigarh	7.44	0.00	-7.44	0.01	7.02	7.01	1.82	16.86	15.04	14.61
MP	38.08	548.93	510.85	113.18	64.40	-48.77	65.97	39.05	-26.92	435.15
Maharashtra	0.00	355.03	355.03	144.43	119.25	-25.18	193.98	21.02	-172.95	156.90
Gujarat	286.89	20.10	-266.79	135.93	245.79	109.85	68.85	66.34	-2.51	-159.45
Chattisgarh	113.27	3.72	-109.55	156.49	9.36	-147.13	30.37	33.93	3.55	-253.13
Daman and Diu	0.00	0.00	0.00	0.00	31.26	31.26	4.97	1.37	-3.60	27.66
Dadra & Nagar Haveli	0.00	0.00	0.00	0.00	0.00	0.00	4.31	3.37	-0.94	-0.94
Andhra Pradesh	0.00	476.98	476.98	40.63	74.77	34.14	17.10	43.38	26.28	537.40
Karnataka	314.75	0.00	-314.75	159.34	49.74	-109.60	10.66	70.58	59.91	-364.43
Kerala	0.00	94.62	94.62	2.75	162.27	159.51	1.44	80.79	79.35	333.48
Tamilnadu	0.00	32.96	32.96	0.00	37.66	37.66	76.03	16.79	-59.24	11.39
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	5.30	2.92	-2.38	-2.38
Telangana	12.82	329.38	316.56	30.72	76.60	45.88	9.94	73.70	63.76	426.20
West Bengal	277.29	30.47	-246.83	51.05	59.03	7.98	13.79	62.34	48.55	-190.29
Orissa	58.41	97.96	39.55	26.10	0.91	-25.19	12.65	75.28	62.63	76.99
Bihar	0.00	216.66	216.66	1.06	5.55	4.49	89.97	21.96	-68.01	153.15
Jharkhand	0.00	113.11	113.11	0.00	0.00	0.00	15.09	20.30	5.21	118.32
Sikkim	0.00	2.88	2.88	16.82	0.00	-16.82	10.82	0.87	-9.95	-23.90
DVC	50.90	0.00	-50.90	58.99	0.00	-58.99	24.90	30.43	5.53	-104.35
Arunachal Pradesh	0.00	0.00	0.00	0.00	10.01	10.01	0.12	20.59	20.48	30.49
Assam	0.00	5.86	5.86	2.61	24.37	21.76	3.90	25.73	21.84	49.45
Manipur	1.12	17.31	16.19	5.97	10.04	4.07	2.52	5.67	3.15	23.41
Meghalaya	0.00	40.84	40.84	0.00	34.13	34.13	3.92	4.90	0.98	75.96
Mizoram	0.00	1.30	1.30	1.20	0.00	-1.20	0.10	10.04	9.94	10.04
Nagaland	0.00	10.89	10.89	0.00	1.47	1.47	0.07	11.29	11.22	23.58
Tripura	2.62	0.00	-2.62	50.31	0.00	-50.31	1.13	16.02	14.89	-38.03
Goa	0.30	29.14	28.84	20.03	3.10	-16.93	14.57	12.22	-2.35	9.55
NHPC Stations	0.00	0.00	0.00	0.00	0.00	0.00	26.36	4.75	-21.61	-21.61
NJPC	0.00	0.00	0.00	4.95	0.00	-4.95	5.49	1.53	-3.96	-8.91

