



Monthly Report on Short-term Transactions of Electricity in India

October, 2014



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



Contents

S.No	Contents	Page No
	Contents	2
	List of Tables and Figures	3
	Abbreviations	4
	Introduction	6
I	Volume of Short-term Transactions of Electricity	6
II	Price of Short-term Transactions of Electricity	7
(i)	<i>Price of electricity transacted through Traders</i>	7
(ii)	<i>Price of electricity transacted Through Power Exchange</i>	7
(iii)	<i>Price of electricity transacted Through UI</i>	8
III	Volume of Short-term Transactions of Electricity (Regional Entity-wise)	8
IV	Congestion on Inter-state Transmission Corridor for Day-Ahead Market on Power Exchanges	9
V	Analysis of Bilateral Contracts executed by Traders in November 2014	10
(i)	<i>Duration of bilateral contracts</i>	10
(ii)	<i>Forward Curve based on Prices of bilateral contracts</i>	10
VI	Volume and Price of Renewable Energy Certificates (RECs)	11
VII	Inferences	12

List of Tables and Figures

S.No.	List of Tables and Figures	Page No.
I List of Tables		
Table-1	Volume of Short-term Transactions of Electricity in India	14
Table-2	Percentage Share of Electricity Transacted by Trading Licensees	16
Table-3	Price of Electricity Transacted through Traders	17
Table-4	Price of Electricity Transacted through Traders (Time-wise)	17
Table-5	Price of Electricity Transacted through Power Exchanges	17
Table-6	Volume and Price of Electricity in Term Ahead Market of IEX	17
Table-7	Volume and Price of Electricity in Term Ahead Market of PXIL	17
Table-8	Price of Electricity Transacted through UI	17
Table-9	Volume of Electricity Sale through Bilateral	19
Table-10	Volume of Electricity Purchase through Bilateral	20
Table-11	Volume of Electricity Sale through Power Exchanges	21
Table-12	Volume of Electricity Purchase through Power Exchanges	22
Table-13	Volume of Electricity Export through UI	23
Table-14	Volume of Electricity Import through UI	24
Table-15	Total Volume of Net Short-term Transactions of Electricity (Regional Entity-wise)	25
Table-16	Details of Congestion in Power Exchanges	27
Table-17	Volume of Short-term Transactions of Electricity in India (Day-wise)	28
Table-18	Price of Short-term Transactions of Electricity (Day-wise)	29
Table-19	Volume of Short-term Transactions of Electricity (Regional Entity-wise)	30
Table-20	Volume and Price of Renewable Energy Certificates (RECs) Transacted through Power Exchanges	33
II List of Figures		
Figure-1	Volume of Short-term Transactions of Electricity	14
Figure-2	Volume of Various Kinds of Electricity Transactions in Total Electricity Generation	14
Figure-3	Volume of Short-term Transactions of Electricity (Day-wise)	15
Figure-4	Percentage Share of Electricity Transacted by Trading Licensees	16
Figure-5	Price of Short-term Transactions of Electricity	18
Figure-6	Price of Short-term Transactions of Electricity (Day-wise)	18
Figure-7	Bilateral Contracts Executed by Traders in September, 2014	32
Figure-8	Forward Curve based on Prices of Bilateral Contracts	32

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 October, 2014 is as under:

I: Volume of Short-term Transactions of Electricity

During the month of October 2014, total electricity generation excluding generation from renewable and captive power plants in India was 90417.87 MUs (Table-1).

Of the total electricity generation, 7776.76 MUs (8.60%) were transacted through short-term, comprising of 3201.36 MUs (3.54%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2799.79 MUs (3.10%) through day ahead collective transactions on Power Exchanges (IEX and PXIL) and 1775.60 MUs (1.96%) through UI (Table-1 & Figure-2).

Of the total short-term transactions, Bilateral constitute 41.17% (29.76% through traders and term-ahead contracts on Power Exchanges and 11.41% directly between distribution companies) followed by 36% through day ahead collective transactions on Power Exchanges and 22.83% 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 31.10.2014, of which only 23 have engaged in trading during October 2014. Top 5 trading licensees had a share of 69.80% 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 0.1452 for the month of October 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 2790.75 MUs and 9.04 MUs respectively. The volume of total Buy bids and Sale bids was 4490.46 MUs and 3825.42 MUs respectively in IEX and 64.24 MUs and 15.70 MUs respectively in PXIL. The gap between the volume of buy bids and sale bids placed through power exchanges shows that there was greater demand in IEX (1.17 times) and PXIL (4.09 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 20.17 MUs and 39.97 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 ₹4.56/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 ₹4.61/kWh, ₹4.77/kWh and ₹4.15/kWh respectively. Minimum and Maximum sale prices were ₹2.52/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 ₹4.33/kWh respectively in IEX and ₹1.20/kWh, ₹6.52/kWh and ₹3.45/kWh respectively in PXIL (Table-5).

The price of electricity transacted through IEX and PXIL in the term-ahead market was ₹4.63/kWh and ₹4.61/kWh respectively (Table-6 and Table-7).

(iii) Price of electricity transacted Through UI: The average UI price was ₹2.22/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 Entity¹-Wise)

Of the total bilateral transactions, top 5 regional entities sold 53.92% of the volume, and these were Karnataka, Gujarat, Jindal Power Ltd, Simhapuri Energy Private Ltd and Sterlite India Ltd. Top 5 regional entities purchased 66.35% of the volume, and these were Maharashtra, Andhra Pradesh, Uttar Pradesh, Bihar and Telangana. (Table-9, 10 & 19).

Of the total Power Exchange transactions, top 5 regional entities sold 36.57% of the volume, and these were Sterlite India Ltd, Karnataka, Chhattisgarh, Jindal Power Ltd and Gujarat. Top 5 regional entities purchased 61.71% of the volume, and these were Maharashtra, Uttar Pradesh, Telangana, Gujarat and Rajasthan. (Table-11, 12 & 19).

Of the total UI transactions, top 5 regional entities underdrew 44.59% of the volume, and these were Maharashtra, Punjab, Tamilnadu, Haryana and Gujarat. Top 5 regional entities overdrew 39.93% of the volume, and these were Uttar Pradesh, Rajasthan, West Bengal, Kerala and Pondicherry. (Table-13, 14 & 19).

Regional entity-wise total volume of net short-term transactions of electricity i.e. volume of net transactions through bilateral, power exchanges and UI is shown in Table-15 & 19. Top 5 electricity selling regional entities were Karnataka, Jindal Power Ltd, Sterlite India

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.

Ltd, Gujarat and Simhapuri Energy Private Ltd , and. Top 5 electricity purchasing regional entities were Maharashtra, Uttar Pradesh , Andhra Pradesh, Telangana and Bihar.

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

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

In the month of October 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 9.30% and 2.93% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 96.74% in IEX and 43.92% in PXIL.

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 November 2014⁴

(i) *Duration of bilateral contracts:*

During November, 2014, a total of 109 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 2488 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 64.2% of the contracts were executed for a duration of up to one week, followed by 34.9% of the contracts executed for a duration of more than a week and upto one month and with a small contribution of 0.9% of the contracts executed for a duration more than three months and upto 12 months.

