Monthly Report on Short-term Transactions of Electricity in India

July, 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
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
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
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 July, 2014 is as under:

I: Volume of Short-term Transactions of Electricity

During the month of July 2014, total electricity generation excluding generation from renewable and captive power plants in India was 89490.59 MUs (Table-1).

Of the total electricity generation, 9654.48 MUs (10.79%) were transacted through short-term, comprising of 5552.49 MUs (6.20%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2351.44 MUs (2.63%) through day ahead collective transactions on Power Exchanges (IEX and PXIL) and 1750.55 MUs (1.96%) through UI (Table-1 & Figure-2).

Of the total short-term transactions, Bilateral constitute 57.51% (37.42% through traders and term-ahead contracts on Power Exchanges and 20.09% directly between distribution companies) followed by 24.36% through day ahead collective transactions on Power Exchanges and 18.13% 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 46 trading licensees as on 31.07.2014, of which only 22 have engaged in trading during July 2014. Top 5 trading licensees had a share of 72.14% 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 0.1895 for the month of July 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 2316.97 MUs and 34.47 MUs respectively. The volume of total Buy bids and Sale bids was 3775.1 MUs and 2952.66 MUs respectively in IEX and 66.51 MUs and 44.47 MUs respectively in PXIL. The gap between the volume of buy bids and sale bids placed through power exchanges shows that there was almost greater demand in IEX (1.28 times) and PXIL (1.50 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 20.37 MUs and 54.91 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 ₹4.03/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 ₹4.06/kWh, ₹4.37kWh and ₹3.53/kWh respectively. Minimum and Maximum sale prices were ₹1.83/kWh and ₹6.00/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 ₹1.07/kWh, ₹19.00/kWh and ₹3.50/kWh respectively in IEX and ₹1.00/kWh, ₹6.30/kWh and ₹3.53/kWh respectively in PXIL (Table-5).

The price of electricity transacted through IEX and PXIL in the term-ahead market was ₹4.41/kWh and ₹3.74/kWh respectively (Table-6 and Table-7).

(iii*) Price of electricity transacted Through UI:* The average UI price was ₹2.87/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 52.10% of the volume, and these were Rajasthan, Himachal Pradesh, Jaypee Karcham Hydro Corporation Ltd, Karnataka and Jammu & Kashmir. Top 5 regional entities purchased 70.18% of the volume, and these were Haryana, Punjab, Andhra Pradesh, Telangana and Delhi (Table-9, 10 & 19).

Of the total Power Exchange transactions, top 5 regional entities sold 45.11% of the volume, and these were Himachal Pradesh, Jindal Power Ltd, Jaypee Karcham Hydro Corporation Ltd, Gujarat and Sterlite India Ltd. Top 5 regional entities purchased 54.44% of the volume, and these were Rajasthan, Gujarat, Maharashtra, Uttar Pradesh and Punjab (Table-11, 12 & 19).

Of the total UI transactions, top 5 regional entities underdrew 42.86% of the volume, and these were Maharashtra, Gujarat, Haryana, Delhi and Tamilnadu. Top 5 regional entities overdrew 38.90% of the volume, and these were Uttar Pradesh, Punjab, Telangana, Kerala and Rajasthan (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 &

[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.*

19. Top 5 electricity selling regional entities were Himachal Pradesh, Jaypee Karcham Hydro Corporation Ltd., Jindal Power Ltd, Karnataka and Jammu & Kashmir. Top 5 electricity purchasing regional entities were Punjab, Haryana, Telangana, Andhra Pradesh and Uttar Pradesh.

IV: Congestion[2] on Inter-state Transmission Corridor for Day-Ahead Market on Power Exchanges

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

In the month of July 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 8.84% and 1.06% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 96.91% in IEX and 31.92% 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 August 2014[4]

(i) *Duration of bilateral contracts:*

During August, 2014, a total of 112 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 2011 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 54.5% of the contracts were executed for a duration of up to one week, followed by 45.5% of the contracts were executed for a duration of more than a week and upto one month.

During the same period, 50 banking/swapping bilateral contracts were also executed for the volume of 224 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 August 2014 to May 2015 based on bilateral contracts[5] executed till August, 2014. The forward curve drawn for July 2014 has also been depicted for the period September 2014 onwards for comparison purposes. It is observed that there is a slight decrease in the forward prices in October, 2014 because contracts executed in August 2014 were at lower prices when compared to contracts executed in July 2014. Since, no new contracts are executed for delivery beyond October 2014, the forward prices for the period from November 2014 to May 2015 continues to be same.

---

[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 July 2014 are shown in Table-20. The market clearing volume of Solar RECs transacted on IEX and PXIL were 498 and 6135 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 13609 and 18200 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 0.003 and 0.055 in IEX and PXIL respectively. For Non-Solar RECs, the ratio of buy and sell bids was 0.003 and 0.005 in IEX and PXIL respectively

VII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 10.79%.

- Of the total short-term transactions of electricity, 57.51% was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 24.36% through Power Exchanges and 18.13% through UI.

- Top 5 trading licensees had a share of 72.14% in the total volume traded by all the trading licensees.

- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.1895, indicating moderate concentration of market power.

- The price of electricity transacted through trading licensees (₹4.03/kWh) was higher when compared with the price of electricity transacted through IEX (₹3.50/kWh) and PXIL (₹3.53/kWh) respectively.

- The price of electricity transacted through UI was ₹2.87/kWh

- The gap between the volume of buy bids and sale bids placed through power exchanges indicates that there was almost more demand in IEX (1: 1.28) and PXIL (1: 1.50) when compared with the supply offered through these exchanges.

- Top 5 electricity selling regional entities were Himachal Pradesh, Jaypee Karcham Hydro Corporation Ltd., Jindal Power Ltd, Karnataka and Jammu & Kashmir.. Top 5 electricity purchasing regional entities were Punjab, Haryana, Telangana, Andhra Pradesh and Uttar Pradesh.

- The volume of electricity that could not be cleared in the power exchanges due to congestion was 8.84% and 1.06% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 96.91% in IEX and 31.92% in PXIL.

- In August 2014, 54.5% of the bilateral contracts (excluding banking/swapping) were executed for a duration of up to one week, followed by 45.5% of the contracts were executed for a duration of more than a week and upto one month.

- There is an decreasing trend in the forward prices in October, 2014 because contracts executed in August 2014 were at lower prices when compared to contracts executed in July 2014.