AD HYDRO	0.22	1.00	0.79	14.27	0.00	-14.27	0.57	0.91	0.33	-13.15
KARCHAM WANGTOO	0.27	0.00	-0.27	62.18	0.00	-62.18	5.02	2.79	-2.24	-64.68
SHREE CEMENT	110.53	0.00	-110.53	25.74	0.00	-25.74	1.66	5.05	3.38	-132.89
LANCO BUDHIL	0.00	0.00	0.00	2.55	0.00	-2.55	0.00	0.00	0.00	-2.55
MALANA	0.00	0.00	0.00	0.39	0.00	-0.39	0.00	0.00	0.00	-0.39
JINDAL POWER	329.00	0.00	-329.00	91.46	0.00	-91.46	14.58	6.90	-7.68	-428.13
LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	2.99	1.12	-1.87	-1.87
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	1.52	2.14	0.62	0.62
ACBIL	9.80	0.00	-9.80	37.65	0.00	-37.65	3.36	6.58	3.21	-44.23
BALCO	0.00	0.00	0.00	0.00	30.28	30.28	1.31	5.72	4.41	34.69
RGPPL(Dabhol)	0.00	0.00	0.00	0.00	0.00	0.00	0.04	6.41	6.37	6.37
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	10.90	17.00	6.10	6.10
DCPP	0.06	0.00	-0.06	165.83	0.00	-165.83	4.30	4.30	0.00	-165.88
EMCO	0.00	0.00	0.00	27.24	0.00	-27.24	0.00	0.00	0.00	-27.24
VANDANA VIDYUT	0.00	0.00	0.00	13.07	0.00	-13.07	0.00	0.00	0.00	-13.07
ESSAR STEEL	0.00	0.00	0.00	0.00	100.48	100.48	0.00	0.00	0.00	100.48
DHARIWAL POWER	0.00	0.00	0.00	26.06	0.00	-26.06	0.00	0.00	0.00	-26.06
JAYPEE NIGRIE	0.00	0.00	0.00	129.72	0.00	-129.72	0.00	0.00	0.00	-129.72
SIMHAPURI	262.61	0.00	-262.61	19.85	0.00	-19.85	1.40	4.30	2.89	-279.56
Meenakshi	0.00	0.99	0.99	29.81	0.00	-29.81	0.00	0.00	0.00	-28.82
STERLITE	208.26	0.00	-208.26	151.46	0.00	-151.46	7.76	18.97	11.21	-348.51
MAITHON POWER LTD	20.26	0.00	-20.26	53.64	0.00	-53.64	8.32	4.33	-3.99	-77.89
ADHUNIK POWER LTD	0.00	0.00	0.00	0.41	0.00	-0.41	0.00	0.00	0.00	-0.41
CHUZACHEN HEP	0.00	0.00	0.00	12.66	0.00	-12.66	0.00	0.00	0.00	-12.66
RANGIT HEP	0.00	0.00	0.00	3.65	0.00	-3.65	0.00	0.00	0.00	-3.65
GMR KAMALANGA	0.00	0.00	0.00	61.67	0.00	-61.67	0.00	0.00	0.00	-61.67
TEESTA HEP	0.00	0.00	0.00	7.97	0.00	-7.97	0.00	0.00	0.00	-7.97
NEEPCO Stations	0.00	0.00	0.00	1.30	0.00	-1.30	5.54	1.46	-4.08	-5.39
ONGC PALATANA	0.00	0.00	0.00	27.81	0.00	-27.81	0.00	0.00	0.00	-27.81
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 UI										