During the same period, 44 banking/swapping bilateral contracts were also executed for the volume of 1235 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 December 2014 to May 2016 based on bilateral contracts executed till November, 2014. The forward curve drawn for October 2014 has also been depicted for the period December 2014 onwards for comparison purposes. For the last few months no contracts were being executed for delivery beyond October 2014. It is observed that both the forward curves have similar shape. With the execution of new contracts in November 2014, there is a dip in the forward prices for the period from December 2014 to December 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.

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 October 2014 are shown in Table-20. The market clearing volume of Solar RECs transacted on IEX and PXIL were 232 and 147 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 36411 and 37591 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 0.001 for both IEX and PXIL respectively. For Non-Solar RECs, the ratio of buy and sell bids was 0.008 and 0.007 in IEX and PXIL respectively

VII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 8.60%.
- Of the total short-term transactions of electricity, 41.17% was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 36.00% through Power Exchanges and 22.83% through UI.
- Top 5 trading licensees had a share of 69.80% in the total volume traded by all the trading licensees.
- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.1452, indicating non-concentration of market power.
- The price of electricity transacted through trading licensees (₹4.56/kWh) and the price of electricity transacted through IEX (₹4.33/kWh) and PXIL (₹3.45/kWh) respectively.
- The price of electricity transacted through UI was ₹2.22/kWh
- The gap between the volume of buy bids and sale bids placed through power exchanges indicates that there was more demand in IEX (1: 1.17) and PXIL (1: 4.09) when compared with the supply offered through these exchanges.
- Top 5 electricity selling regional entities were Karnataka, Jindal Power Ltd, Sterlite India Ltd, Gujarat and Simhapuri Energy Private Ltd. Top 5 electricity purchasing regional entities were Maharashtra, Uttar Pradesh , Andhra Pradesh, Telangana and Bihar.
- The volume of electricity that could not be cleared in the power exchanges due to congestion was 9.30% and 2.93% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 96.74% in IEX and 43.92% in PXIL.
- In November 2014, 64.2% of the bilateral contracts (excluding banking/swapping) were executed for a duration of up to one week, followed by 34.9% of the contracts were

executed for a duration of more than a week and upto one month and 0.9% of the contracts were executed for a duration of more than three months and upto 12 months.

- There is a decreasing trend in the forward prices from December, 2014 till December 2015 because contracts executed in November 2014 were at lower prices when compared to contracts executed till October 2014.
- The market clearing volume of Solar RECs transacted on IEX and PXIL were 232 and 147 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 36411 and 37591 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), OCTOBER 2014				
Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	3201.36	41.17%	3.54%
	(i) Through Traders and PXs	2314.12	29.76%	2.56%
	(ii) Direct	887.24	11.41%	0.98%
2	Through Power Exchanges	2799.79	36.00%	3.10%
	(i) IEX	2790.75	35.89%	3.09%
	(ii) PXIL	9.04	0.12%	0.01%
3	Through UI	1775.60	22.83%	1.96%
	Total	7776.76	100.00%	8.60%
	Total Generation	90417.87	–	–

Source: NLDC

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

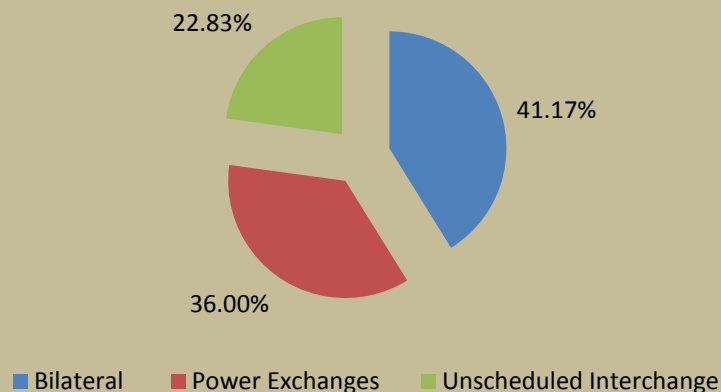


Figure-2: Volume of Various Kinds of Electricity Transactions in Total Electricity Generation, October 2014

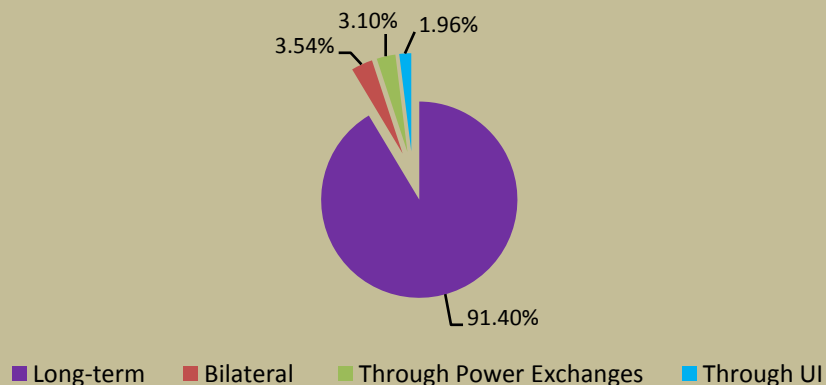


Figure-3: Volume of Short-term Transactions of Electricity, October 2014 (Day-wise)

