Monthly Report on Short-term Transactions of Electricity in India

September, 2014

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 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
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 September, 2014 is as under:

I: Volume of Short-term Transactions of Electricity

During the month of September 2014, total electricity generation excluding generation from renewable and captive power plants in India was 85717.64 MUs (Table-1).

Of the total electricity generation, 8961.83 MUs (10.46%) were transacted through short-term, comprising of 4823.59 MUs (5.63%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2550.27 MUs (2.98%) through day ahead collective transactions on Power Exchanges (IEX and PXIL) and 1587.97 MUs (1.85%) through UI (Table-1 & Figure-2).

Of the total short-term transactions, Bilateral constitute 53.82% (32.03% through traders and term-ahead contracts on Power Exchanges and 21.79% directly between distribution companies) followed by 28.46% through day ahead collective transactions on Power Exchanges and 17.72% 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 30.09.2014, of which only 22 have engaged in trading during September 2014. Top 5 trading licensees had a share of 72.45% 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 0.1847 for the month of September 2014, which indicates that there was moderate concentration of market power (Table-2).

The volume of electricity transacted through IEX and PXIL in the day ahead market was 2536.80 MUs and 13.47 MUs respectively. The volume of total Buy bids and Sale bids was 4166.75 MUs and 3105.45 MUs respectively in IEX and 61.74 MUs and 22.68 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 (1.34 times) and PXIL (2.72 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 19.83 MUs and 75.14 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 `4.28/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 `4.31/kWh, `4.33/kWh and `3.87/kWh respectively. Minimum and Maximum sale prices were `1.83/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 `1.17/kWh, `8.51/kWh and `4.14/kWh respectively in IEX and `2.40/kWh, `6.51/kWh and `3.48/kWh respectively in PXIL (Table-5).

The price of electricity transacted through IEX and PXIL in the term-ahead market was `4.66/kWh and `5.17/kWh respectively (Table-6 and Table-7).

(iii*) Price of electricity transacted Through UI:* The average UI price was `2.54/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 51.46% of the volume, and these were Madhya Pradesh, Himachal Pradesh, Uttar Pradesh, Karnataka and Rajasthan. Top 5 regional entities purchased 63.52% of the volume, and these were Haryana, Punjab, Andhra Pradesh, Telangana and Rajasthan (Table-9, 10 & 19).

Of the total Power Exchange transactions, top 5 regional entities sold 30.74% of the volume, and these were Jindal Power Ltd, Gujarat, Sterlite India Ltd, Madhya Pradesh and Orissa. Top 5 regional entities purchased 54.91% of the volume, and these were Uttar Pradesh, Maharashtra, Andhra Pradesh, Gujarat and Essar Steel Ltd. (Table-11, 12 & 19).

Of the total UI transactions, top 5 regional entities underdrew 43.21% of the volume, and these were Punjab, Maharashtra, Haryana, Gujarat and Tamilnadu. Top 5 regional entities overdrew 35.87% of the volume, and these were Uttar Pradesh, Rajasthan, DVC, Kerala and Punjab (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 Madhya Pradesh, Himachal Pradesh, Jindal Power Ltd, Sterlite India Ltd and Karnataka. Top 5 electricity purchasing regional entities were Haryana, Punjab, Andhra Pradesh, Uttar Pradesh and Telangana.

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 September 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 1.63% and 2.32% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 47.71% in IEX and 9.41% 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 October 2014[4]

(i) *Duration of bilateral contracts:*

During October, 2014, a total of 86 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 2254 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 76.7% of the contracts were executed for a duration of up to one week, followed by 19.8% of the contracts executed for a duration of more than a week and upto one month and with 3.5% of the contracts executed for a duration more than three months and upto 12 months.

During the same period, 45 banking/swapping bilateral contracts were also executed for the volume of 1077 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 November 2014 to May 2016 based on bilateral contracts[5] executed till October, 2014. The forward curve drawn for September 2014 has also been depicted for the period November 2014 onwards for comparison purposes. It is observed that both the forward curves have similar shape. With the execution of new contracts in October 2014, there is a dip in the forward prices for the period from June 2015 to September 2015. It is also observed that new contracts have been executed for delivery from October 2015 till May 2016.

[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 September 2014 are shown in Table-20. The market clearing volume of Solar RECs transacted on IEX and PXIL were 264 and 1099 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 8994 and 13656 respectively and the market clearing price of these RECs was `1500/MWh on both the power exchanges.

The gap between the volume of buy and sell bids of RECs placed through power exchanges shows that there was less demand for Solar RECs and Non-Solar RECs. For Solar RECs, the ratio of buy and sell bids was 0.002 and 0.005 in IEX and PXIL respectively. For Non-Solar RECs, the ratio of buy and sell bids was 0.002 and 0.003 in IEX and PXIL respectively

VII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 10.46%.

- Of the total short-term transactions of electricity, 53.82% was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 28.46% through Power Exchanges and 17.72% through UI.

- Top 5 trading licensees had a share of 72.45% in the total volume traded by all the trading licensees.

- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.1847, indicating moderate concentration of market power.

- The price of electricity transacted through trading licensees was `4.28/kWh. The price of electricity transacted through IEX and PXIL was `4.14/kWh and `3.48/kWh respectively.

- The price of electricity transacted through UI was `2.54/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: 1.34) and PXIL (1: 2.72) when compared with the supply offered through these exchanges.

- Top 5 electricity selling regional entities were Madhya Pradesh, Himachal Pradesh, Jindal Power Ltd, Sterlite India Ltd and Karnataka. Top 5 electricity purchasing regional entities were Haryana, Punjab, Andhra Pradesh, Uttar Pradesh and Telangana.

- The volume of electricity that could not be cleared in the power exchanges due to congestion was 1.63% and 2.32% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 47.71% in IEX and 9.41% in PXIL.

- In October 2014, 76.7% of the bilateral contracts (excluding banking/swapping) were executed for a duration of up to one week, followed by 19.8% of the contracts were

executed for a duration of more than a week and upto one month.3.5% of the contracts were executed for a duration of more than three months and upto 12 months.

- There is an increasing trend in the forward prices from January 2015 till May 2015 because contracts executed in October 2014 were at higher prices when compared to contracts executed till September 2014.

- The market clearing volume of Solar RECs transacted on IEX and PXIL were 264 and 1099 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 8994 and 13656 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), SEPTEMBER 2014				
Sr.No	**Short-term transactions**	**Volume (MUs)**	**% to Volume of short-term transactions**	**% to Total Generation**
1	Bilateral	4823.59	53.82%	5.63%
	(i) Through Traders and PXs	*2870.46*	32.03%	3.35%
	(ii) Direct	*1953.13*	21.79%	2.28%
2	Through Power Exchanges	2550.27	28.46%	2.98%
	(i) IEX	*2536.80*	28.31%	2.96%
	(ii) PXIL	*13.47*	0.15%	0.02%
3	Through UI	1587.97	17.72%	1.85%
	Total	**8961.83**	**100.00%**	**10.46%**
	Total Generation	**85717.64**	_	_
Source: NLDC				