- The market clearing volume of Solar RECs transacted on IEX and PXIL were 498 and 6135 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 13609 and 18200 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), JULY 2014				
Sr.No	**Short-term transactions**	**Volume (MUs)**	**% to Volume of short-term transactions**	**% to Total Generation**
1	Bilateral	5552.49	57.51%	6.20%
	(i) Through Traders and PXs	*3612.94*	37.42%	4.04%
	(ii) Direct	*1939.56*	20.09%	2.17%
2	Through Power Exchanges	2351.44	24.36%	2.63%
	(i) IEX	*2316.97*	24.00%	2.59%
	(ii) PXIL	*34.47*	0.36%	0.04%
3	Through UI	1750.55	18.13%	1.96%
	Total	**9654.48**	**100.00%**	**10.79%**
	Total Generation	**89490.59**	_	_
Source: NLDC				

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

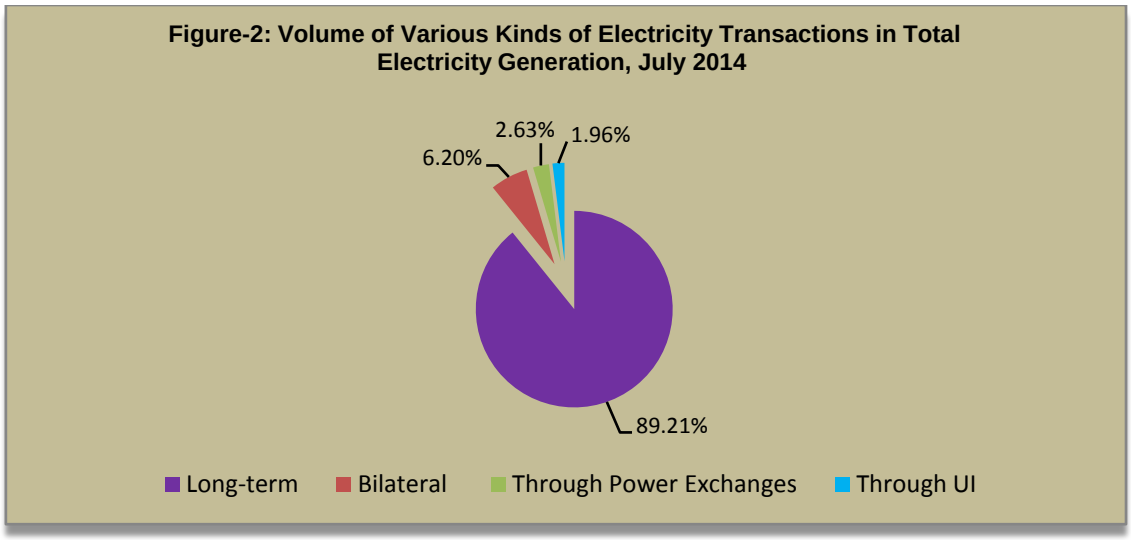
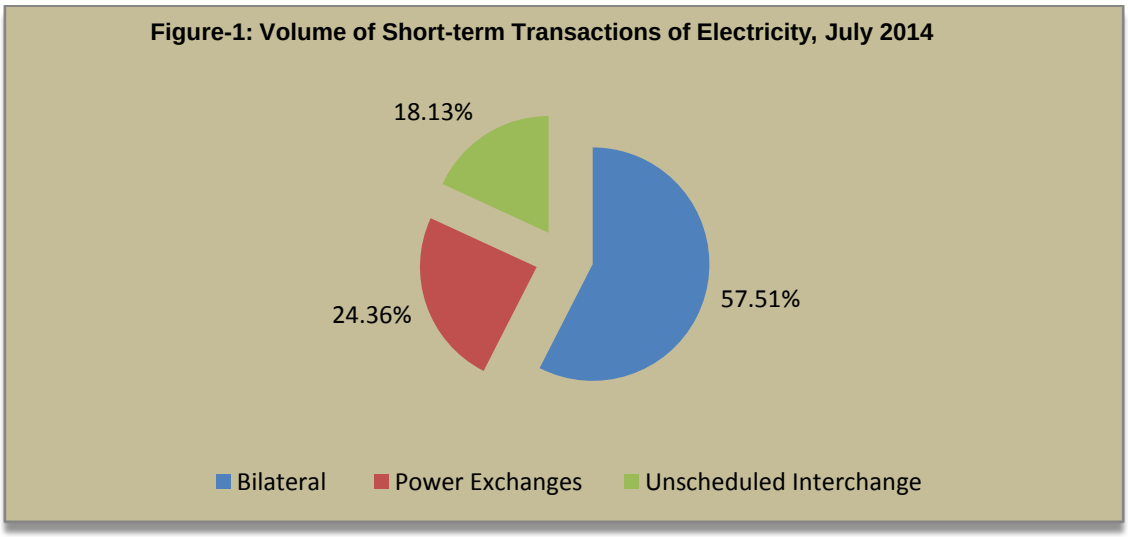