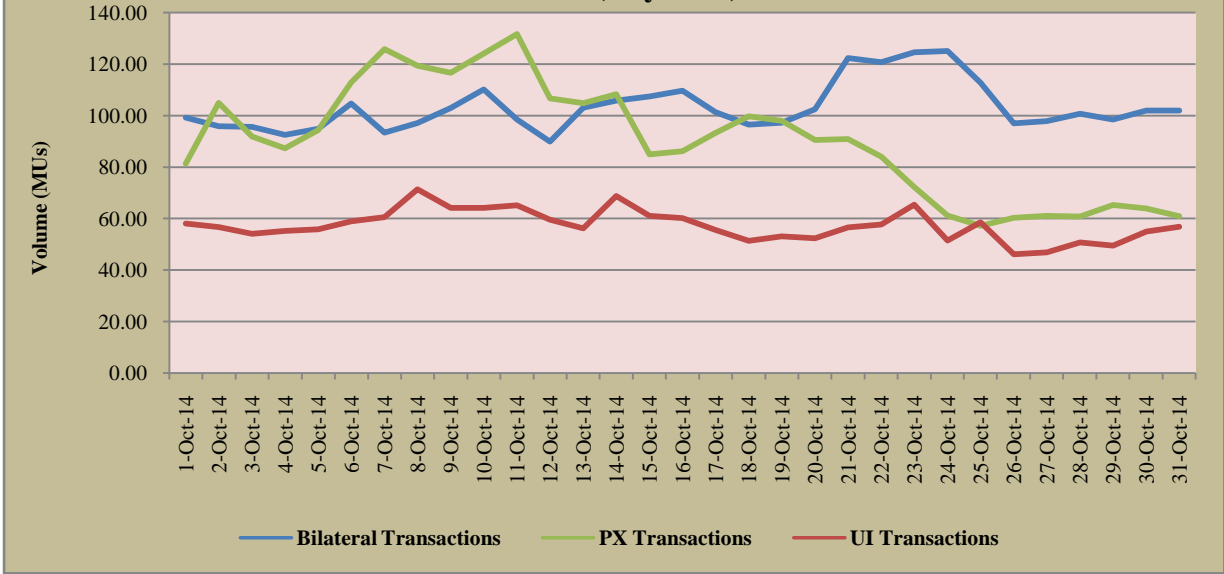


Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, OCTOBER 2014			
Sr.No	Name of the Trading Licensee	% Share in total Volume transacted by Trading Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd.	31.10%	0.0967
2	JSW Power Trading Company Ltd	11.71%	0.0137
3	Tata Power Trading Company (P) Ltd.	10.23%	0.0105
4	Knowledge Infrastructure Systems (P) Ltd	9.03%	0.0081
5	Adani Enterprises Ltd.	7.73%	0.0060
6	Mittal Processors (P) Ltd.	6.77%	0.0046
7	NTPC Vidyut Vyapar Nigam Ltd.	3.86%	0.0015
8	Manikaran Power Ltd.	3.47%	0.0012
9	Shree Cement Ltd.	3.31%	0.0011
10	Jaiprakash Associates Ltd.	2.75%	0.0008
11	RPG Power Trading Company Ltd.	1.46%	0.0002
12	GMR Energy Trading Ltd.	1.46%	0.0002
13	Essar Electric Power Development Corp. Ltd.	1.25%	0.0002
14	National Energy Trading & Services Ltd.	1.07%	0.0001
15	Arunachal Pradesh Power Corporation (P) ltd	0.95%	0.0001
16	Reliance Energy Trading (P) Ltd	0.92%	0.0001
17	Ambitious Power Trading Company Ltd.	0.92%	0.0001
18	Instinct Infra & Power Ltd.	0.80%	0.0001
19	My Home Power Private Ltd.	0.47%	0.0000
20	Indrajit Power Technology (P) Ltd.	0.34%	0.0000
21	SN Power Markets Pvt. Ltd.	0.29%	0.0000
22	Customized Energy Solutions India (P) Ltd.	0.07%	0.0000
23	Pune Power Development (P) Ltd.	0.06%	0.0000
TOTAL		100.00%	0.1452
Top 5 trading licensees		69.80%	
<i>Note 1: Volume of electricity transacted by the trading licensees includes bilateral transactions (inter-state & intra-state) and the transactions undertaken through power exchanges.</i>			
<i>Note 2: Volume of electricity transacted by Global Energy Ltd is not included.</i>			
<i>Source: Information submitted by trading licensees</i>			

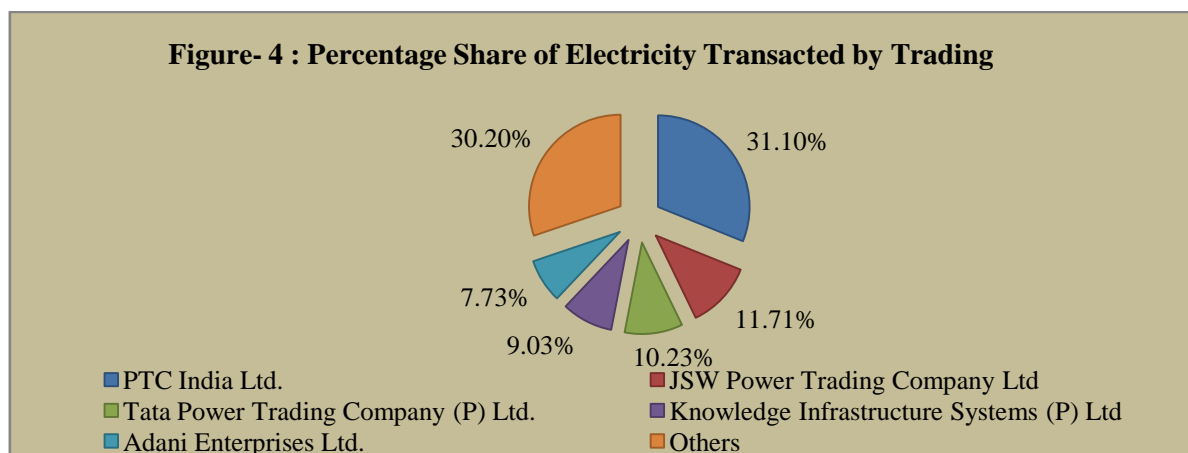


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, OCTOBER 2014		
Sr.No		Sale Price of Traders (₹/kWh)
1	Minimum	2.52
2	Maximum	7.99
3	Weighted Average	4.56

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), OCTOBER 2014		
Sr.No	Period of Trade	Sale Price of Traders (₹/kWh)
1	RTC	4.61
2	PEAK	4.77
3	OFF PEAK	4.15

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, OCTOBER 2014			
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)
1	Minimum	1.10	1.20
2	Maximum	20.00	6.52
3	Weighted Average	4.33	3.45

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, OCTOBER 2014			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	17.07	4.66
2	Day Ahead Contingency Contracts	0.94	4.00
3	Daily Contracts	2.16	4.62
	Total	20.17	4.63

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, OCTOBER 2014			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	12.39	4.76
2	Daily Contracts	27.58	4.55
	Total	39.97	4.61

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH UI, OCTOBER 2014		
Sr.No		Price in All India Grid (₹/kWh)
1	Minimum	0.00
2	Maximum	8.24
3	Average	2.22