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

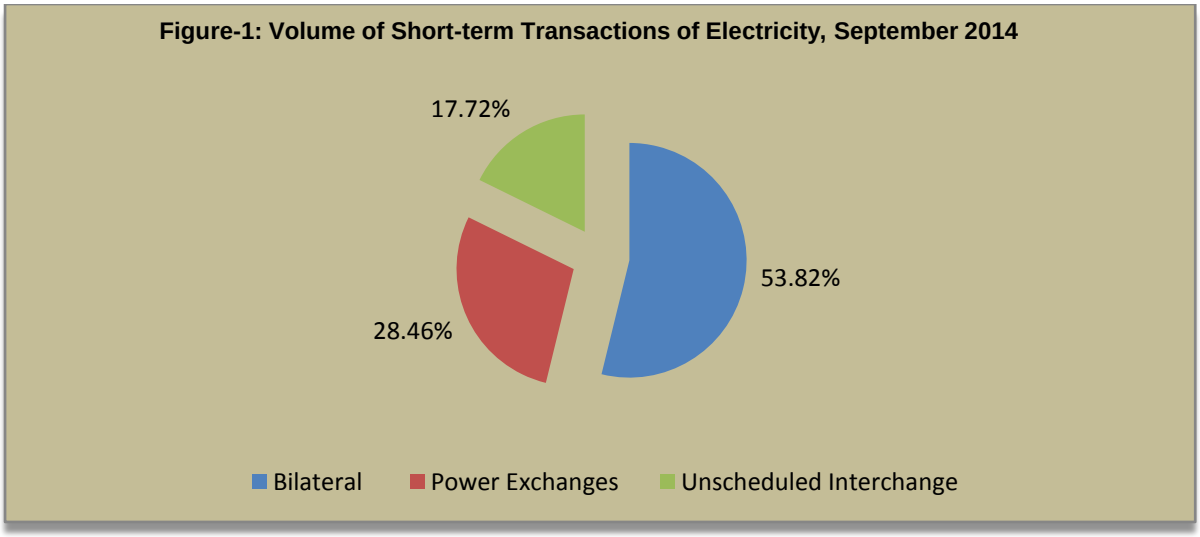
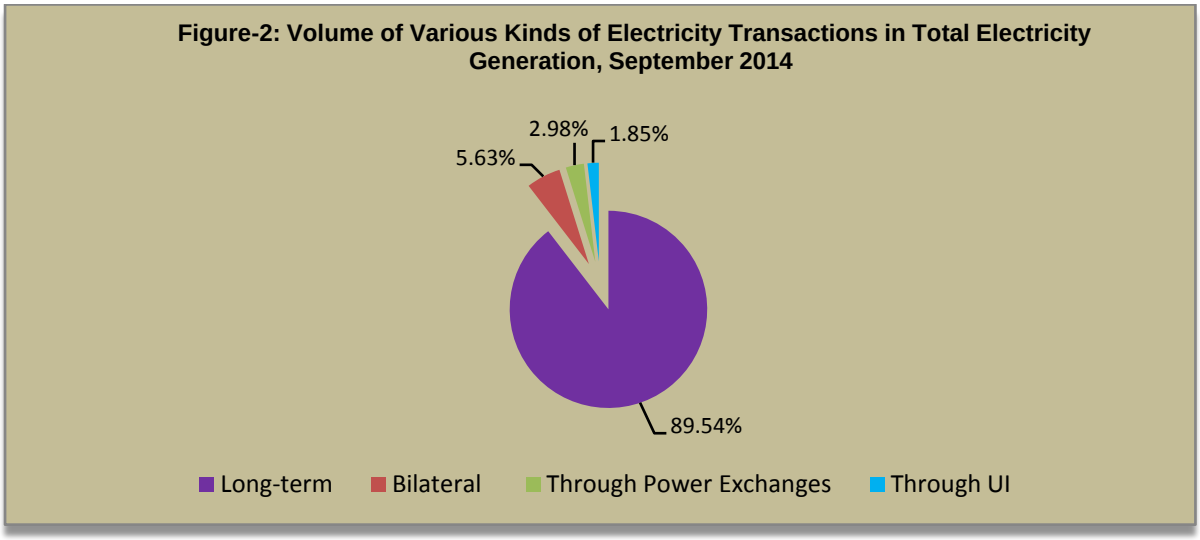


Figure-2: Volume of Various Kinds of Electricity Transactions in Total Electricity Generation, September 2014



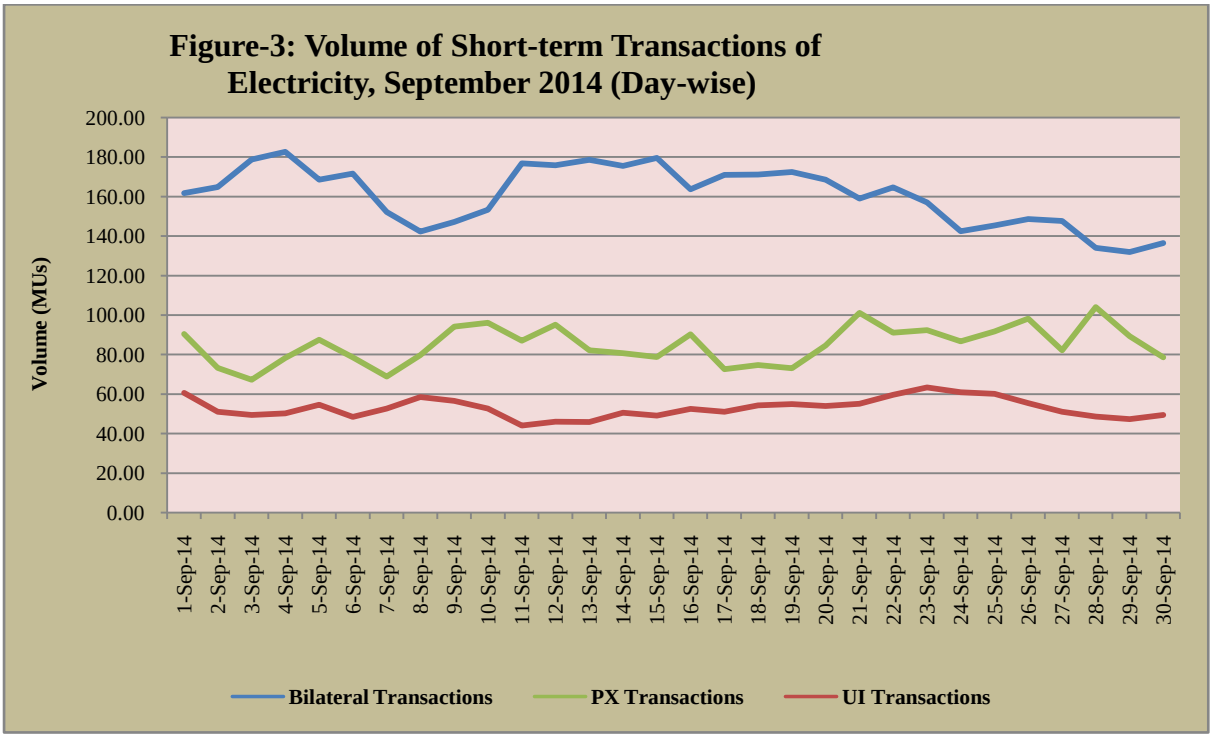


Figure-3: Volume of Short-term Transactions of Electricity, September 2014 (Day-wise)
Volume (MUs)
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
1-Sep-14
2-Sep-14
3-Sep-14
4-Sep-14
5-Sep-14
6-Sep-14
7-Sep-14
8-Sep-14
9-Sep-14
10-Sep-14
11-Sep-14
12-Sep-14
13-Sep-14
14-Sep-14
15-Sep-14
16-Sep-14
17-Sep-14
18-Sep-14
19-Sep-14
20-Sep-14
21-Sep-14
22-Sep-14
23-Sep-14
24-Sep-14
25-Sep-14
26-Sep-14
27-Sep-14
28-Sep-14
29-Sep-14
30-Sep-14
Bilateral Transactions
PX Transactions
UI Transactions

Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, SEPTEMBER 2014			
Sr.No	**Name of the Trading Licensee**	**% Share in total Volume transacted by Trading Licensees**	**Herfindahl-Hirschman Index**
1	PTC India Ltd.	38.09%	0.1451
2	Mittal Processors (P) Ltd.	10.68%	0.0114
3	JSW Power Trading Company Ltd	9.41%	0.0089
4	Tata Power Trading Company (P) Ltd.	9.40%	0.0088
5	Knowledge Infrastructure Systems (P) Ltd	4.87%	0.0024
6	NTPC Vidyut Vyapar Nigam Ltd.	4.80%	0.0023
7	Shree Cement Ltd.	4.53%	0.0021
8	Adani Enterprises Ltd.	3.33%	0.0011
9	GMR Energy Trading Ltd.	2.82%	0.0008
10	RPG Power Trading Company Ltd.	2.37%	0.0006
11	Manikaran Power Ltd.	2.03%	0.0004
12	Jaiprakash Associates Ltd.	1.57%	0.0002
13	Essar Electric Power Development Corp. Ltd.	1.52%	0.0002
14	Arunachal Pradesh Power Corporation (P) ltd	1.24%	0.0002
15	National Energy Trading & Services Ltd.	1.23%	0.0002
16	Reliance Energy Trading (P) Ltd	0.78%	0.0001
17	Instinct Infra & Power Ltd.	0.47%	0.0000
18	My Home Power Private Ltd.	0.32%	0.0000
19	Indrajit Power Technology (P) Ltd.	0.31%	0.0000
20	Customized Energy Solutions India (P) Ltd.	0.14%	0.0000
21	SN Power Markets Pvt. Ltd.	0.08%	0.0000
22	Pune Power Development (P) Ltd.	0.01%	0.0000
TOTAL		**100.00%**	**0.1847**
Top 5 trading licensees		**72.45%**	
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

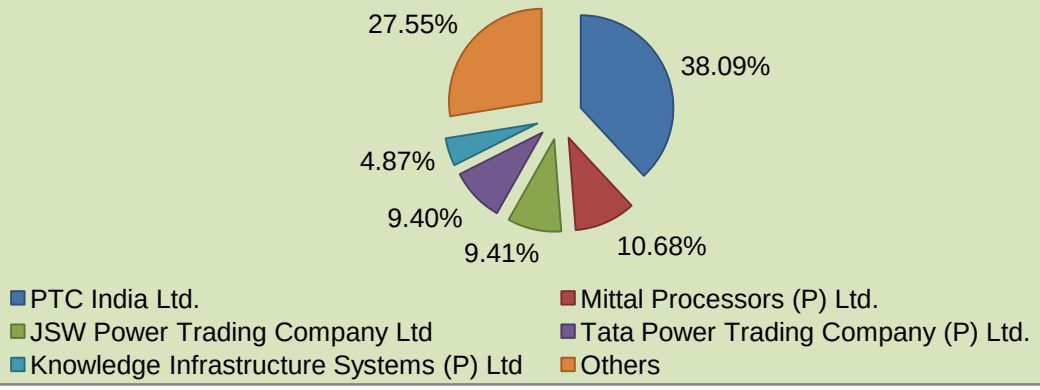


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, SEPTEMBER 2014		
Sr.No		**Sale Price of Traders (`/kWh)**
1	Minimum	1.83
2	Maximum	7.99
3	Weighted Average	4.28

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), SEPTEMBER 2014		
Sr.No	**Period of Trade**	**Sale Price of Traders (`/kWh)**
1	RTC	4.31
2	PEAK	4.33
3	OFF PEAK	3.87

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, SEPTEMBER 2014			
Sr.No	**ACP**	**Price in IEX (`/kWh)**	**Price in PXIL (`/kWh)**
1	Minimum	1.17	2.40
2	Maximum	8.51	6.51
3	Weighted Average	4.14	3.48

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, SEPTEMBER 2014			
Sr.No	**Term ahead contracts**	**Actual Scheduled Volume (MUs)**	**Weighted Average Price (`/kWh)**
1	Intra-Day Contracts	17.75	4.74
2	Day Ahead Contingency Contracts	2.08	3.93
	Total	**19.83**	**4.66**

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, SEPTEMBER 2014			
Sr.No	**Term ahead contracts**	**Actual Scheduled Volume (MUs)**	**Weighted Average Price (`/kWh)**
1	Intra-Day Contracts	23.85	4.85
2	Daily Contracts	34.50	5.23
3	Weekly Contracts	16.80	5.50
	Total	**75.14**	**5.17**

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH UI, SEPTEMBER 2014		
Sr.No		**Price in All India Grid (`/kWh)**
1	Minimum	0.00
2	Maximum	8.24
3	Average	2.54

Source: NLDC

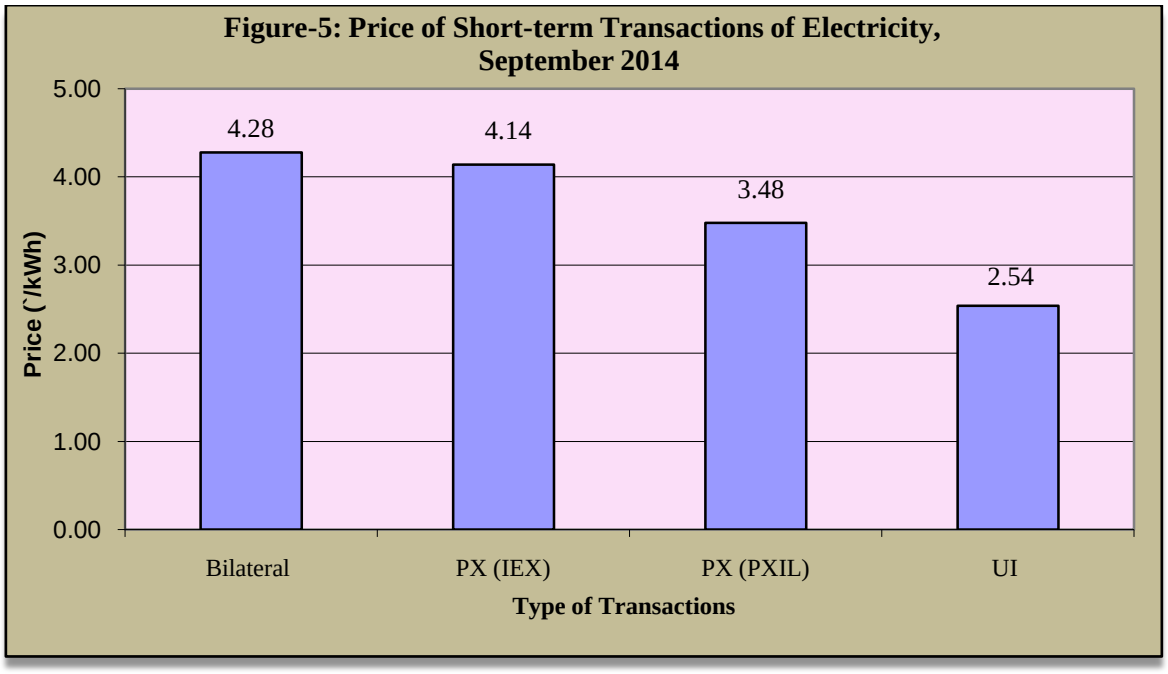


Figure-5: Price of Short-term Transactions of Electricity, September 2014
5.00
4.00
3.00
2.00
1.00
0.00
Price (`/kWh)
4.28
4.14
3.48
2.54
Bilateral
PX (IEX)
PX (PXIL)
UI
Type of Transactions