Figure-1: Volume of Short-term Transactions of Electricity, July 2014



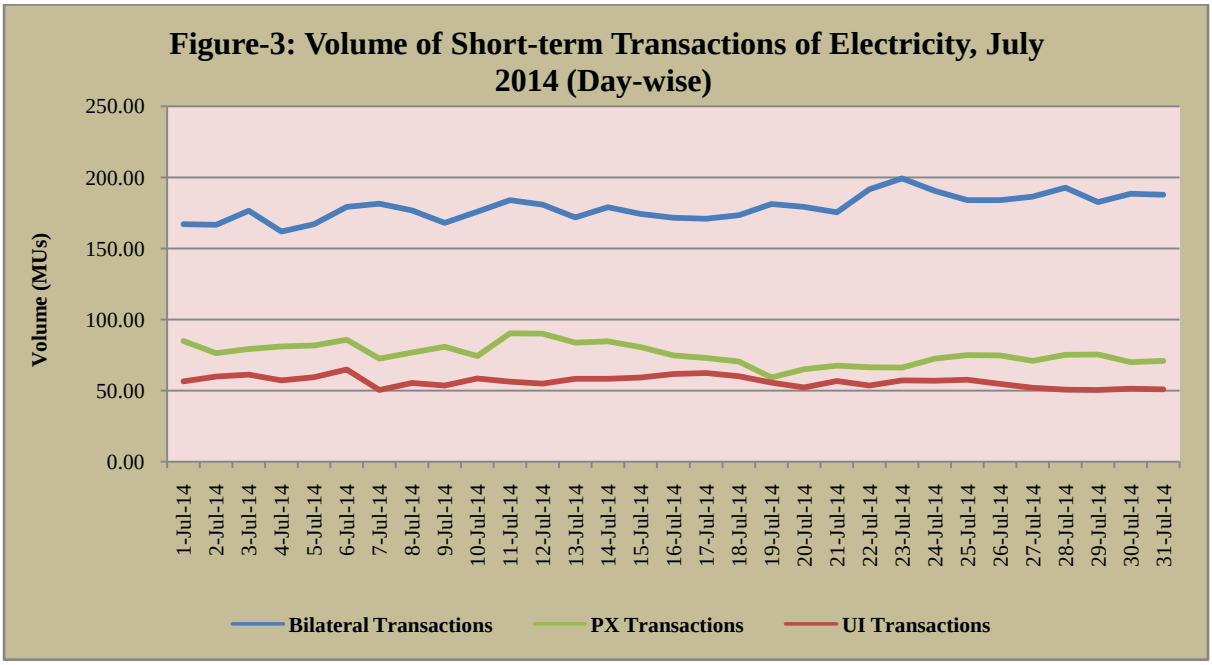


Figure-3: Volume of Short-term Transactions of Electricity, July 2014 (Day-wise)
Volume (MUs)
250.00
200.00
150.00
100.00
50.00
0.00
1-Jul-14
2-Jul-14
3-Jul-14
4-Jul-14
5-Jul-14
6-Jul-14
7-Jul-14
8-Jul-14
9-Jul-14
10-Jul-14
11-Jul-14
12-Jul-14
13-Jul-14
14-Jul-14
15-Jul-14
16-Jul-14
17-Jul-14
18-Jul-14
19-Jul-14
20-Jul-14
21-Jul-14
22-Jul-14
23-Jul-14
24-Jul-14
25-Jul-14
26-Jul-14
27-Jul-14
28-Jul-14
29-Jul-14
30-Jul-14
31-Jul-14
Bilateral Transactions
PX Transactions
UI Transactions

Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, JULY 2014			
Sr.No	**Name of the Trading Licensee**	**% Share in total Volume transacted by Trading Licensees**	**Herfindahl-Hirschman Index**
1	PTC India Ltd.	38.98%	0.1519
2	Tata Power Trading Company (P) Ltd.	10.98%	0.0121
3	Mittal Processors (P) Ltd.	8.68%	0.0075
4	JSW Power Trading Company Ltd	6.96%	0.0048
5	NTPC Vidyut Vyapar Nigam Ltd.	6.55%	0.0043
6	Adani Enterprises Ltd.	6.01%	0.0036
7	Knowledge Infrastructure Systems (P) Ltd	3.30%	0.0011
8	Manikaran Power Ltd.	3.25%	0.0011
9	GMR Energy Trading Ltd.	3.19%	0.0010
10	Reliance Energy Trading (P) Ltd	2.60%	0.0007
11	Shree Cement Ltd.	2.38%	0.0006
12	Jaiprakash Associates Ltd.	1.69%	0.0003
13	National Energy Trading & Services Ltd.	1.40%	0.0002
14	Arunachal Pradesh Power Corporation (P) ltd	1.19%	0.0001
15	RPG Power Trading Company Ltd.	0.97%	0.0001
16	Instinct Infra & Power Ltd.	0.79%	0.0001
17	Essar Electric Power Development Corp. Ltd.	0.41%	0.0000
18	My Home Power Private Ltd.	0.29%	0.0000
19	SN Power Markets Pvt. Ltd.	0.20%	0.0000
20	Customized Energy Solutions India (P) Ltd.	0.09%	0.0000
21	Indrajit Power Technology (P) Ltd.	0.09%	0.0000
22	Pune Power Development (P) Ltd.	0.01%	0.0000
TOTAL		**100.00%**	**0.1895**
Top 5 trading licensees		**72.14%**	
Note 1: Volume of electricity transacted by the trading licensees includes bilateral transactions (inter-state & intra-state) and the transactions undertaken through power exchanges.			
Note 2: Volume of electricity transacted by Global Energy Ltd is not included.			
Source: Information submitted by trading licensees			

Figure- 4 : Percentage Share of Electricity Transacted by Trading Licensees, July 2014

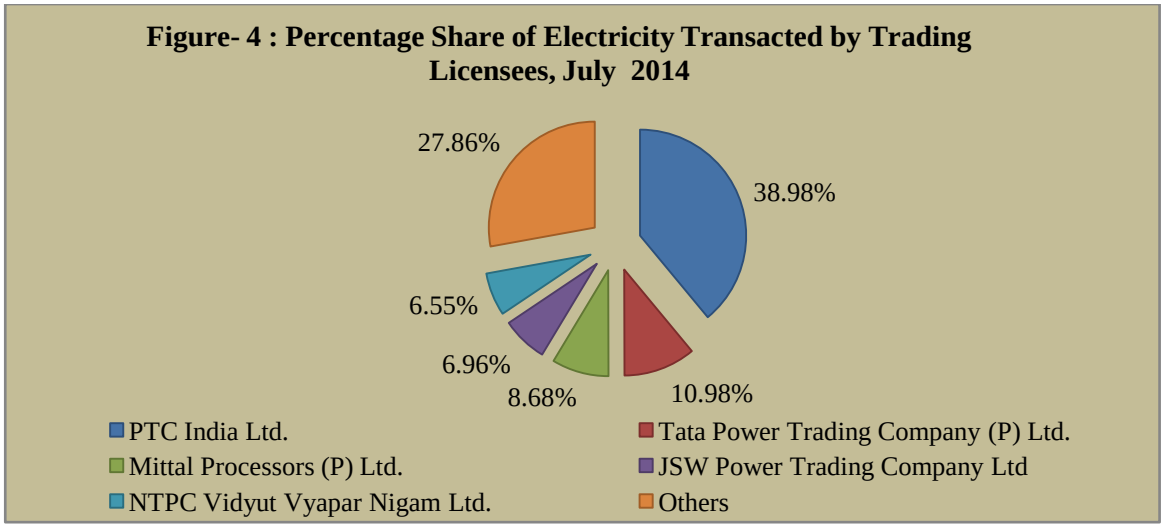


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, JULY 2014		
Sr.No		**Sale Price of Traders (₹/kWh)**
1	Minimum	1.83
2	Maximum	6.00
3	Weighted Average	4.03

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), JULY 2014		
Sr.No	**Period of Trade**	**Sale Price of Traders (₹/kWh)**
1	RTC	4.06
2	PEAK	4.37
3	OFF PEAK	3.53

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, JULY 2014			
Sr.No	**ACP**	**Price in IEX (₹/kWh)**	**Price in PXIL (₹/kWh)**
1	Minimum	1.07	1.00
2	Maximum	19.00	6.30
3	Weighted Average	3.50	3.53

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, JULY 2014			
Sr.No	**Term ahead contracts**	**Actual Scheduled Volume (MUs)**	**Weighted Average Price (₹/kWh)**
1	Intra-Day Contracts	14.53	4.61
2	Day Ahead Contingency Contracts	5.84	3.90
	Total	**20.37**	**4.41**

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, JULY 2014			
Sr.No	**Term ahead contracts**	**Actual Scheduled Volume (MUs)**	**Weighted Average Price (₹/kWh)**
1	Intra-Day Contracts	22.18	3.99
2	Daily Contracts	32.73	3.57
	Total	**54.91**	**3.74**

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH UI, JULY 2014		
Sr.No		**Price in All India Grid (₹/kWh)**
1	Minimum	0.00
2	Maximum	8.24
3	Average	2.87