Source: NLDC

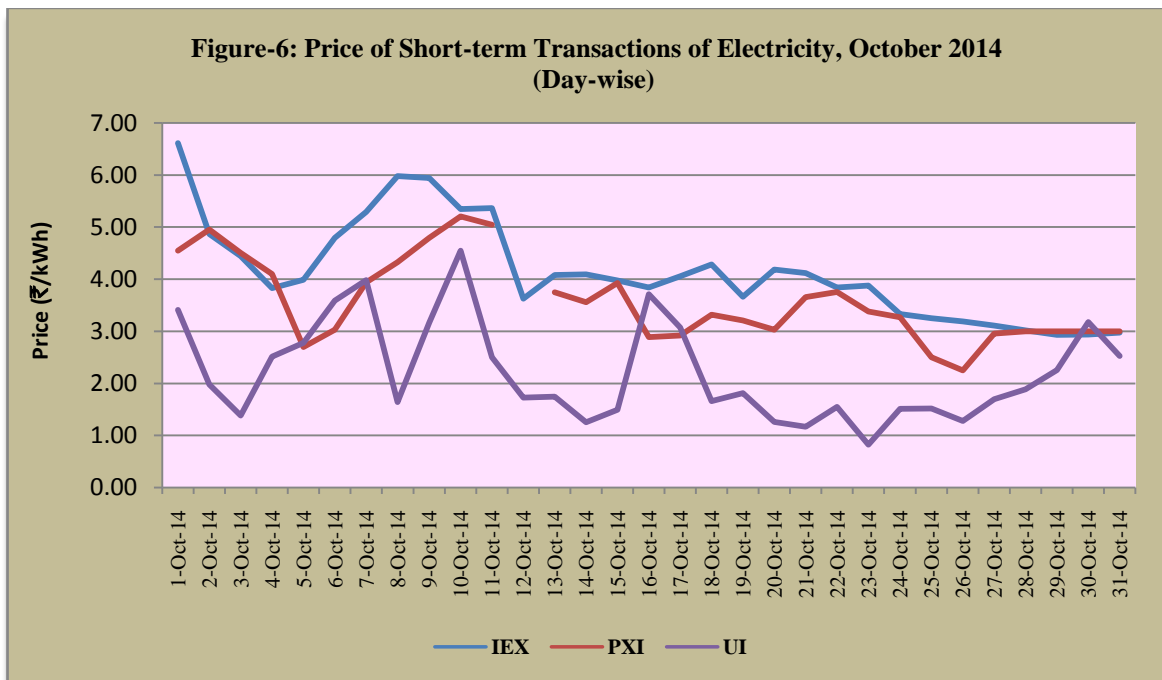
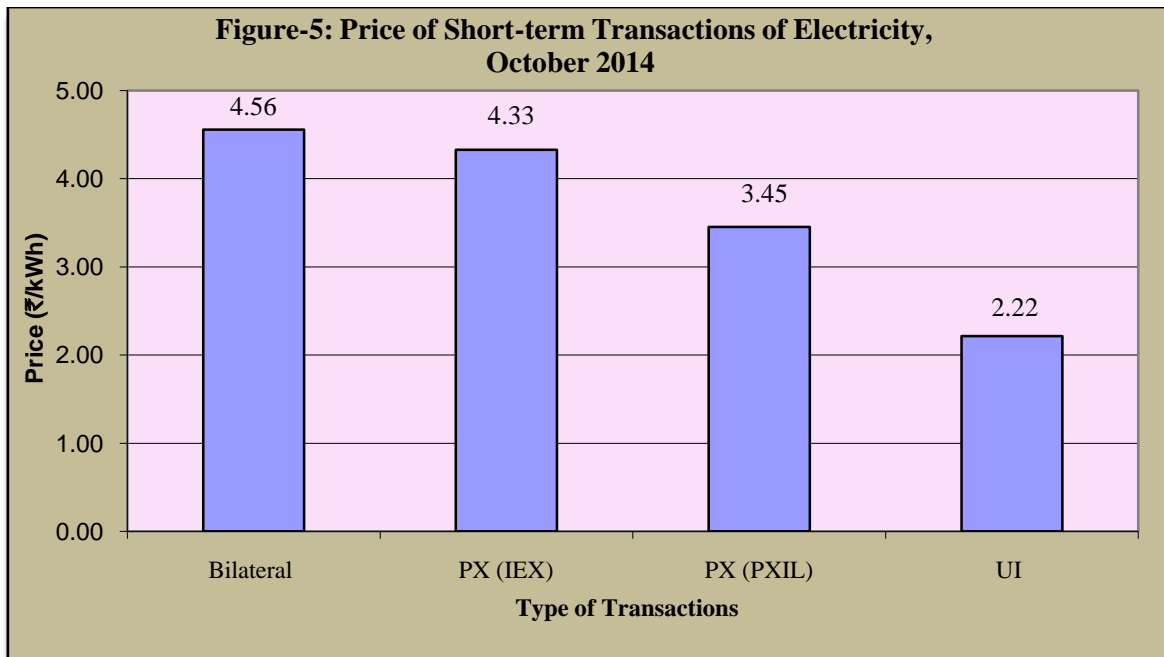


Table-9: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL, OCTOBER 2014		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Karnataka	385.27	15.87%
Gujarat	296.64	12.22%
JINDAL POWER	266.83	10.99%
SIMHAPURI	196.32	8.09%
STERLITE	164.07	6.76%
Rajasthan	158.56	6.53%
Delhi	150.24	6.19%
SHREE CEMENT	122.62	5.05%
Haryana	112.73	4.64%
MP	103.94	4.28%
DVC	68.00	2.80%
J & K	67.45	2.78%
Orissa	63.05	2.60%
West Bengal	50.67	2.09%
KARCHAM WANGTOO	48.67	2.00%
Meghalaya	42.13	1.74%
Uttar Pradesh	23.28	0.96%
ACBIL	18.91	0.78%
Punjab	16.80	0.69%
Chattisgarh	14.10	0.58%
Telangana	13.52	0.56%
MAITHON POWER LTD	13.05	0.54%
NSPCL	12.90	0.53%
AD HYDRO	6.45	0.27%
Himachal Pradesh	6.24	0.26%
Maharashtra	3.41	0.14%
Tripura	1.33	0.05%
Uttarakhand	0.62	0.03%
Total	2427.82	100.00%
Volume of sale by top 5 States	1309.13	53.92%

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL, OCTOBER 2014		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Maharashtra	476.67	16.34%
Andhra Pradesh	468.98	16.08%
Uttar Pradesh	365.27	12.52%
Bihar	319.48	10.95%
Telangana	304.91	10.45%
Haryana	190.64	6.54%
Jharkhand	137.37	4.71%
Uttarakhand	127.15	4.36%
Orissa	123.65	4.24%
Punjab	75.20	2.58%
MP	68.52	2.35%
Delhi	45.45	1.56%
Goa	41.37	1.42%
J & K	35.88	1.23%
Himachal Pradesh	32.94	1.13%
Chattisgarh	29.38	1.01%
West Bengal	20.07	0.69%
Gujarat	19.21	0.66%
Meghalaya	10.53	0.36%
Tamilnadu	7.62	0.26%
Sikkim	6.22	0.21%
Kerala	4.18	0.14%
Tripura	3.97	0.14%
Karnataka	1.08	0.04%
Meenakshi	0.99	0.03%
Rajasthan	0.30	0.01%
Total	2917.02	100.00%
Volume of Purchase by top 5 States	1935.31	66.35%

Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, OCTOBER 2014		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
STERLITE	244.27	8.72%
Karnataka	227.29	8.12%
Chattisgarh	210.62	7.52%
JINDAL POWER	173.50	6.20%
Gujarat	168.35	6.01%
DCPP	167.60	5.99%
Orissa	166.83	5.96%
JINDAL STAGE-II	165.82	5.92%
Himachal Pradesh	132.18	4.72%
Rajasthan	85.25	3.04%
MAITHON POWER LTD	75.75	2.71%
KARCHAM WANGTOO	75.56	2.70%
Delhi	66.01	2.36%
SHREE CEMENT	64.95	2.32%
JAYPEE NIGRIE	59.95	2.14%
Haryana	46.93	1.68%
MP	46.72	1.67%
West Bengal	46.54	1.66%
ACBIL	43.21	1.54%
DVC	38.49	1.37%
ADHUNIK POWER LTD	37.75	1.35%
CHUZACHEN HEP	37.25	1.33%
EMCO	35.72	1.28%
Tripura	33.51	1.20%
Sikkim	33.39	1.19%
J & K	31.60	1.13%
VANDANA VIDYUT	28.53	1.02%
Telangana	24.31	0.87%
AD HYDRO	24.00	0.86%
Maharashtra	23.33	0.83%
Assam	23.27	0.83%
TEESTA HEP	20.74	0.74%
KSK MAHANADI	20.04	0.72%
SIMHAPURI	16.67	0.60%
Uttarakhand	14.37	0.51%
LANCO BUDHIL	11.32	0.40%
ONGC PALATANA	9.87	0.35%
NJPC	9.77	0.35%
Meenakshi	9.58	0.34%
RANGIT HEP	8.44	0.30%
Goa	8.32	0.30%
Meghalaya	6.68	0.24%
Mizoram	6.11	0.22%
NEEPCO Stations	5.37	0.19%
Andhra Pradesh	4.98	0.18%
Kerala	2.42	0.09%
Nagaland	1.80	0.06%
Manipur	1.36	0.05%
ESSAR POWER	1.20	0.04%
Arunachal Pradesh	0.99	0.04%