Figure 7: Bilateral Contracts executed by Traders in January, 2015

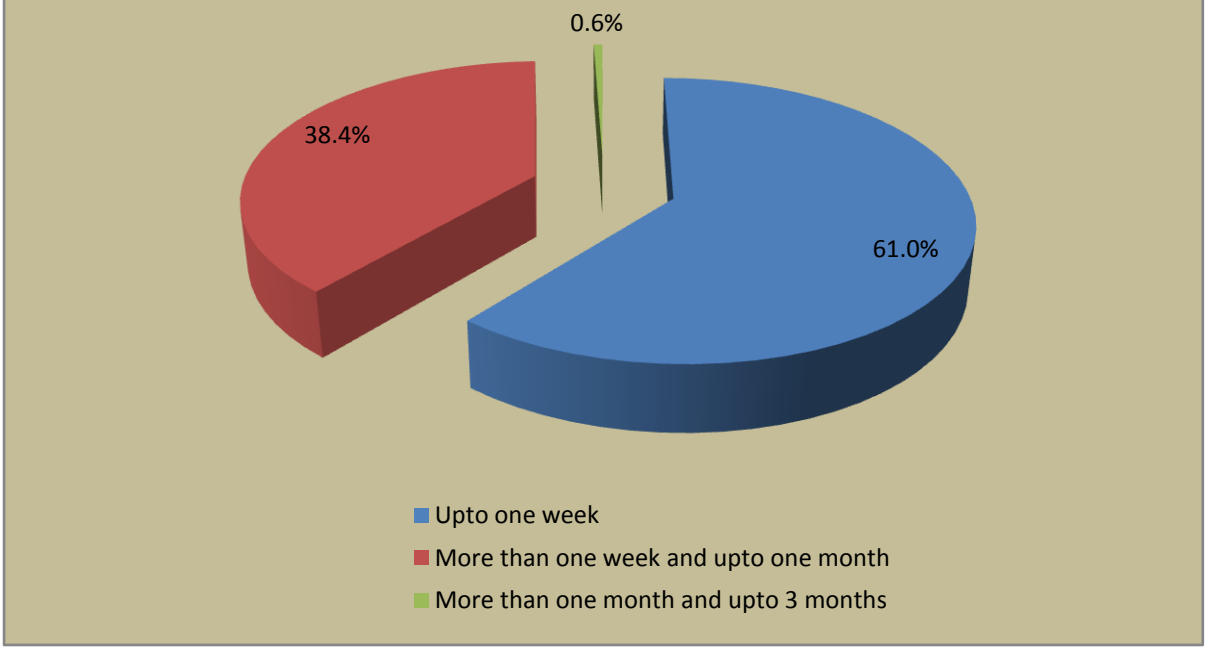


Figure-8: Forward Curve based on Prices of Bilateral Contracts

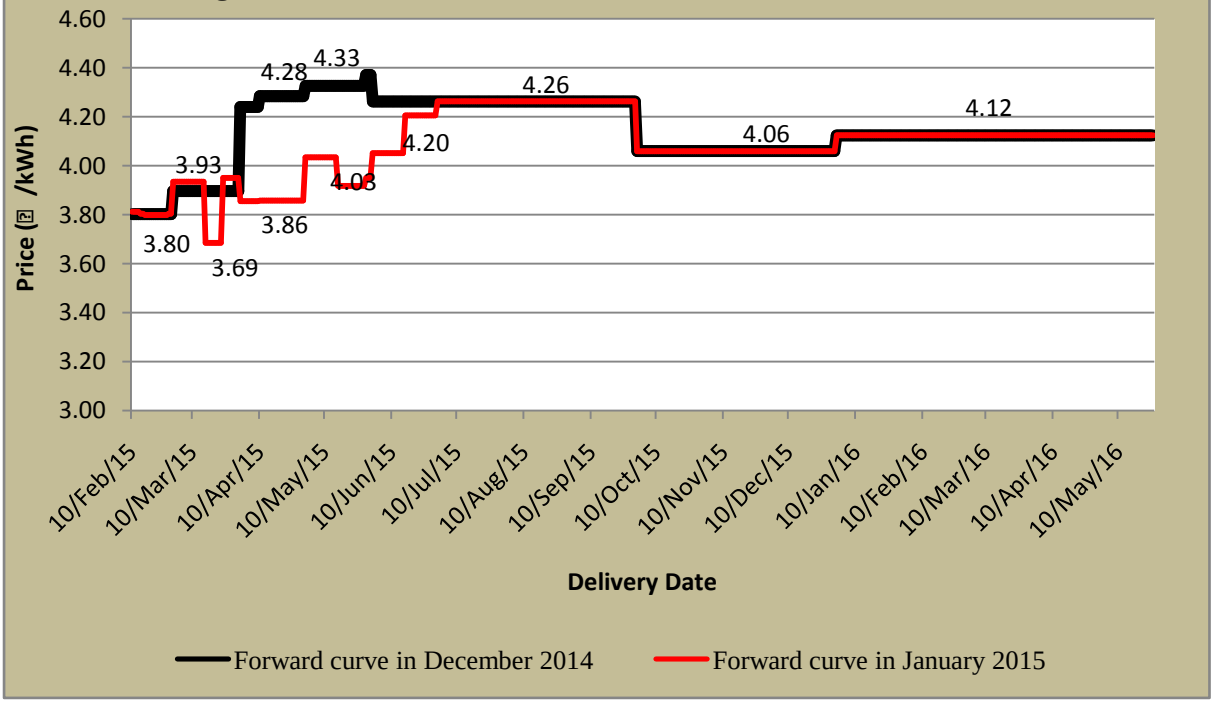


Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTED THROUGH POWER EXCHANGES, DECEMBER 2014					
Sr.No.	**Details of REC Transactions**	**IEX**		**PXIL**	
		Solar	**Non-Solar**	**Solar**	**Non Solar**
A	Volume of Buy Bid	366	177960	1693	157763
B	Volume of Sell Bid	235972	5313974	325523	5681333
C	Ratio of Buy Bid to Sell Bid Volume	0.002	0.03	0.005	0.03
D	Market Clearing Volume (MWh)	366	177960	1693	157763
E	Market Clearing Price (₹/MWh)	9300	1500	9300	1500

Source: IEX and PXIL

Note 1: 1 REC = 1 MWh

Note 2:

Forbearance and Floor Price w.e.f 1st April 2012		
Type of REC	*Floor Price (₹/MWh)*	*Forbearance Price (₹/MWh)*
Solar	*9300.00*	*13400.00*
Non-Solar	*1500.00*	*3300.00*