Source: NLDC

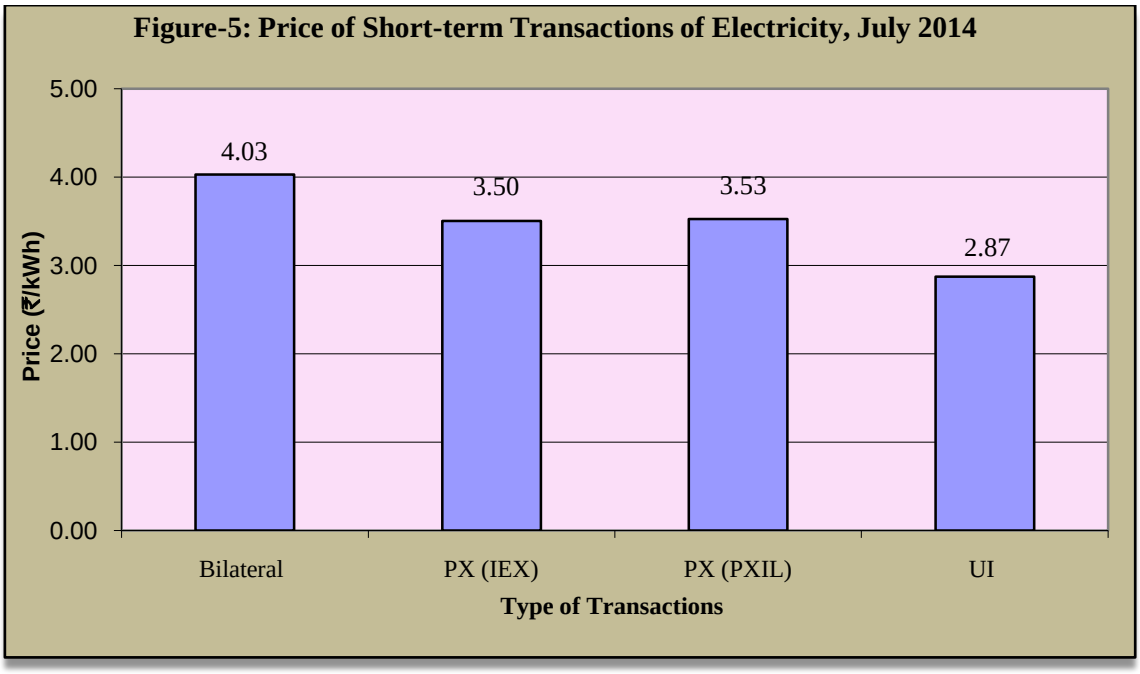


Figure-5: Price of Short-term Transactions of Electricity, July 2014
5.00
4.00
3.00
2.00
1.00
0.00
Price (₹/kWh)
4.03
3.50
3.53
2.87
Bilateral
PX (IEX)
PX (PXIL)
UI
Type of Transactions

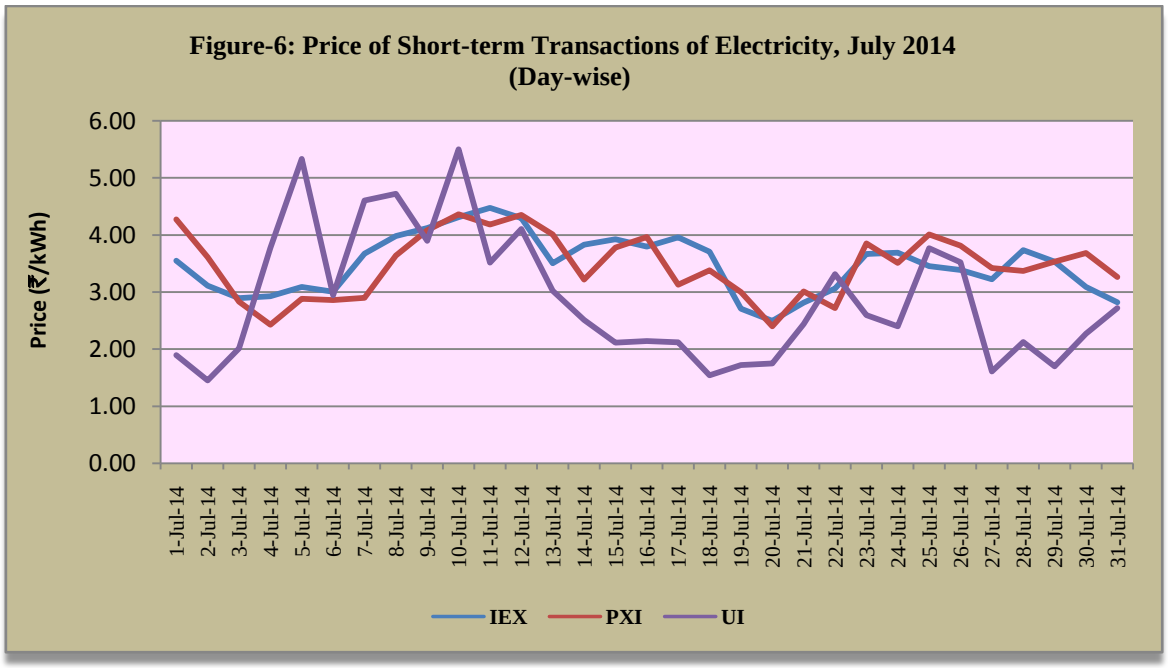


Figure-6: Price of Short-term Transactions of Electricity, July 2014
(Day-wise)
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Price (₹/kWh)
1-Jul-14
2-Jul-14
3-Jul-14
4-Jul-14
5-Jul-14
6-Jul-14
7-Jul-14
8-Jul-14
9-Jul-14
10-Jul-14
11-Jul-14
12-Jul-14
13-Jul-14
14-Jul-14
15-Jul-14
16-Jul-14
17-Jul-14
18-Jul-14
19-Jul-14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

Table-9: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL, JULY 2014		
Name of the State/UT/Other Regional Entity	**Volume of Sale (MUs)**	**% of Volume**
Rajasthan	755.88	16.51%
Himachal Pradesh	626.50	13.68%
KARCHAM WANGTOO	366.09	7.99%
Karnataka	324.40	7.08%
J & K	312.95	6.83%
Gujarat	304.46	6.65%
MP	266.58	5.82%
West Bengal	225.85	4.93%
JINDAL POWER	202.85	4.43%
SIMHAPURI	193.43	4.22%
STERLITE	172.21	3.76%
SHREE CEMENT	136.65	2.98%
AD HYDRO	124.91	2.73%
Chattisgarh	103.35	2.26%
Haryana	89.51	1.95%
MAITHON POWER LTD	77.16	1.68%
DVC	63.77	1.39%
Meghalaya	47.04	1.03%
NSPCL	38.28	0.84%
Orissa	35.51	0.78%
Assam	30.03	0.66%
Tripura	25.18	0.55%
Jharkhand	18.69	0.41%
Delhi	15.52	0.34%
Telangana	9.19	0.20%
ACBIL	7.98	0.17%
Uttarakhand	5.63	0.12%
Total	**4579.62**	**100.00%**
Volume of sale by top 5 States	**2385.83**	**52.10%**