Punjab	0.58	0.02%
Bihar	0.49	0.02%
DHARIWAL POWER	0.23	0.01%
UT Chandigarh	0.01	0.00%
Total	2799.81	100.00%
Volume of sale by top 5 States	1024.02	36.57%

Table-12: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGES, OCTOBER 2014		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Maharashtra	772.15	27.58%
Uttar Pradesh	270.13	9.65%
Telangana	248.24	8.87%
Gujarat	247.06	8.82%
Rajasthan	190.09	6.79%
ESSAR STEEL	183.63	6.56%
West Bengal	177.17	6.33%
Orissa	122.74	4.38%
Uttarakhand	101.37	3.62%
Andhra Pradesh	74.14	2.65%
Kerala	68.84	2.46%
Delhi	59.31	2.12%
Punjab	46.12	1.65%
Tamilnadu	39.39	1.41%
Haryana	36.25	1.29%
MP	32.53	1.16%
Himachal Pradesh	26.68	0.95%
Daman and Diu	23.82	0.85%
Assam	18.28	0.65%
Karnataka	14.44	0.52%
Meghalaya	10.90	0.39%
J & K	10.68	0.38%
BALCO	9.73	0.35%
Manipur	8.27	0.30%
UT Chandigarh	3.87	0.14%
Arunachal Pradesh	3.27	0.12%
Tripura	0.72	0.03%
Total	2799.79	100.00%
Volume of purchase by top 5 States	1727.67	61.71%

Table-13: VOLUME OF ELECTRICITY EXPORT THROUGH UI, OCTOBER 2014		
Name of the State/UT/Other Regional Entity	Volume of Export (MUs)	% of Volume
Maharashtra	143.59	11.98%
Punjab	125.29	10.45%
Tamilnadu	103.07	8.60%
Haryana	86.33	7.20%
Gujarat	76.18	6.36%
Bihar	61.78	5.16%
Uttar Pradesh	51.06	4.26%
Delhi	50.89	4.25%
Rajasthan	47.12	3.93%
NHPC Stations	45.80	3.82%
Chattisgarh	45.75	3.82%
MP	41.33	3.45%
Andhra Pradesh	23.32	1.95%
Orissa	23.02	1.92%
J & K	22.88	1.91%
West Bengal	21.62	1.80%
DVC	17.09	1.43%
Jharkhand	16.98	1.42%
Pondicherry	16.81	1.40%
STERLITE	14.99	1.25%
JINDAL POWER	14.96	1.25%
Karnataka	14.96	1.25%
Goa	14.66	1.22%
CGPL	10.88	0.91%
Sikkim	10.27	0.86%
Himachal Pradesh	9.10	0.76%
Uttarakhand	8.76	0.73%
Assam	7.84	0.65%
MAITHON POWER LTD	6.92	0.58%
NJPC	6.55	0.55%
Dadra & Nagar Haveli	6.51	0.54%
Telangana	5.86	0.49%
KARCHAM WANGTOO	5.23	0.44%
Daman and Diu	4.90	0.41%
Meghalaya	4.51	0.38%
NEEPCO Stations	4.14	0.35%
Kerala	3.45	0.29%
ACBIL	3.02	0.25%
Tripura	2.85	0.24%
LANKO_AMK	2.85	0.24%
DCPP	2.51	0.21%
UT Chandigarh	2.43	0.20%
NSPCL	2.15	0.18%
SIMHAPURI	1.88	0.16%
SHREE CEMENT	1.16	0.10%
Arunachal Pradesh	1.10	0.09%
Nagaland	1.10	0.09%
Manipur	1.05	0.09%
BALCO	0.94	0.08%
AD HYDRO	0.72	0.06%
RGPPL(Dabhol)	0.21	0.02%
Mizoram	0.12	0.01%
Total	1198.49	100.00%
Volume of Export by top 5 States	534.45	44.59%

Table-14: VOLUME OF ELECTRICITY IMPORT THROUGH UI, OCTOBER 2014		
Name of the State/UT/Other Regional Entity	Volume of Import (MUs)	% of Volume
Uttar Pradesh	175.47	13.16%
Rajasthan	153.79	11.54%
West Bengal	68.52	5.14%
Kerala	68.17	5.11%
Pondicherry	66.39	4.98%
J & K	55.65	4.17%
Karnataka	49.62	3.72%
Uttarakhand	48.35	3.63%
Maharashtra	48.06	3.61%
Andhra Pradesh	47.54	3.57%
Himachal Pradesh	45.93	3.45%
Orissa	42.83	3.21%
Haryana	42.80	3.21%
MP	41.46	3.11%
Gujarat	32.81	2.46%
DVC	30.04	2.25%
Bihar	29.68	2.23%
Chattisgarh	28.85	2.16%
Punjab	24.87	1.87%
Assam	22.73	1.70%
Delhi	20.56	1.54%
Goa	18.85	1.41%
Jharkhand	17.93	1.35%
UT Chandigarh	16.75	1.26%
STERLITE	15.40	1.16%
Tamilnadu	15.01	1.13%
Arunachal Pradesh	11.26	0.84%
CGPL(Coastal Gujarat Power Ltd)	10.84	0.81%
ACBIL	6.86	0.51%
NHPC Stations	6.62	0.50%
Nagaland	5.89	0.44%
BALCO	5.77	0.43%
RGPP(LDabhol)	5.50	0.41%
Mizoram	5.40	0.41%
Dadra & Nagar Haveli	5.39	0.40%
Tripura	5.08	0.38%
Manipur	4.84	0.36%
MAITHON POWER LTD	4.48	0.34%
SHREE CEMENT	4.17	0.31%
Meghalaya	3.15	0.24%
KARCHAM WANGTOO	3.08	0.23%
NJPC	2.83	0.21%
DCPP(Donga Mahua Captive Power Plant)	2.58	0.19%
Daman and Diu	2.43	0.18%
NSPCL	1.64	0.12%
Telangana	1.62	0.12%
SIMHAPURI	1.47	0.11%
NEEPCO Stations	1.29	0.10%
JINDAL POWER	0.88	0.07%
LANKO_AMK	0.73	0.05%
Sikkim	0.67	0.05%
AD HYDRO	0.59	0.04%
Total	1333.14	100.00%
Volume of Import by top 5 States	532.35	39.93%

Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), OCTOBER 2014		
Sr.No.	Name of the State/UT/Other Regional Entity	Total volume of net short-term transactions of electricity*
1	Maharashtra	1126.55
2	Uttar Pradesh	736.53
3	Andhra Pradesh	562.36
4	Telangana	511.08
5	Bihar	286.89
6	Uttarakhand	253.12
7	ESSAR STEEL	183.63
8	West Bengal	146.93
9	Jharkhand	138.33
10	Kerala	135.32
11	Rajasthan	53.25
12	Pondicherry	49.59
13	Goa	37.24
14	Orissa	36.30
15	Haryana	23.70
16	Daman and Diu	21.35
17	UT Chandigarh	18.18
18	BALCO	14.56
19	Arunachal Pradesh	12.45
20	Manipur	10.70
21	Assam	9.89
22	RGPPL(Dabhol)	5.29
23	Punjab	3.52
24	Nagaland	3.00
25	CGPL(Coastal Gujarat Power Ltd)	-0.05
26	DHARIWAL POWER	-0.23
27	Mizoram	-0.83
28	Dadra & Nagar Haveli	-1.12
29	ESSAR POWER	-1.20
30	LANKO_AMK	-2.12
31	NEEPCO Stations	-8.22
32	RANGIT HEP	-8.44
33	Meenakshi	-8.59
34	ONGC PALATANA	-9.87
35	LANCO BUDHIL	-11.32
36	NSPCL	-13.41
37	NJPC	-13.49
38	J & K	-19.73
39	KSK MAHANADI	-20.04
40	TEESTA HEP	-20.74
41	Tripura	-27.91
42	VANDANA VIDYUT	-28.53
43	Meghalaya	-28.73
44	AD HYDRO	-30.57
45	EMCO	-35.72
46	Sikkim	-36.77
47	CHUZACHEN HEP	-37.25
48	ADHUNIK POWER LTD	-37.75
49	NHPC Stations	-39.18
50	Tamilnadu	-41.05
51	Himachal Pradesh	-41.97
52	MP	-49.49
53	ACBIL	-58.28
54	JAYPEE NIGRIE	-59.95

55	MAITHON POWER LTD	-91.23
56	DVC	-93.53
57	KARCHAM WANGTOO	-126.38
58	Delhi	-141.81
59	JINDAL STAGE-II	-165.82
60	DCPP	-167.53
61	SHREE CEMENT	-184.56
62	Chattisgarh	-212.25
63	SIMHAPURI	-213.39
64	Gujarat	-242.08
65	STERLITE	-407.93
66	JINDAL POWER	-454.41
67	Karnataka	-562.38
* 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, OCTOBER 2014			
	Details of Congestion	IEX	PXIL
A	Unconstrained Cleared Volume* (MUs)	3076.85	9.31
B	Actual Cleared Volume and hence scheduled (MUs)	2790.75	9.04
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	286.10	0.27
D	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	9.30%	2.93%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	96.74%	43.92%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	24.80%	21.12%
	6.00 - 12.00 hours	25.43%	27.62%
	12.00 - 18.00 hours	25.36%	20.73%
	18.00 - 24.00 hours	24.42%	30.53%
<i>* This power would have been scheduled had there been no congestion.</i>			
<i>Source: IEX & PXIL & NLDC</i>			

Table-17: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (MUs), OCTOBER 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-Oct-14	76.52	22.71	81.18	0.12	58.02	3111.69
2-Oct-14	72.87	23.01	104.76	0.11	56.60	3089.95
3-Oct-14	73.68	21.93	91.63	0.25	54.01	3033.91
4-Oct-14	70.48	22.08	87.02	0.28	55.19	3039.79
5-Oct-14	66.17	28.71	94.10	0.28	55.75	3114.13
6-Oct-14	73.93	30.77	112.64	0.24	58.85	3127.13
7-Oct-14	64.41	28.97	125.62	0.16	60.49	3080.20
8-Oct-14	66.02	31.04	119.18	0.16	71.32	3008.86
9-Oct-14	72.84	30.04	116.39	0.14	64.12	3012.70
10-Oct-14	77.23	32.95	123.88	0.16	64.08	3006.41
11-Oct-14	74.18	24.28	131.36	0.26	65.14	2979.32
12-Oct-14	61.23	28.67	106.60	0.00	59.48	2861.46
13-Oct-14	71.71	31.32	104.54	0.22	56.14	2850.33
14-Oct-14	63.24	42.58	107.93	0.33	68.68	2823.89
15-Oct-14	61.29	46.07	84.60	0.29	61.03	2847.75
16-Oct-14	66.62	43.00	85.83	0.30	60.18	2908.99
17-Oct-14	67.68	33.61	92.82	0.40	55.58	2921.90
18-Oct-14	68.88	27.61	99.31	0.43	51.27	2890.73
19-Oct-14	70.09	27.13	97.69	0.31	53.02	2831.09
20-Oct-14	74.52	27.93	89.97	0.52	52.31	2892.09
21-Oct-14	94.22	28.13	90.26	0.64	56.47	2915.76
22-Oct-14	94.20	26.53	83.37	0.63	57.70	2879.11
23-Oct-14	96.86	27.66	71.55	0.74	65.32	2778.39
24-Oct-14	100.03	25.02	60.75	0.47	51.43	2728.48
25-Oct-14	87.54	25.24	57.02	0.17	58.51	2697.54
26-Oct-14	70.88	26.10	59.83	0.51	46.10	2623.26
27-Oct-14	71.53	26.35	61.00	0.03	46.85	2727.88
28-Oct-14	74.28	26.36	60.58	0.24	50.73	2802.09
29-Oct-14	74.55	23.94	65.04	0.24	49.44	3147.80
30-Oct-14	78.23	23.75	63.62	0.23	54.96	2842.62
31-Oct-14	78.23	23.75	60.69	0.17	56.83	2842.62
Total	2314.12	887.24	2790.75	9.04	1775.60	90417.87

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), OCTOBER 2014 (DAY-WISE)