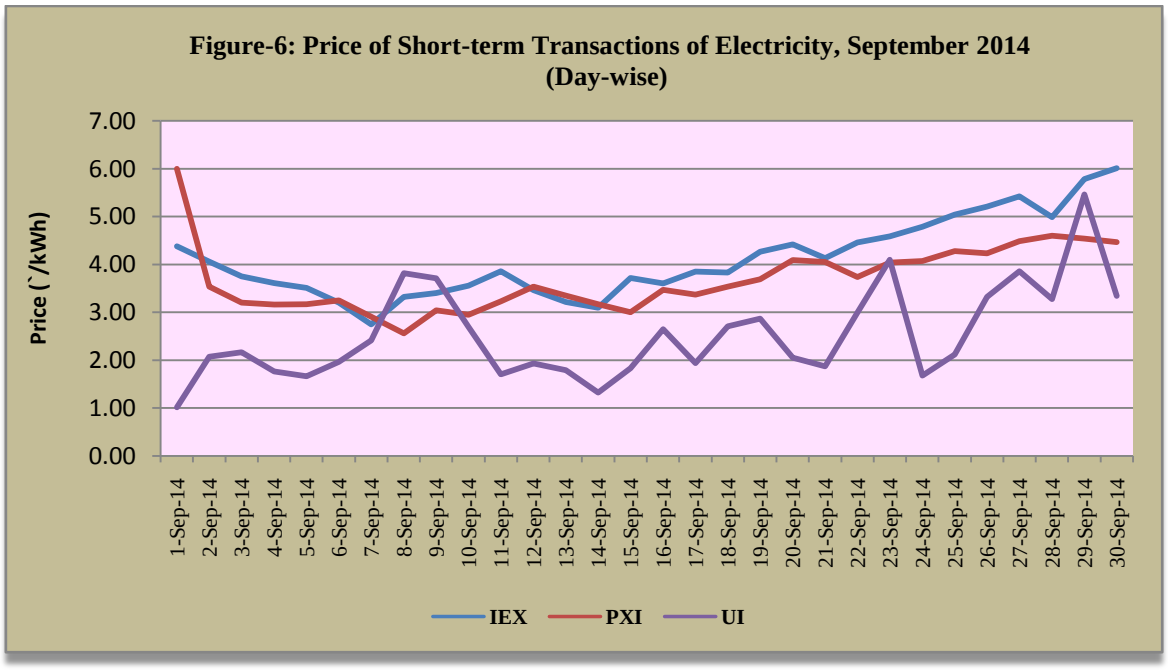


Figure-6: Price of Short-term Transactions of Electricity, September 2014 (Day-wise)
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Price (`/kWh)
1-Sep-14
2-Sep-14
3-Sep-14
4-Sep-14
5-Sep-14
6-Sep-14
7-Sep-14
8-Sep-14
9-Sep-14
10-Sep-14
11-Sep-14
12-Sep-14
13-Sep-14
14-Sep-14
15-Sep-14
16-Sep-14
17-Sep-14
18-Sep-14
19-Sep-14
20-Sep-14
21-Sep-14
22-Sep-14
23-Sep-14
24-Sep-14
25-Sep-14
26-Sep-14
27-Sep-14
28-Sep-14
29-Sep-14
30-Sep-14
IEX
PXI
UI

Table-9: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL, SEPTEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Sale (MUs)**	**% of Volume**
MP	541.70	13.02%
Himachal Pradesh	482.51	11.59%
Uttar Pradesh	409.00	9.83%
Karnataka	369.85	8.89%
Rajasthan	338.71	8.14%
J & K	297.46	7.15%
STERLITE	217.38	5.22%
SIMHAPURI	216.44	5.20%
JINDAL POWER	212.31	5.10%
DVC	167.70	4.03%
KARCHAM WANGTOO	161.15	3.87%
Gujarat	159.09	3.82%
Orissa	107.73	2.59%
SHREE CEMENT	100.42	2.41%
West Bengal	94.90	2.28%
Meghalaya	85.04	2.04%
AD HYDRO	50.39	1.21%
Chattisgarh	33.42	0.80%
Telangana	24.03	0.58%
Uttarakhand	17.46	0.42%
ACBIL	17.08	0.41%
NSPCL	16.40	0.39%
Delhi	14.80	0.36%
Jharkhand	14.40	0.35%
Tripura	6.36	0.15%
MAITHON POWER LTD	5.42	0.13%
Assam	0.83	0.02%
Total	**4161.97**	**100.00%**
Volume of sale by top 5 States	**2141.76**	**51.46%**

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL, SEPTEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Purchase (MUs)**	**% of Volume**
Haryana	940.26	20.40%
Punjab	735.51	15.96%
Andhra Pradesh	469.76	10.19%
Telangana	395.36	8.58%
Rajasthan	387.12	8.40%
Delhi	261.84	5.68%
West Bengal	249.85	5.42%
Uttar Pradesh	245.25	5.32%
Bihar	238.97	5.18%
Maharashtra	222.43	4.83%
Orissa	126.84	2.75%
Jharkhand	77.75	1.69%
Uttarakhand	70.16	1.52%
Kerala	51.44	1.12%
Chattisgarh	28.54	0.62%
MP	28.01	0.61%
Assam	26.32	0.57%
GOA	21.98	0.48%
Gujarat	18.92	0.41%
Sikkim	7.83	0.17%
UT Chandigarh	2.28	0.05%
Himachal Pradesh	1.42	0.03%
Meenakshi	0.95	0.02%
Daman and Diu	0.92	0.02%
Tamilnadu	0.11	0.00%
Total	**4609.85**	**100.00%**
Volume of Purchase by top 5 States	**2928.02**	**63.52%**

Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, SEPTEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Sale (MUs)**	**% of Volume**
JINDAL POWER	204.21	8.01%
Gujarat	172.61	6.77%
STERLITE	166.70	6.54%
MP	126.44	4.96%
Orissa	114.05	4.47%
KARCHAM WANGTOO	110.63	4.34%
Haryana	107.81	4.23%
Himachal Pradesh	106.48	4.18%
DCPP	96.88	3.80%
Delhi	85.45	3.35%
Rajasthan	83.28	3.27%
Chattisgarh	81.34	3.19%
JINDAL STAGE-II	76.98	3.02%
Maharashtra	74.67	2.93%
DHARIWAL POWER	71.51	2.80%
CHUZACHEN HEP	58.08	2.28%
Sikkim	55.33	2.17%
EMCO	52.40	2.05%
Karnataka	49.40	1.94%
West Bengal	49.23	1.93%
TEESTA HEP	45.98	1.80%
ACBIL	42.59	1.67%
Tripura	42.59	1.67%
GMR KAMALANGA	40.37	1.58%
KSK MAHANADI	37.38	1.47%
MAITHON POWER LTD	36.46	1.43%
Assam	34.26	1.34%
J & K	32.25	1.26%
SIMHAPURI	30.15	1.18%
SHREE CEMENT	27.07	1.06%
DVC	24.82	0.97%
Telangana	23.62	0.93%
AD HYDRO	22.34	0.88%
NJPC	18.24	0.72%
LANCO BUDHIL	13.63	0.53%
ONGC PALATANA	13.03	0.51%
VANDANA VIDYUT	12.56	0.49%
ESSAR POWER	11.41	0.45%
Meghalaya	11.09	0.43%
Mizoram	10.30	0.40%
JAYPEE NIGRIE	9.53	0.37%
RANGIT HEP	9.12	0.36%
Meenakshi	9.03	0.35%
Nagaland	8.92	0.35%
Punjab	8.48	0.33%
NEEPCO Stations	7.54	0.30%
ADHUNIK POWER LTD	5.81	0.23%
Manipur	5.51	0.22%
Arunachal Pradesh	4.62	0.18%
Andhra Pradesh	4.20	0.16%
Kerala	2.43	0.10%
Uttarakhand	1.47	0.06%
Total	**2550.27**	**100.00%**
Volume of sale by top 5 States	**784.01**	**30.74%**