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL, JULY 2014		
Name of the State/UT/Other Regional Entity	**Volume of Purchase (MUs)**	**% of Volume**
Haryana	1125.48	22.39%
Punjab	1082.58	21.54%
Andhra Pradesh	522.30	10.39%
Telangana	439.24	8.74%
Delhi	357.64	7.12%
Uttar Pradesh	250.40	4.98%
Bihar	236.83	4.71%
West Bengal	208.26	4.14%
Maharashtra	194.35	3.87%
Rajasthan	129.88	2.58%
Jharkhand	129.20	2.57%
Orissa	123.27	2.45%
GOA	39.21	0.78%
Dadra & Nagar Haveli	28.10	0.56%
DVC	23.99	0.48%
Chattisgarh	22.78	0.45%
Uttarakhand	21.77	0.43%
Karnataka	21.02	0.42%
Gujarat	16.70	0.33%
Daman and Diu	14.28	0.28%
UT Chandigarh	10.46	0.21%
Sikkim	7.99	0.16%
Assam	7.52	0.15%
Nagaland	3.90	0.08%
J & K	3.67	0.07%
Kerala	3.63	0.07%
Meenakshi	0.99	0.02%
MP	0.33	0.01%
Himachal Pradesh	0.20	0.00%
Tripura	0.07	0.00%
Total	**5026.03**	**100.00%**
Volume of Purchase by top 5 States	**3527.23**	**70.18%**

Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, JULY 2014		
Name of the State/UT/Other Regional Entity	**Volume of Sale (MUs)**	**% of Volume**
Himachal Pradesh	301.62	12.83%
JINDAL POWER	234.27	9.96%
KARCHAM WANGTOO	183.38	7.80%
Gujarat	178.70	7.60%
STERLITE	162.76	6.92%
Karnataka	117.82	5.01%
Chattisgarh	115.24	4.90%
Delhi	90.81	3.86%
Maharashtra	77.95	3.32%
J & K	74.68	3.18%
Haryana	60.56	2.58%
DB POWER	58.65	2.49%
West Bengal	55.85	2.38%
Sikkim	55.72	2.37%
ACBIL	55.05	2.34%
DCPP	46.72	1.99%
TEESTA HEP	46.70	1.99%
AD HYDRO	35.73	1.52%
CHUZACHEN HEP	31.40	1.34%
VANDANA VIDYUT	30.03	1.28%
DVC	29.03	1.23%
NJPC	27.92	1.19%
GMR KAMALANGA	25.16	1.07%
JITPL	22.54	0.96%
LANCO BUDHIL	20.90	0.89%
Tripura	20.52	0.87%
MAITHON POWER LTD	16.17	0.69%
Uttarakhand	14.52	0.62%
MP	14.18	0.60%
Telangana	14.02	0.60%
SIMHAPURI	11.70	0.50%
EMCO	11.63	0.49%
JINDAL STAGE-II	10.09	0.43%
ADHUNIK POWER LTD	10.08	0.43%
ONGC PALATANA	10.08	0.43%
RANGIT HEP	9.42	0.40%
MALANA	9.00	0.38%
NEEPCO Stations	8.92	0.38%
Meghalaya	8.85	0.38%
Rajasthan	7.99	0.34%
Arunachal Pradesh	7.99	0.34%
Mizoram	7.18	0.31%
Manipur	4.82	0.21%
SHREE CEMENT	4.57	0.19%
Orissa	3.89	0.17%
Kerala	3.41	0.15%
Andhra Pradesh	2.55	0.11%
BALCO	0.54	0.02%
Assam	0.11	0.00%
Total	**2351.44**	**100.00%**
Volume of sale by top 5 States	**1060.72**	**45.11%**

Table-12: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGES, JULY 2014		
Name of the State/UT/Other Regional Entity	**Volume of Purchase (MUs)**	**% of Volume**
Rajasthan	355.50	15.12%
Gujarat	294.69	12.53%
Maharashtra	260.43	11.08%
Uttar Pradesh	190.51	8.10%
Punjab	179.02	7.61%
Telangana	134.20	5.71%
Andhra Pradesh	114.14	4.85%
ESSAR STEEL	113.21	4.81%
Haryana	99.03	4.21%
Assam	98.43	4.19%
Bihar	89.93	3.82%
Delhi	76.73	3.26%
MP	62.95	2.68%
West Bengal	48.05	2.04%
Uttarakhand	34.53	1.47%
Orissa	30.89	1.31%
Karnataka	27.65	1.18%
Daman and Diu	27.38	1.16%
BALCO	26.63	1.13%
Chattisgarh	22.43	0.95%
Kerala	21.19	0.90%
J & K	17.10	0.73%
Meghalaya	10.37	0.44%
UT Chandigarh	8.17	0.35%
Tamilnadu	4.74	0.20%
Meenakshi	1.62	0.07%
Himachal Pradesh	0.68	0.03%
Tripura	0.04	0.00%
Tripura	0.61	0.03%
Arunachal Pradesh	0.36	0.02%
Manipur	0.27	0.01%
Total	**2351.44**	**100.00%**
Volume of purchase by top 5 States	**1280.16**	**54.44%**

Table-13: VOLUME OF ELECTRICITY EXPORT THROUGH UI, JULY 2014		
Name of the State/UT/Other Regional Entity	**Volume of Export (MUs)**	**% of Volume**
Maharashtra	208.64	16.06%
Gujarat	96.87	7.45%
Haryana	95.65	7.36%
Delhi	85.61	6.59%
Tamilnadu	70.12	5.40%
Rajasthan	70.05	5.39%
Punjab	57.56	4.43%
MP	54.84	4.22%
Andhra Pradesh	53.84	4.14%
NHPC Stations	41.76	3.21%
Karnataka	38.59	2.97%
Uttar Pradesh	37.73	2.90%
West Bengal	37.58	2.89%
Bihar	36.13	2.78%
J & K	31.86	2.45%
Chattisgarh	30.90	2.38%
Jharkhand	26.93	2.07%
DVC	24.87	1.91%
Orissa	22.14	1.70%
Uttarakhand	16.29	1.25%
STERLITE	15.80	1.22%
JINDAL POWER	15.68	1.21%
CGPL	14.59	1.12%
Telangana	11.02	0.85%
Dadra & Nagar Haveli	9.30	0.72%
MAITHON POWER LTD	8.58	0.66%
Meghalaya	8.02	0.62%
KARCHAM WANGTOO	6.94	0.53%
Himachal Pradesh	6.70	0.52%
Sikkim	5.21	0.40%
Manipur	5.10	0.39%
Pondicherry	4.55	0.35%
ACBIL	4.28	0.33%
Goa	4.14	0.32%
Nagaland	4.13	0.32%
NEEPCO Stations	3.97	0.31%
Assam	3.95	0.30%
LANKO_AMK	3.90	0.30%
GOA	3.16	0.24%
Tripura	2.44	0.19%
Kerala	2.30	0.18%
Arunachal Pradesh	2.05	0.16%
NSPCL	1.95	0.15%
SHREE CEMENT	1.85	0.14%
BALCO	1.75	0.13%
Mizoram	1.70	0.13%
DCPP	1.65	0.13%
Daman and Diu	1.51	0.12%
NJPC	1.49	0.11%
AD HYDRO	1.31	0.10%
SIMHAPURI	1.31	0.10%
UT Chandigarh	1.10	0.08%
RGPPL(Dabhol)	0.06	0.00%
Total	**1299.44**	**100.00%**
Volume of Export by top 5 States	**556.89**	**42.86%**