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Draw/Over Drawl from the Grid (UI)		
	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-Oct-14	5.00	9.52	6.61	4.50	4.80	4.55	0.00	8.24	3.41
2-Oct-14	2.90	9.62	4.87	4.50	5.51	4.96	0.00	8.24	1.98
3-Oct-14	1.45	9.31	4.45	3.50	6.01	4.51	0.00	3.45	1.38
4-Oct-14	1.15	10.53	3.83	3.50	6.51	4.10	0.00	6.36	2.52
5-Oct-14	1.70	10.55	3.99	1.20	6.51	2.70	0.00	6.36	2.78
6-Oct-14	3.30	10.31	4.80	1.70	6.51	3.03	0.00	8.03	3.59
7-Oct-14	3.10	10.42	5.29	3.40	4.40	3.94	0.00	8.24	3.98
8-Oct-14	4.90	10.47	5.98	4.00	4.80	4.33	0.00	6.36	1.65
9-Oct-14	3.75	10.15	5.94	4.80	4.80	4.80	0.00	8.24	3.17
10-Oct-14	2.85	11.03	5.35	5.20	5.81	5.21	0.36	7.20	4.55
11-Oct-14	3.50	11.03	5.37	2.22	6.52	5.05	0.00	6.36	2.50
12-Oct-14	2.26	12.00	3.63	-	-	-	0.00	5.74	1.73
13-Oct-14	3.00	11.03	4.08	2.75	4.80	3.75	0.00	5.95	1.75
14-Oct-14	3.00	11.03	4.10	2.80	4.60	3.56	0.00	6.16	1.26
15-Oct-14	1.70	20.00	3.98	3.00	5.45	3.93	0.00	6.16	1.50
16-Oct-14	2.24	10.26	3.85	1.72	3.75	2.89	0.00	8.24	3.71
17-Oct-14	2.64	10.02	4.06	2.21	4.05	2.92	0.00	6.36	3.08
18-Oct-14	2.90	10.00	4.29	2.70	3.80	3.32	0.00	5.74	1.66
19-Oct-14	2.30	10.01	3.67	2.90	3.50	3.21	0.00	6.16	1.82
20-Oct-14	2.65	10.53	4.19	2.60	3.50	3.03	0.00	5.32	1.26
21-Oct-14	2.50	11.02	4.12	2.80	5.50	3.66	0.00	4.91	1.17
22-Oct-14	1.68	11.02	3.84	2.50	5.80	3.76	0.00	6.36	1.55
23-Oct-14	1.10	20.00	3.88	2.00	5.95	3.38	0.00	3.45	0.83
24-Oct-14	1.10	20.00	3.33	2.70	6.50	3.27	0.00	3.45	1.52
25-Oct-14	1.37	10.02	3.25	2.50	2.50	2.50	0.00	5.95	1.52
26-Oct-14	1.50	10.02	3.20	2.25	2.25	2.25	0.00	4.91	1.28
27-Oct-14	1.50	10.02	3.11	2.57	3.75	2.96	0.00	6.16	1.70
28-Oct-14	1.66	20.00	3.02	3.00	3.00	3.00	0.00	6.36	1.89
29-Oct-14	1.65	20.00	2.94	3.00	3.00	3.00	0.00	7.82	2.26
30-Oct-14	1.66	20.00	2.94	3.00	3.00	3.00	0.00	8.24	3.18
31-Oct-14	1.68	20.00	2.98	3.00	3.00	3.00	0.00	8.24	2.53
	1.10#	20.00#	4.33	1.20#	6.52#	3.45	0.00#	8.24#	2.22

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), OCTOBER 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	16.80	75.20	58.40	0.58	46.12	45.54	125.29	24.87	-100.42	3.52
Haryana	112.73	190.64	77.91	46.93	36.25	-10.68	86.33	42.80	-43.53	23.70
Rajasthan	158.56	0.30	-158.26	85.25	190.09	104.84	47.12	153.79	106.67	53.25
Delhi	150.24	45.45	-104.78	66.01	59.31	-6.70	50.89	20.56	-30.32	-141.81
Uttar Pradesh	23.28	365.27	341.99	0.00	270.13	270.13	51.06	175.47	124.41	736.53
Uttarakhand	0.62	127.15	126.52	14.37	101.37	87.00	8.76	48.35	39.60	253.12
Himachal Pradesh	6.24	32.94	26.70	132.18	26.68	-105.51	9.10	45.93	36.83	-41.97
J & K	67.45	35.88	-31.57	31.60	10.68	-20.93	22.88	55.65	32.77	-19.73
UT Chandigarh	0.00	0.00	0.00	0.01	3.87	3.86	2.43	16.75	14.32	18.18
MP	103.94	68.52	-35.43	46.72	32.53	-14.19	41.33	41.46	0.13	-49.49
Maharashtra	3.41	476.67	473.26	23.33	772.15	748.82	143.59	48.06	-95.52	1126.55
Gujarat	296.64	19.21	-277.43	168.35	247.06	78.71	76.18	32.81	-43.37	-242.08
Chattisgarh	14.10	29.38	15.28	210.62	0.00	-210.62	45.75	28.85	-16.91	-212.25
Daman and Diu	0.00	0.00	0.00	0.00	23.82	23.82	4.90	2.43	-2.47	21.35
Dadra & Nagar Haveli	0.00	0.00	0.00	0.00	0.00	0.00	6.51	5.39	-1.12	-1.12
Andhra Pradesh	0.00	468.98	468.98	4.98	74.14	69.16	23.32	47.54	24.22	562.36
Karnataka	385.27	1.08	-384.18	227.29	14.44	-212.85	14.96	49.62	34.66	-562.38
Kerala	0.00	4.18	4.18	2.42	68.84	66.41	3.45	68.17	64.72	135.32
Tamilnadu	0.00	7.62	7.62	0.00	39.39	39.39	103.07	15.01	-88.06	-41.05
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	16.81	66.39	49.59	49.59
Telangana	13.52	304.91	291.39	24.31	248.24	223.93	5.86	1.62	-4.24	511.08
West Bengal	50.67	20.07	-30.61	46.54	177.17	130.63	21.62	68.52	46.90	146.93
Orissa	63.05	123.65	60.60	166.83	122.74	-44.09	23.02	42.83	19.80	36.30
Bihar	0.00	319.48	319.48	0.49	0.00	-0.49	61.78	29.68	-32.10	286.89
Jharkhand	0.00	137.37	137.37	0.00	0.00	0.00	16.98	17.93	0.95	138.33
Sikkim	0.00	6.22	6.22	33.39	0.00	-33.39	10.27	0.67	-9.61	-36.77
DVC	68.00	0.00	-68.00	38.49	0.00	-38.49	17.09	30.04	12.96	-93.53
Arunachal Pradesh	0.00	0.00	0.00	0.99	3.27	2.28	1.10	11.26	10.16	12.45
Assam	0.00	0.00	0.00	23.27	18.28	-4.99	7.84	22.73	14.89	9.89
Manipur	0.00	0.00	0.00	1.36	8.27	6.91	1.05	4.84	3.79	10.70
Meghalaya	42.13	10.53	-31.60	6.68	10.90	4.22	4.51	3.15	-1.36	-28.73
Mizoram	0.00	0.00	0.00	6.11	0.00	-6.11	0.12	5.40	5.28	-0.83
Nagaland	0.00	0.00	0.00	1.80	0.00	-1.80	1.10	5.89	4.79	3.00
Tripura	1.33	3.97	2.64	33.51	0.72	-32.79	2.85	5.08	2.23	-27.91
Goa	0.00	41.37	41.37	8.32	0.00	-8.32	14.66	18.85	4.19	37.24
NHPC Stations	0.00	0.00	0.00	0.00	0.00	0.00	45.80	6.62	-39.18	-39.18