Table-12: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGES, SEPTEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Purchase (MUs)**	**% of Volume**
Uttar Pradesh	560.46	21.98%
Maharashtra	326.12	12.79%
Andhra Pradesh	185.22	7.26%
Gujarat	172.93	6.78%
ESSAR STEEL	155.59	6.10%
West Bengal	155.06	6.08%
Rajasthan	152.61	5.98%
Bihar	143.70	5.63%
Kerala	116.02	4.55%
Telangana	115.77	4.54%
Delhi	87.78	3.44%
Punjab	60.96	2.39%
Karnataka	55.03	2.16%
Uttarakhand	54.92	2.15%
Haryana	49.64	1.95%
Tamilnadu	46.61	1.83%
Daman and Diu	24.18	0.95%
Assam	20.51	0.80%
MP	20.41	0.80%
Himachal Pradesh	16.98	0.67%
Meghalaya	10.24	0.40%
J & K	8.49	0.33%
BALCO	4.32	0.17%
UT Chandigarh	4.09	0.16%
Arunachal Pradesh	1.45	0.06%
Manipur	1.02	0.04%
Chattisgarh	0.09	0.00%
Tripura	0.08	0.00%
Total	**2550.27**	**100.00%**
Volume of purchase by top 5 States	**1400.32**	**54.91%**

Table-13: VOLUME OF ELECTRICITY EXPORT THROUGH UI, SEPTEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Export (MUs)**	**% of Volume**
Punjab	156.02	13.51%
Maharashtra	134.11	11.61%
Haryana	74.01	6.41%
Gujarat	69.50	6.02%
Tamilnadu	65.43	5.67%
Rajasthan	59.11	5.12%
MP	54.75	4.74%
NHPC Stations	47.78	4.14%
Uttar Pradesh	43.46	3.76%
Delhi	34.95	3.03%
Bihar	34.05	2.95%
West Bengal	32.94	2.85%
J & K	29.32	2.54%
Chattisgarh	27.40	2.37%
Pondicherry	26.47	2.29%
Orissa	25.96	2.25%
Karnataka	25.42	2.20%
Andhra Pradesh	18.62	1.61%
CGPL	16.22	1.40%
Jharkhand	15.94	1.38%
Uttarakhand	13.97	1.21%
Assam	12.10	1.05%
NJPC	11.71	1.01%
Himachal Pradesh	9.76	0.84%
STERLITE	9.43	0.82%
JINDAL POWER	8.84	0.77%
Meghalaya	8.39	0.73%
DVC	7.61	0.66%
KARCHAM WANGTOO	7.47	0.65%
Dadra & Nagar Haveli	6.42	0.56%
AD HYDRO	5.79	0.50%
NEEPCO Stations	5.73	0.50%
Sikkim	5.51	0.48%
Daman and Diu	5.34	0.46%
GOA	4.98	0.43%
Arunachal Pradesh	3.92	0.34%
Telangana	3.82	0.33%
Goa	3.69	0.32%
Manipur	3.62	0.31%
MAITHON POWER LTD	3.46	0.30%
Tripura	3.18	0.28%
Nagaland	2.94	0.25%
LANKO_AMK	2.66	0.23%
Kerala	2.59	0.22%
BALCO	1.90	0.16%
SIMHAPURI	1.88	0.16%
DCPP	1.69	0.15%
NSPCL	1.31	0.11%
ACBIL	1.19	0.10%
Mizoram	1.13	0.10%
UT Chandigarh	0.99	0.09%
SHREE CEMENT	0.39	0.03%
RGPPL(Dabhol)	0.08	0.01%
Total	**1154.96**	**100.00%**
Volume of Export by top 5 States	**499.08**	**43.21%**

Table-14: VOLUME OF ELECTRICITY IMPORT THROUGH UI, SEPTEMBER 2014		
Name of the State/UT/Other Regional Entity	**Volume of Import (MUs)**	**% of Volume**
Uttar Pradesh	186.64	14.29%
Rajasthan	75.98	5.82%
DVC	74.00	5.67%
Kerala	67.45	5.17%
Punjab	64.31	4.93%
MP	60.73	4.65%
West Bengal	58.34	4.47%
Andhra Pradesh	49.80	3.81%
Haryana	47.33	3.62%
Chattisgarh	45.12	3.46%
Himachal Pradesh	44.27	3.39%
Pondicherry	42.56	3.26%
Karnataka	36.62	2.80%
Maharashtra	36.14	2.77%
Bihar	33.69	2.58%
Gujarat	32.10	2.46%
Delhi	32.06	2.46%
UT Chandigarh	30.09	2.30%
J & K	29.77	2.28%
Uttarakhand	27.64	2.12%
Assam	25.97	1.99%
Orissa	25.27	1.94%
Jharkhand	21.26	1.63%
Tamilnadu	16.86	1.29%
GOA	16.38	1.25%
STERLITE	10.94	0.84%
DCPP	8.93	0.68%
CGPL	7.56	0.58%
Tripura	7.52	0.58%
NHPC Stations	7.01	0.54%
ACBIL	6.53	0.50%
MAITHON POWER LTD	6.31	0.48%
Arunachal Pradesh	5.98	0.46%
BALCO	5.47	0.42%
Daman and Diu	5.46	0.42%
Dadra & Nagar Haveli	5.44	0.42%
JINDAL POWER	5.27	0.40%
KARCHAM WANGTOO	4.87	0.37%
RGPPL(Dabhol)	4.56	0.35%
Goa	3.67	0.28%
Telangana	3.58	0.27%
Nagaland	3.57	0.27%
NJPC	3.22	0.25%
Mizoram	3.13	0.24%
SHREE CEMENT	2.69	0.21%
SIMHAPURI	2.36	0.18%
Manipur	2.26	0.17%
AD HYDRO	2.24	0.17%
NEEPCO Stations	1.63	0.13%
Meghalaya	1.57	0.12%
LANKO_AMK	1.55	0.12%
NSPCL	1.33	0.10%
Sikkim	0.68	0.05%
Total	**1305.71**	**100.00%**
Volume of Import by top 5 States	**468.39**	**35.87%**

Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), SEPTEMBER 2014		
Sr.No.	**Name of the State/UT/Other Regional Entity**	**Total volume of net short-term transactions of electricity***
1	Haryana	855.41
2	Punjab	696.27
3	Andhra Pradesh	681.96
4	Uttar Pradesh	539.90
5	Telangana	463.23
6	Bihar	382.31
7	Maharashtra	375.91
8	West Bengal	286.18
9	Delhi	246.47
10	Kerala	229.89
11	ESSAR STEEL	155.59
12	Rajasthan	134.62
13	Uttarakhand	119.81
14	Jharkhand	68.68
15	UT Chandigarh	35.47
16	GOA	33.37
17	Assam	25.62
18	Daman and Diu	25.23
19	Pondicherry	16.08
20	BALCO	7.88
21	RGPPL(Dabhol)	4.48
22	Goa	-0.03
23	Dadra & Nagar Haveli	-0.98
24	Arunachal Pradesh	-1.11
25	LANKO_AMK	-1.11
26	Tamilnadu	-1.84
27	ADHUNIK POWER LTD	-5.81
28	Manipur	-5.85
29	Meenakshi	-8.08
30	Nagaland	-8.29
31	Mizoram	-8.30
32	CGPL	-8.66
33	RANGIT HEP	-9.12
34	JAYPEE NIGRIE	-9.53
35	ESSAR POWER	-11.41
36	NEEPCO Stations	-11.64
37	VANDANA VIDYUT	-12.56
38	ONGC PALATANA	-13.03
39	LANCO BUDHIL	-13.63
40	NSPCL	-16.38
41	NJPC	-26.73
42	KSK MAHANADI	-37.38
43	MAITHON POWER LTD	-39.03
44	GMR KAMALANGA	-40.37
45	NHPC Stations	-40.77
46	Tripura	-44.53

47	TEESTA HEP	-45.98
48	Sikkim	-52.32
49	EMCO	-52.40
50	ACBIL	-54.33
51	CHUZACHEN HEP	-58.08
52	Chattisgarh	-68.40
53	DHARIWAL POWER	-71.51
54	AD HYDRO	-76.29
55	JINDAL STAGE-II	-76.98
56	DCPP	-89.64
57	Meghalaya	-92.70
58	Orissa	-95.62
59	SHREE CEMENT	-125.20
60	DVC	-126.13
61	Gujarat	-177.24
62	SIMHAPURI	-246.10
63	KARCHAM WANGTOO	-274.39
64	J & K	-320.78
65	Karnataka	-353.02
66	STERLITE	-382.56
67	JINDAL POWER	-420.10
68	Himachal Pradesh	-536.08
69	MP	-613.74
** 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, SEPTEMBER 2014			
	Details of Congestion	**IEX**	**PXIL**
A	Unconstrained Cleared Volume* (MUs)	2578.71	13.79
B	Actual Cleared Volume and hence scheduled (MUs)	2536.80	13.47
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	41.92	0.32
D	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	1.63%	2.32%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	47.71%	9.41%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	19.07%	0.00%
	6.00 - 12.00 hours	31.51%	28.04%
	12.00 - 18.00 hours	25.84%	18.82%
	18.00 - 24.00 hours	23.58%	53.14%
** 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), SEPTEMBER 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-Sep-14	93.90	67.89	90.51	0.01	60.68	2729.47
2-Sep-14	96.67	68.12	72.89	0.49	51.02	2740.19
3-Sep-14	101.43	77.34	66.93	0.40	49.39	2771.49
4-Sep-14	104.65	78.02	77.75	0.52	50.20	2713.63
5-Sep-14	100.45	68.14	86.97	0.65	54.57	2606.95
6-Sep-14	101.20	70.38	77.14	1.52	48.50	2592.73
7-Sep-14	97.30	54.97	68.05	0.90	52.73	2548.36
8-Sep-14	77.30	64.97	79.36	0.51	58.53	2621.57
9-Sep-14	77.24	70.00	93.75	0.52	56.57	2657.92
10-Sep-14	82.58	70.81	95.78	0.42	52.72	2657.92
11-Sep-14	98.13	78.73	86.98	0.11	44.06	2804.87
12-Sep-14	99.73	76.07	94.70	0.42	45.97	2795.49
13-Sep-14	102.57	76.00	82.08	0.08	45.91	2778.10
14-Sep-14	99.04	76.56	80.15	0.67	50.60	2717.27
15-Sep-14	102.71	76.85	78.61	0.24	49.05	2822.98
16-Sep-14	104.63	59.04	89.62	0.74	52.50	2840.58
17-Sep-14	106.26	64.72	71.78	0.83	51.01	2857.68
18-Sep-14	105.28	65.90	74.46	0.34	54.31	2912.01
19-Sep-14	101.34	71.06	72.42	0.68	54.88	2939.90
20-Sep-14	100.06	68.44	84.26	0.39	53.90	2921.50
21-Sep-14	92.84	66.10	100.67	0.51	55.14	2901.90
22-Sep-14	98.78	65.89	90.75	0.38	59.64	3011.28
23-Sep-14	92.41	64.66	92.05	0.33	63.36	3039.93
24-Sep-14	90.99	51.50	86.44	0.28	61.00	3039.54
25-Sep-14	92.89	52.46	91.35	0.39	60.07	3100.56
26-Sep-14	96.85	51.75	98.03	0.16	55.41	3108.08
27-Sep-14	94.91	52.68	81.95	0.24	51.00	3133.58
28-Sep-14	83.71	50.29	103.83	0.26	48.61	3091.03
29-Sep-14	85.40	46.54	89.00	0.35	47.24	3147.80
30-Sep-14	89.22	47.25	78.55	0.14	49.38	3113.33
Total	**2870.46**	**1953.13**	**2536.80**	**13.47**	**1587.97**	**85717.64**

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), SEPTEMBER 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-Sep-14	3.25	7.52	4.38	6.00	6.51	6.00	0.00	5.74	1.02
2-Sep-14	3.00	5.09	4.06	3.50	5.51	3.54	0.00	8.24	2.07
3-Sep-14	2.70	5.30	3.75	3.16	3.51	3.20	0.00	7.20	2.17
4-Sep-14	2.92	5.76	3.61	3.00	5.24	3.16	0.00	7.20	1.77
5-Sep-14	2.80	6.01	3.51	3.00	5.60	3.17	0.00	6.36	1.67
6-Sep-14	2.20	6.91	3.21	3.25	3.25	3.25	0.00	8.24	1.97
7-Sep-14	2.03	4.00	2.75	2.69	3.49	2.91	0.00	8.03	2.42
8-Sep-14	2.76	4.40	3.32	2.40	3.50	2.56	0.00	8.24	3.82
9-Sep-14	2.89	4.70	3.41	2.90	3.81	3.04	0.00	8.24	3.71
10-Sep-14	2.87	4.90	3.56	2.95	2.95	2.95	0.00	8.03	2.70
11-Sep-14	3.06	6.00	3.86	3.01	3.75	3.23	0.00	5.74	1.71
12-Sep-14	2.85	6.96	3.46	3.20	5.01	3.54	0.00	6.16	1.93
13-Sep-14	2.50	6.96	3.22	2.80	5.01	3.35	0.00	5.11	1.80
14-Sep-14	2.38	6.01	3.10	2.55	5.01	3.17	0.00	5.11	1.33
15-Sep-14	3.00	6.01	3.72	2.70	5.01	3.00	0.00	5.95	1.83
16-Sep-14	2.90	5.51	3.60	2.80	5.01	3.47	0.00	6.16	2.65
17-Sep-14	2.80	6.01	3.85	2.75	5.00	3.37	0.00	5.32	1.94
18-Sep-14	3.01	6.14	3.83	3.10	5.01	3.54	0.00	6.16	2.71
19-Sep-14	3.50	5.81	4.26	3.00	5.01	3.69	0.00	8.24	2.87
20-Sep-14	3.40	5.77	4.42	3.60	5.01	4.09	0.00	5.74	2.06
21-Sep-14	3.25	5.51	4.13	3.01	5.01	4.05	0.00	6.16	1.87
22-Sep-14	3.25	5.91	4.46	3.20	5.01	3.74	0.71	6.36	3.00
23-Sep-14	3.40	6.13	4.59	3.20	5.01	4.04	0.00	6.36	4.10
24-Sep-14	3.40	6.33	4.79	3.20	5.01	4.07	0.00	5.32	1.68
25-Sep-14	4.00	6.50	5.04	3.40	5.30	4.28	0.00	5.74	2.13
26-Sep-14	3.60	6.91	5.21	3.90	4.90	4.23	0.00	7.20	3.32
27-Sep-14	1.17	7.51	5.43	3.40	5.30	4.49	0.00	8.03	3.86
28-Sep-14	3.36	7.51	4.99	3.70	5.30	4.60	0.00	8.24	3.28
29-Sep-14	4.23	7.80	5.78	4.00	5.20	4.54	0.00	8.24	5.46
30-Sep-14	4.50	8.51	6.01	4.20	5.81	4.47	0.00	8.24	3.34
	1.17#	**8.51#**	**4.14**	**2.40#**	**6.51#**	**3.48**	**0.00#**	**8.24#**	**2.54**