Table-14: VOLUME OF ELECTRICITY IMPORT THROUGH UI, JULY 2014		
Name of the State/UT/Other Regional Entity	**Volume of Import (MUs)**	**% of Volume**
Uttar Pradesh	185.55	13.74%
Punjab	106.31	7.87%
Telangana	106.11	7.86%
Kerala	65.57	4.86%
Rajasthan	61.76	4.57%
Orissa	53.83	3.99%
West Bengal	49.45	3.66%
Chattisgarh	47.48	3.52%
J & K	42.90	3.18%
Assam	42.67	3.16%
Bihar	40.92	3.03%
DVC	39.11	2.90%
Haryana	36.30	2.69%
Gujarat	35.80	2.65%
Uttarakhand	35.43	2.62%
MP	34.99	2.59%
Karnataka	33.48	2.48%
UT Chandigarh	29.82	2.21%
Maharashtra	28.22	2.09%
Himachal Pradesh	27.08	2.01%
GOA	24.67	1.83%
Andhra Pradesh	21.60	1.60%
Delhi	20.70	1.53%
Tamilnadu	20.21	1.50%
Daman and Diu	17.26	1.28%
Jharkhand	15.72	1.16%
JINDAL POWER	15.20	1.13%
SIMHAPURI	13.71	1.01%
Tripura	10.54	0.78%
CGPL	8.03	0.59%
Arunachal Pradesh	7.77	0.58%
Dadra & Nagar Haveli	7.11	0.53%
STERLITE	6.99	0.52%
NHPC Stations	6.77	0.50%
Pondicherry	5.48	0.41%
DCPP	4.88	0.36%
ACBIL	4.29	0.32%
RGPPL(Dabhol)	4.10	0.30%
BALCO	3.82	0.28%
Nagaland	3.55	0.26%
KARCHAM WANGTOO	3.02	0.22%
AD HYDRO	2.97	0.22%
Meghalaya	2.86	0.21%
MAITHON POWER LTD	2.69	0.20%
Mizoram	2.54	0.19%
SHREE CEMENT	2.52	0.19%
Goa	2.03	0.15%
NEEPCO Stations	1.73	0.13%
NSPCL	1.58	0.12%
Sikkim	1.23	0.09%
Manipur	1.18	0.09%
NJPC	0.73	0.05%
LANKO_AMK	0.26	0.02%
Total	**1350.53**	**100.00%**
Volume of Import by top 5 States	**525.30**	**38.90%**

Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), JULY 2014		
Sr.No.	**Name of the State/UT/Other Regional Entity**	**Total volume of net short-term transactions of electricity***
1	Punjab	1310.35
2	Haryana	1015.09
3	Telangana	645.32
4	Andhra Pradesh	601.65
5	Uttar Pradesh	588.73
6	Bihar	331.56
7	Delhi	263.14
8	Maharashtra	196.41
9	Orissa	146.45
10	Assam	114.53
11	ESSAR STEEL	113.21
12	Jharkhand	99.30
13	Kerala	84.67
14	GOA	60.72
15	Daman and Diu	57.41
16	Uttarakhand	55.28
17	UT Chandigarh	47.36
18	BALCO	28.16
19	Dadra & Nagar Haveli	25.91
20	RGPPL(Dabhol)	4.05
21	Nagaland	3.32
22	Meenakshi	2.61
23	Pondicherry	0.93
24	Arunachal Pradesh	-1.91
25	Goa	-2.11
26	LANKO_AMK	-3.64
27	Mizoram	-6.35
28	CGPL	-6.56
29	Manipur	-8.48
30	MALANA	-9.00
31	RANGIT HEP	-9.42
32	ONGC PALATANA	-10.08
33	ADHUNIK POWER LTD	-10.08
34	JINDAL STAGE-II	-10.09
35	NEEPCO Stations	-11.16
36	EMCO	-11.67
37	West Bengal	-13.53
38	LANCO BUDHIL	-20.90
39	JITPL	-22.54
40	GMR KAMALANGA	-25.16
41	NJPC	-28.68
42	VANDANA VIDYUT	-30.03
43	CHUZACHEN HEP	-31.40
44	NHPC Stations	-34.99
45	Tripura	-36.92
46	NSPCL	-38.66
47	DCPP	-43.49
48	Tamilnadu	-45.17
49	TEESTA HEP	-46.70
50	Meghalaya	-50.68
51	Sikkim	-51.71
52	DVC	-54.56
53	DB POWER	-58.65