NJPC	0.00	0.00	0.00	9.77	0.00	-9.77	6.55	2.83	-3.72	-13.49
AD HYDRO	6.45	0.00	-6.45	24.00	0.00	-24.00	0.72	0.59	-0.12	-30.57
KARCHAM WANGTOO	48.67	0.00	-48.67	75.56	0.00	-75.56	5.23	3.08	-2.15	-126.38
SHREE CEMENT	122.62	0.00	-122.62	64.95	0.00	-64.95	1.16	4.17	3.01	-184.56
LANCO BUDHIL	0.00	0.00	0.00	11.32	0.00	-11.32	0.00	0.00	0.00	-11.32
JINDAL POWER	266.83	0.00	-266.83	173.50	0.00	-173.50	14.96	0.88	-14.09	-454.41
LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	2.85	0.73	-2.12	-2.12
NSPCL	12.90	0.00	-12.90	0.00	0.00	0.00	2.15	1.64	-0.51	-13.41
ACBIL	18.91	0.00	-18.91	43.21	0.00	-43.21	3.02	6.86	3.84	-58.28
BALCO	0.00	0.00	0.00	0.00	9.73	9.73	0.94	5.77	4.83	14.56
RGPPL(Dabhol)	0.00	0.00	0.00	0.00	0.00	0.00	0.21	5.50	5.29	5.29
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	10.88	10.84	-0.05	-0.05
DCPP	0.00	0.00	0.00	167.60	0.00	-167.60	2.51	2.58	0.07	-167.53
EMCO	0.00	0.00	0.00	35.72	0.00	-35.72	0.00	0.00	0.00	-35.72
VANDANA VIDYUT	0.00	0.00	0.00	28.53	0.00	-28.53	0.00	0.00	0.00	-28.53
ESSAR STEEL	0.00	0.00	0.00	0.00	183.63	183.63	0.00	0.00	0.00	183.63
KSK MAHANADI	0.00	0.00	0.00	20.04	0.00	-20.04	0.00	0.00	0.00	-20.04
ESSAR POWER	0.00	0.00	0.00	1.20	0.00	-1.20	0.00	0.00	0.00	-1.20
JINDAL STAGE-II	0.00	0.00	0.00	165.82	0.00	-165.82	0.00	0.00	0.00	-165.82
DHARIWAL POWER	0.00	0.00	0.00	0.23	0.00	-0.23	0.00	0.00	0.00	-0.23
JAYPEE NIGRIE	0.00	0.00	0.00	59.95	0.00	-59.95	0.00	0.00	0.00	-59.95
LANKO_KONDAPALLY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SIMHAPURI	196.32	0.00	-196.32	16.67	0.00	-16.67	1.88	1.47	-0.41	-213.39
Meenakshi	0.00	0.99	0.99	9.58	0.00	-9.58	0.00	0.00	0.00	-8.59
STERLITE	164.07	0.00	-164.07	244.27	0.00	-244.27	14.99	15.40	0.41	-407.93
MAITHON POWER LTD	13.05	0.00	-13.05	75.75	0.00	-75.75	6.92	4.48	-2.44	-91.23
ADHUNIK POWER LTD	0.00	0.00	0.00	37.75	0.00	-37.75	0.00	0.00	0.00	-37.75
CHUZACHEN HEP	0.00	0.00	0.00	37.25	0.00	-37.25	0.00	0.00	0.00	-37.25
RANGIT HEP	0.00	0.00	0.00	8.44	0.00	-8.44	0.00	0.00	0.00	-8.44
TEESTA HEP	0.00	0.00	0.00	20.74	0.00	-20.74	0.00	0.00	0.00	-20.74
NEEPCO Stations	0.00	0.00	0.00	5.37	0.00	-5.37	4.14	1.29	-2.85	-8.22
ONGC PALATANA	0.00	0.00	0.00	9.87	0.00	-9.87	0.00	0.00	0.00	-9.87

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 November, 2014

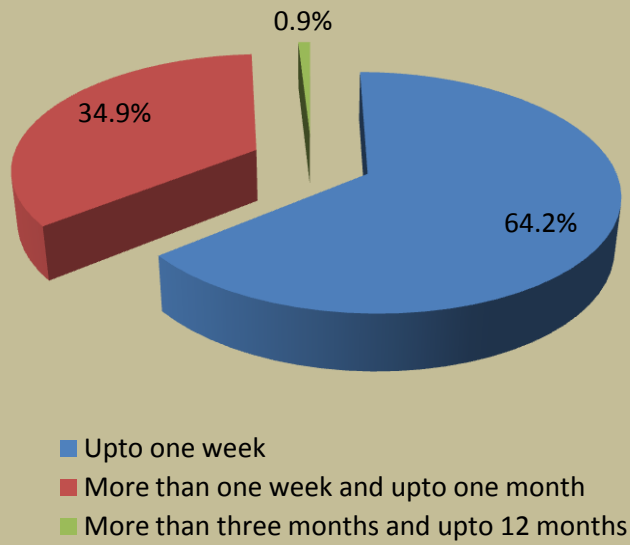


Figure-8: Forward Curve based on Prices of Bilateral Contracts

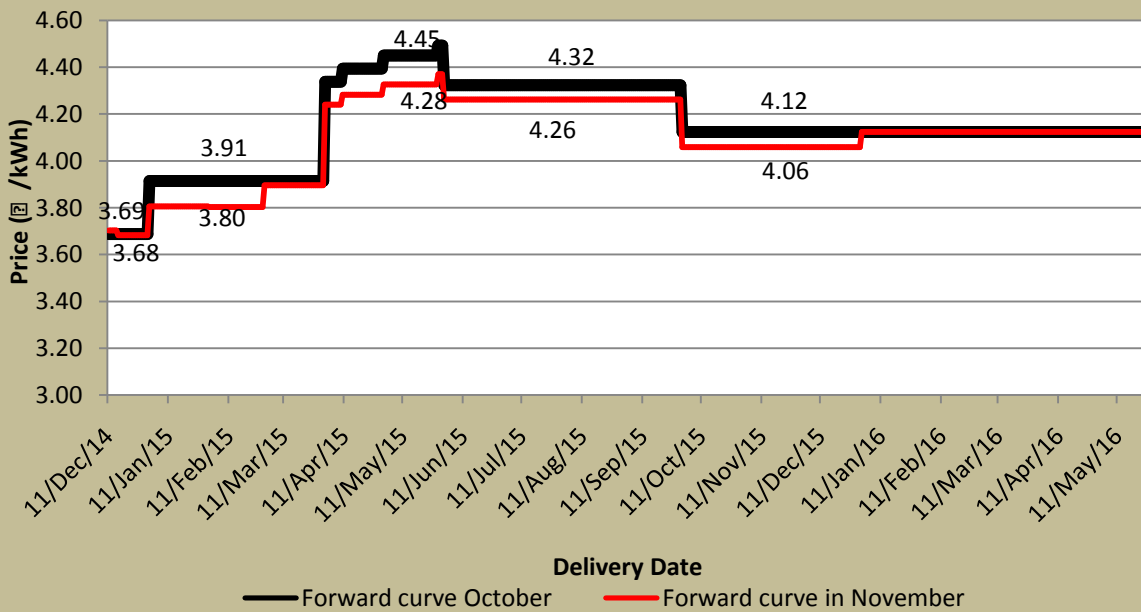


Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTIONED THROUGH POWER EXCHANGES, OCTOBER 2014					
Sr.No.	Details of REC Transactions	IEX		PXIL	
		Solar	Non-Solar	Solar	Non Solar
A	Volume of Buy Bid	232	36411	147	37591
B	Volume of Sell Bid	187483	4766941	262879	5380305
C	Ratio of Buy Bid to Sell Bid Volume	0.001	0.008	0.001	0.007
D	Market Clearing Volume (MWh)	232	36411	147	37591
E	Market Clearing Price (₹/MWh)	9300	1500	9300	1500

Source: IEX and PXIL

Note 1: 1 REC = 1 MWh

Note 2:

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