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), SEPTEMBER 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	0.00	735.51	735.51	8.48	60.96	52.47	156.02	64.31	-91.71	696.27
Haryana	0.00	940.26	940.26	107.81	49.64	-58.17	74.01	47.33	-26.69	855.41
Rajasthan	338.71	387.12	48.42	83.28	152.61	69.33	59.11	75.98	16.87	134.62
Delhi	14.80	261.84	247.04	85.45	87.78	2.33	34.95	32.06	-2.90	246.47
Uttar Pradesh	409.00	245.25	-163.75	0.00	560.46	560.46	43.46	186.64	143.19	539.90
Uttarakhand	17.46	70.16	52.70	1.47	54.92	53.44	13.97	27.64	13.66	119.81
Himachal Pradesh	482.51	1.42	-481.09	106.48	16.98	-89.50	9.76	44.27	34.51	-536.08
J & K	297.46	0.00	-297.46	32.25	8.49	-23.76	29.32	29.77	0.44	-320.78
UT Chandigarh	0.00	2.28	2.28	0.00	4.09	4.09	0.99	30.09	29.10	35.47
MP	541.70	28.01	-513.68	126.44	20.41	-106.04	54.75	60.73	5.98	-613.74
Maharashtra	0.00	222.43	222.43	74.67	326.12	251.45	134.11	36.14	-97.98	375.91
Gujarat	159.09	18.92	-140.17	172.61	172.93	0.32	69.50	32.10	-37.39	-177.24
Chattisgarh	33.42	28.54	-4.88	81.34	0.09	-81.25	27.40	45.12	17.72	-68.40
GOA	0.00	21.98	21.98	0.00	0.00	0.00	4.98	16.38	11.40	33.37
Daman and Diu	0.00	0.92	0.92	0.00	24.18	24.18	5.34	5.46	0.13	25.23
Dadra & Nagar Haveli	0.00	0.00	0.00	0.00	0.00	0.00	6.42	5.44	-0.98	-0.98
Andhra Pradesh	0.00	469.76	469.76	4.20	185.22	181.02	18.62	49.80	31.18	681.96
Karnataka	369.85	0.00	-369.85	49.40	55.03	5.63	25.42	36.62	11.20	-353.02
Kerala	0.00	51.44	51.44	2.43	116.02	113.59	2.59	67.45	64.86	229.89
Tamilnadu	0.00	0.11	0.11	0.00	46.61	46.61	65.43	16.86	-48.57	-1.84
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	26.47	42.56	16.08	16.08
Goa	0.00	0.00	0.00	0.00	0.00	0.00	3.69	3.67	-0.03	-0.03
Telangana	24.03	395.36	371.33	23.62	115.77	92.15	3.82	3.58	-0.24	463.23
West Bengal	94.90	249.85	154.95	49.23	155.06	105.82	32.94	58.34	25.40	286.18
Orissa	107.73	126.84	19.11	114.05	0.00	-114.05	25.96	25.27	-0.68	-95.62
Bihar	0.00	238.97	238.97	0.00	143.70	143.70	34.05	33.69	-0.36	382.31
Jharkhand	14.40	77.75	63.35	0.00	0.00	0.00	15.94	21.26	5.32	68.68
Sikkim	0.00	7.83	7.83	55.33	0.00	-55.33	5.51	0.68	-4.83	-52.32
DVC	167.70	0.00	-167.70	24.82	0.00	-24.82	7.61	74.00	66.40	-126.13
Arunachal Pradesh	0.00	0.00	0.00	4.62	1.45	-3.16	3.92	5.98	2.06	-1.11
Assam	0.83	26.32	25.50	34.26	20.51	-13.75	12.10	25.97	13.87	25.62
Manipur	0.00	0.00	0.00	5.51	1.02	-4.49	3.62	2.26	-1.36	-5.85
Meghalaya	85.04	0.00	-85.04	11.09	10.24	-0.85	8.39	1.57	-6.81	-92.70
Mizoram	0.00	0.00	0.00	10.30	0.00	-10.30	1.13	3.13	2.01	-8.30
Nagaland	0.00	0.00	0.00	8.92	0.00	-8.92	2.94	3.57	0.63	-8.29
Tripura	6.36	0.00	-6.36	42.59	0.08	-42.51	3.18	7.52	4.34	-44.53
NHPC Stations	0.00	0.00	0.00	0.00	0.00	0.00	47.78	7.01	-40.77	-40.77

NJPC	0.00	0.00	0.00	18.24	0.00	-18.24	11.71	3.22	-8.49	-26.73
AD HYDRO	50.39	0.00	-50.39	22.34	0.00	-22.34	5.79	2.24	-3.55	-76.29
KARCHAM WANGTOO	161.15	0.00	-161.15	110.63	0.00	-110.63	7.47	4.87	-2.60	-274.39
SHREE CEMENT	100.42	0.00	-100.42	27.07	0.00	-27.07	0.39	2.69	2.30	-125.20
LANCO BUDHIL	0.00	0.00	0.00	13.63	0.00	-13.63	0.00	0.00	0.00	-13.63
JINDAL POWER	212.31	0.00	-212.31	204.21	0.00	-204.21	8.84	5.27	-3.58	-420.10
LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	2.66	1.55	-1.11	-1.11
NSPCL	16.40	0.00	-16.40	0.00	0.00	0.00	1.31	1.33	0.02	-16.38
ACBIL	17.08	0.00	-17.08	42.59	0.00	-42.59	1.19	6.53	5.34	-54.33
BALCO	0.00	0.00	0.00	0.00	4.32	4.32	1.90	5.47	3.56	7.88
RGPPL(Dabhol)	0.00	0.00	0.00	0.00	0.00	0.00	0.08	4.56	4.48	4.48
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	16.22	7.56	-8.66	-8.66
DCPP	0.00	0.00	0.00	96.88	0.00	-96.88	1.69	8.93	7.24	-89.64
EMCO	0.00	0.00	0.00	52.40	0.00	-52.40	0.00	0.00	0.00	-52.40
VANDANA VIDYUT	0.00	0.00	0.00	12.56	0.00	-12.56	0.00	0.00	0.00	-12.56
ESSAR STEEL	0.00	0.00	0.00	0.00	155.59	155.59	0.00	0.00	0.00	155.59
KSK MAHANADI	0.00	0.00	0.00	37.38	0.00	-37.38	0.00	0.00	0.00	-37.38
ESSAR POWER	0.00	0.00	0.00	11.41	0.00	-11.41	0.00	0.00	0.00	-11.41
JINDAL STAGE-II	0.00	0.00	0.00	76.98	0.00	-76.98	0.00	0.00	0.00	-76.98
DHARIWAL POWER	0.00	0.00	0.00	71.51	0.00	-71.51	0.00	0.00	0.00	-71.51
JAYPEE NIGRIE	0.00	0.00	0.00	9.53	0.00	-9.53	0.00	0.00	0.00	-9.53
SIMHAPURI	216.44	0.00	-216.44	30.15	0.00	-30.15	1.88	2.36	0.48	-246.10
Meenakshi	0.00	0.95	0.95	9.03	0.00	-9.03	0.00	0.00	0.00	-8.08
STERLITE	217.38	0.00	-217.38	166.70	0.00	-166.70	9.43	10.94	1.51	-382.56
MAITHON POWER LTD	5.42	0.00	-5.42	36.46	0.00	-36.46	3.46	6.31	2.85	-39.03
ADHUNIK POWER LTD	0.00	0.00	0.00	5.81	0.00	-5.81	0.00	0.00	0.00	-5.81
CHUZACHEN HEP	0.00	0.00	0.00	58.08	0.00	-58.08	0.00	0.00	0.00	-58.08
RANGIT HEP	0.00	0.00	0.00	9.12	0.00	-9.12	0.00	0.00	0.00	-9.12
GMR KAMALANGA	0.00	0.00	0.00	40.37	0.00	-40.37	0.00	0.00	0.00	-40.37
JITPL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TEESTA HEP	0.00	0.00	0.00	45.98	0.00	-45.98	0.00	0.00	0.00	-45.98
NEEPCO Stations	0.00	0.00	0.00	7.54	0.00	-7.54	5.73	1.63	-4.10	-11.64
ONGC PALATANA	0.00	0.00	0.00	13.03	0.00	-13.03	0.00	0.00	0.00	-13.03