54	ACBIL	-63.02
55	MAITHON POWER LTD	-99.21
56	SHREE CEMENT	-140.56
57	Chattisgarh	-156.80
58	AD HYDRO	-158.99
59	SIMHAPURI	-192.74
60	Gujarat	-232.84
61	MP	-237.34
62	Rajasthan	-286.79
63	STERLITE	-343.78
64	J & K	-355.82
65	Karnataka	-398.65
66	JINDAL POWER	-437.59
67	KARCHAM WANGTOO	-553.39
68	Himachal Pradesh	-906.86
** 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, JULY 2014			
	Details of Congestion	**IEX**	**PXIL**
A	Unconstrained Cleared Volume* (MUs)	2541.70	34.84
B	Actual Cleared Volume and hence scheduled (MUs)	2316.97	34.47
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	224.73	0.37
D	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	8.84%	1.06%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	96.91%	31.92%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	24.65%	17.16%
	6.00 - 12.00 hours	25.73%	31.58%
	12.00 - 18.00 hours	25.17%	34.11%
	18.00 - 24.00 hours	24.45%	17.16%
** 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), JULY 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-Jul-14	108.39	58.82	84.04	0.89	56.57	2820.97
2-Jul-14	109.82	56.78	74.88	1.56	60.06	2969.89
3-Jul-14	112.45	64.10	77.80	1.53	61.37	2953.20
4-Jul-14	108.04	53.92	79.27	1.79	57.25	2984.31
5-Jul-14	110.73	56.39	80.31	1.38	59.54	2994.88
6-Jul-14	112.06	67.15	84.39	1.39	64.98	2930.86
7-Jul-14	121.77	59.88	71.70	0.93	50.52	3002.65
8-Jul-14	120.24	56.58	75.52	1.30	55.37	3014.47
9-Jul-14	113.83	54.31	80.18	0.78	53.61	3068.33
10-Jul-14	120.73	55.23	72.36	1.90	58.70	3061.58
11-Jul-14	125.98	57.99	88.62	1.73	56.35	2984.07
12-Jul-14	120.21	60.65	88.52	1.68	55.00	2954.11
13-Jul-14	112.43	59.49	81.84	2.06	58.49	2916.59
14-Jul-14	117.84	61.31	83.07	1.70	58.28	2942.67
15-Jul-14	114.02	60.43	79.33	1.30	59.39	2946.01
16-Jul-14	112.08	59.58	73.55	1.32	61.86	2901.69
17-Jul-14	111.39	59.57	71.36	1.63	62.36	2901.01
18-Jul-14	110.54	62.99	70.14	0.45	60.21	2764.05
19-Jul-14	117.65	63.74	58.98	0.24	55.68	2764.05
20-Jul-14	113.45	65.96	64.68	0.33	52.25	2696.41
21-Jul-14	119.16	56.43	66.91	0.58	56.86	2767.48
22-Jul-14	122.78	68.92	65.83	0.54	53.71	2796.72
23-Jul-14	122.87	76.50	65.55	0.57	57.28	2774.89
24-Jul-14	118.92	71.68	71.73	0.80	57.12	2801.04
25-Jul-14	113.70	70.44	74.14	0.83	57.71	2856.22
26-Jul-14	119.64	64.45	73.73	1.06	54.77	2884.60
27-Jul-14	120.88	65.54	70.10	0.78	52.04	2812.89
28-Jul-14	124.17	68.67	74.38	0.93	50.70	2783.39
29-Jul-14	117.54	65.13	74.51	0.97	50.42	2758.28
30-Jul-14	119.81	68.77	69.35	0.76	51.22	2803.38
31-Jul-14	119.83	68.13	70.19	0.80	50.86	2879.90
Total	**3612.94**	**1939.56**	**2316.97**	**34.47**	**1750.55**	**89490.59**

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), JULY 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-Jul-14	1.98	6.86	3.55	2.10	5.25	4.27	0.00	6.16	1.89
2-Jul-14	1.45	16.00	3.12	2.10	5.45	3.61	0.00	5.32	1.45
3-Jul-14	1.36	19.00	2.90	1.56	4.50	2.83	0.00	8.24	2.01
4-Jul-14	1.30	18.00	2.93	1.30	4.00	2.43	0.00	8.24	3.77
5-Jul-14	1.25	7.10	3.09	1.60	3.75	2.88	0.71	8.24	5.33
6-Jul-14	1.30	7.10	3.01	1.20	4.15	2.86	0.00	8.24	2.94
7-Jul-14	2.40	7.10	3.68	1.50	4.30	2.90	0.00	8.24	4.61
8-Jul-14	2.47	15.01	3.98	3.00	4.90	3.64	0.00	8.24	4.72
9-Jul-14	2.47	7.01	4.12	3.00	5.01	4.08	0.00	8.24	3.90
10-Jul-14	1.50	18.00	4.31	2.90	5.50	4.36	0.00	8.24	5.50
11-Jul-14	2.35	14.00	4.47	2.60	5.70	4.18	0.36	8.24	3.51
12-Jul-14	2.32	6.61	4.30	2.35	5.70	4.35	0.00	8.24	4.10
13-Jul-14	2.00	6.60	3.50	2.00	5.50	4.01	0.00	8.24	3.02
14-Jul-14	1.58	6.60	3.83	3.00	4.54	3.22	0.00	6.36	2.51
15-Jul-14	1.50	6.60	3.93	2.00	5.32	3.78	0.00	6.36	2.11
16-Jul-14	1.30	14.00	3.80	2.00	5.20	3.96	0.00	8.24	2.14
17-Jul-14	1.28	14.00	3.96	1.00	5.43	3.13	0.00	6.16	2.12
18-Jul-14	1.77	11.50	3.71	2.30	6.30	3.38	0.00	5.32	1.54
19-Jul-14	1.25	6.56	2.71	3.00	3.00	3.00	0.00	5.11	1.72
20-Jul-14	1.24	6.50	2.50	1.20	3.48	2.40	0.00	4.91	1.75
21-Jul-14	1.20	15.50	2.82	1.20	4.00	3.01	0.00	8.24	2.43
22-Jul-14	1.25	6.40	3.06	1.25	3.80	2.72	0.00	8.24	3.31
23-Jul-14	1.40	6.60	3.67	1.25	5.30	3.85	0.00	7.20	2.59
24-Jul-14	1.20	12.00	3.69	2.50	5.30	3.51	0.00	8.24	2.40
25-Jul-14	1.20	6.50	3.46	3.00	5.70	4.01	0.00	8.24	3.77
26-Jul-14	1.20	6.51	3.39	1.82	5.50	3.81	0.00	8.24	3.52
27-Jul-14	1.14	6.51	3.22	2.10	5.25	3.42	0.00	5.11	1.61
28-Jul-14	1.49	6.51	3.73	2.50	4.98	3.37	0.00	7.82	2.13
29-Jul-14	1.20	6.50	3.53	1.40	6.00	3.53	0.00	5.95	1.70
30-Jul-14	1.07	6.50	3.09	2.70	4.85	3.68	0.00	7.20	2.27
31-Jul-14	1.08	6.50	2.82	1.20	4.75	3.26	0.00	8.24	2.72
	1.07#	**19.00#**	**3.50**	**1.00#**	**6.30#**	**3.53**	**0.00#**	**8.24#**	**2.87**