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 October, 2014

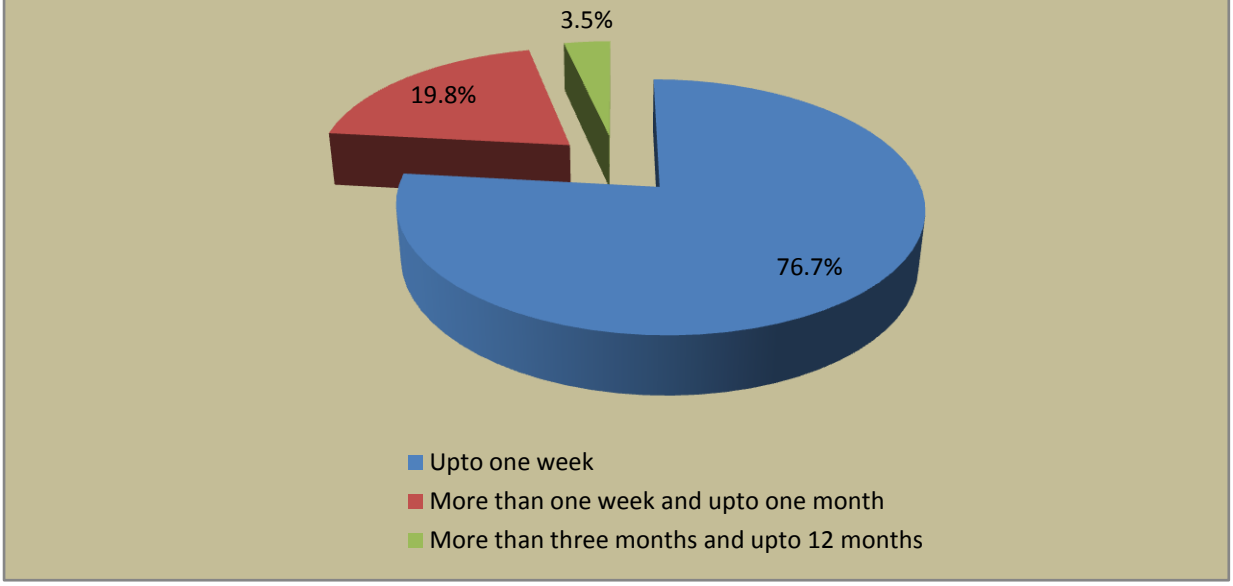


Figure-8: Forward Curve based on Prices of Bilateral Contracts

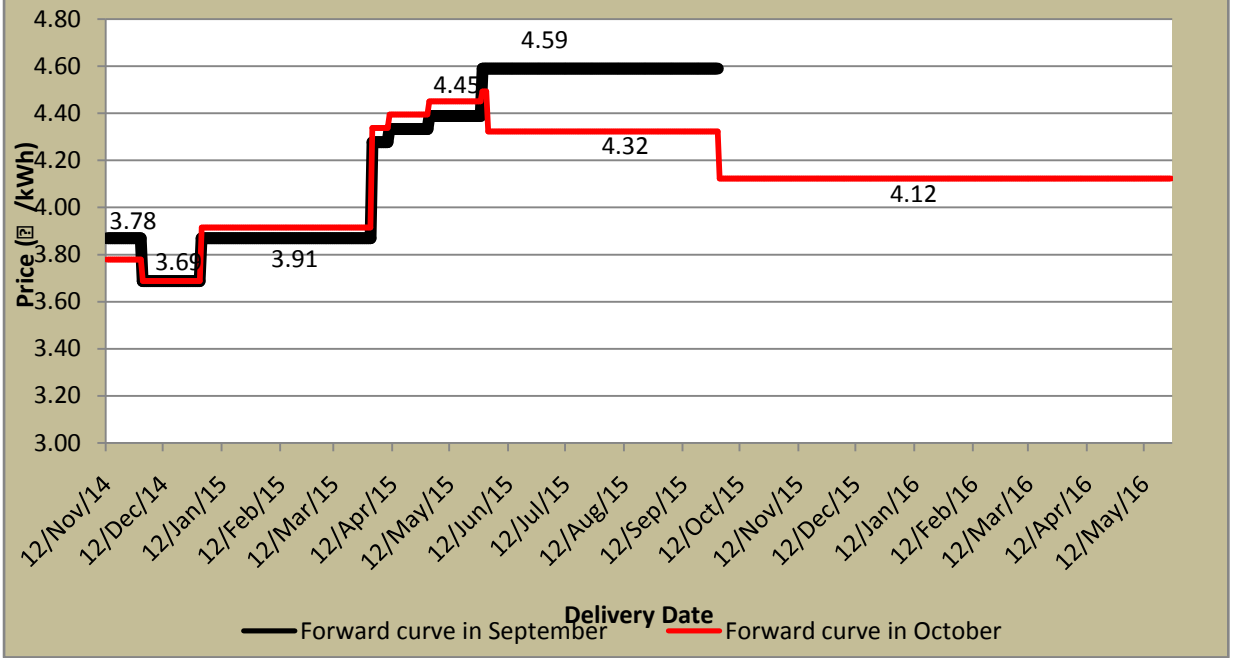


Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTED THROUGH POWER EXCHANGES, SEPTEMBER 2014					
Sr.No.	**Details of REC Transactions**	**IEX**		**PXIL**	
		Solar	**Non-Solar**	**Solar**	**Non Solar**
A	Volume of Buy Bid	264	8994	1099	13656
B	Volume of Sell Bid	161260	4342307	208717	5020166
C	Ratio of Buy Bid to Sell Bid Volume	0.002	0.002	0.005	0.003
D	Market Clearing Volume (MWh)	264	8994	1099	13656
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*