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), JULY 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	1082.58	1082.58	0.00	179.02	179.02	57.56	106.31	48.75	1310.35
Haryana	89.51	1125.48	1035.97	60.56	99.03	38.47	95.65	36.30	-59.35	1015.09
Rajasthan	755.88	129.88	-626.00	7.99	355.50	347.51	70.05	61.76	-8.30	-286.79
Delhi	15.52	357.64	342.12	90.81	76.73	-14.08	85.61	20.70	-64.90	263.14
Uttar Pradesh	0.00	250.40	250.40	0.00	190.51	190.51	37.73	185.55	147.82	588.73
Uttarakhand	5.63	21.77	16.14	14.52	34.53	20.01	16.29	35.43	19.14	55.28
Himachal Pradesh	626.50	0.20	-626.30	301.62	0.68	-300.94	6.70	27.08	20.39	-906.86
J & K	312.95	3.67	-309.29	74.68	17.10	-57.57	31.86	42.90	11.04	-355.82
UT Chandigarh	0.00	10.46	10.46	0.00	8.17	8.17	1.10	29.82	28.73	47.36
MP	266.58	0.33	-266.25	14.18	62.95	48.77	54.84	34.99	-19.85	-237.34
Maharashtra	0.00	194.35	194.35	77.95	260.43	182.48	208.64	28.22	-180.42	196.41
Gujarat	304.46	16.70	-287.76	178.70	294.69	115.99	96.87	35.80	-61.07	-232.84
Chattisgarh	103.35	22.78	-80.57	115.24	22.43	-92.81	30.90	47.48	16.58	-156.80
GOA	0.00	39.21	39.21	0.00	0.00	0.00	3.16	24.67	21.50	60.72
Daman and Diu	0.00	14.28	14.28	0.00	27.38	27.38	1.51	17.26	15.74	57.41
Dadra & Nagar Haveli	0.00	28.10	28.10	0.00	0.00	0.00	9.30	7.11	-2.18	25.91
Andhra Pradesh	0.00	522.30	522.30	2.55	114.14	111.59	53.84	21.60	-32.24	601.65
Karnataka	324.40	21.02	-303.37	117.82	27.65	-90.17	38.59	33.48	-5.11	-398.65
Kerala	0.00	3.63	3.63	3.41	21.19	17.78	2.30	65.57	63.27	84.67
Tamilnadu	0.00	0.00	0.00	0.00	4.74	4.74	70.12	20.21	-49.91	-45.17
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	4.55	5.48	0.93	0.93
Goa	0.00	0.00	0.00	0.00	0.00	0.00	4.14	2.03	-2.11	-2.11
Telangana	9.19	439.24	430.05	14.02	134.20	120.18	11.02	106.11	95.10	645.32
West Bengal	225.85	208.26	-17.59	55.85	48.05	-7.81	37.58	49.45	11.87	-13.53
Orissa	35.51	123.27	87.76	3.89	30.89	27.00	22.14	53.83	31.69	146.45
Bihar	0.00	236.83	236.83	0.00	89.93	89.93	36.13	40.92	4.79	331.56
Jharkhand	18.69	129.20	110.51	0.00	0.00	0.00	26.93	15.72	-11.21	99.30
Sikkim	0.00	7.99	7.99	55.72	0.00	-55.72	5.21	1.23	-3.98	-51.71
DVC	63.77	23.99	-39.77	29.03	0.00	-29.03	24.87	39.11	14.25	-54.56
Arunachal Pradesh	0.00	0.00	0.00	7.99	0.36	-7.63	2.05	7.77	5.72	-1.91
Assam	30.03	7.52	-22.51	0.11	98.43	98.32	3.95	42.67	38.72	114.53
Manipur	0.00	0.00	0.00	4.82	0.27	-4.56	5.10	1.18	-3.92	-8.48
Meghalaya	47.04	0.00	-47.04	8.85	10.37	1.52	8.02	2.86	-5.16	-50.68
Mizoram	0.00	0.00	0.00	7.18	0.00	-7.18	1.70	2.54	0.84	-6.35
Nagaland	0.00	3.90	3.90	0.00	0.00	0.00	4.13	3.55	-0.58	3.32
Tripura	25.18	0.07	-25.11	20.52	0.61	-19.91	2.44	10.54	8.10	-36.92

NHPC Stations	0.00	0.00	0.00	0.00	0.00	0.00	41.76	6.77	-34.99	-34.99
NJPC	0.00	0.00	0.00	27.92	0.00	-27.92	1.49	0.73	-0.76	-28.68
AD HYDRO	124.91	0.00	-124.91	35.73	0.00	-35.73	1.31	2.97	1.66	-158.99
KARCHAM WANGTOO	366.09	0.00	-366.09	183.38	0.00	-183.38	6.94	3.02	-3.92	-553.39
SHREE CEMENT	136.65	0.00	-136.65	4.57	0.00	-4.57	1.85	2.52	0.67	-140.56
LANCO BUDHIL	0.00	0.00	0.00	20.90	0.00	-20.90	0.00	0.00	0.00	-20.90
MALANA	0.00	0.00	0.00	9.00	0.00	-9.00	0.00	0.00	0.00	-9.00
JINDAL POWER	202.85	0.00	-202.85	234.27	0.00	-234.27	15.68	15.20	-0.48	-437.59
LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	3.90	0.26	-3.64	-3.64
NSPCL	38.28	0.00	-38.28	0.00	0.00	0.00	1.95	1.58	-0.38	-38.66
ACBIL	7.98	0.00	-7.98	55.05	0.00	-55.05	4.28	4.29	0.01	-63.02
BALCO	0.00	0.00	0.00	0.54	26.63	26.09	1.75	3.82	2.07	28.16
RGPPL(Dabhol)	0.00	0.00	0.00	0.00	0.00	0.00	0.06	4.10	4.05	4.05
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	14.59	8.03	-6.56	-6.56
DCPP	0.00	0.00	0.00	46.72	0.00	-46.72	1.65	4.88	3.23	-43.49
EMCO	0.00	0.00	0.00	11.63	0.00	-11.67	0.00	0.00	0.00	-11.67
VANDANA VIDYUT	0.00	0.00	0.00	30.03	0.00	-30.03	0.00	0.00	0.00	-30.03
ESSAR STEEL	0.00	0.00	0.00	0.00	113.21	113.21	0.00	0.00	0.00	113.21
JINDAL STAGE-II	0.00	0.00	0.00	10.09	0.00	-10.09	0.00	0.00	0.00	-10.09
DB POWER	0.00	0.00	0.00	58.65	0.00	-58.65	0.00	0.00	0.00	-58.65
SIMHAPURI	193.43	0.00	-193.43	11.70	0.00	-11.70	1.31	13.71	12.40	-192.74
Meenakshi	0.00	0.99	0.99	0.00	1.62	1.62	0.00	0.00	0.00	2.61
STERLITE	172.21	0.00	-172.21	162.76	0.00	-162.76	15.80	6.99	-8.81	-343.78
MAITHON POWER LTD	77.16	0.00	-77.16	16.17	0.00	-16.17	8.58	2.69	-5.89	-99.21
ADHUNIK POWER LTD	0.00	0.00	0.00	10.08	0.00	-10.08	0.00	0.00	0.00	-10.08
CHUZACHEN HEP	0.00	0.00	0.00	31.40	0.00	-31.40	0.00	0.00	0.00	-31.40
RANGIT HEP	0.00	0.00	0.00	9.42	0.00	-9.42	0.00	0.00	0.00	-9.42
GMR KAMALANGA	0.00	0.00	0.00	25.16	0.00	-25.16	0.00	0.00	0.00	-25.16
JITPL	0.00	0.00	0.00	22.54	0.00	-22.54	0.00	0.00	0.00	-22.54
TEESTA HEP	0.00	0.00	0.00	46.70	0.00	-46.70	0.00	0.00	0.00	-46.70
NEEPCO Stations	0.00	0.00	0.00	8.92	0.00	-8.92	3.97	1.73	-2.24	-11.16
ONGC PALATANA	0.00	0.00	0.00	10.08	0.00	-10.08	0.00	0.00	0.00	-10.08

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 August, 2014

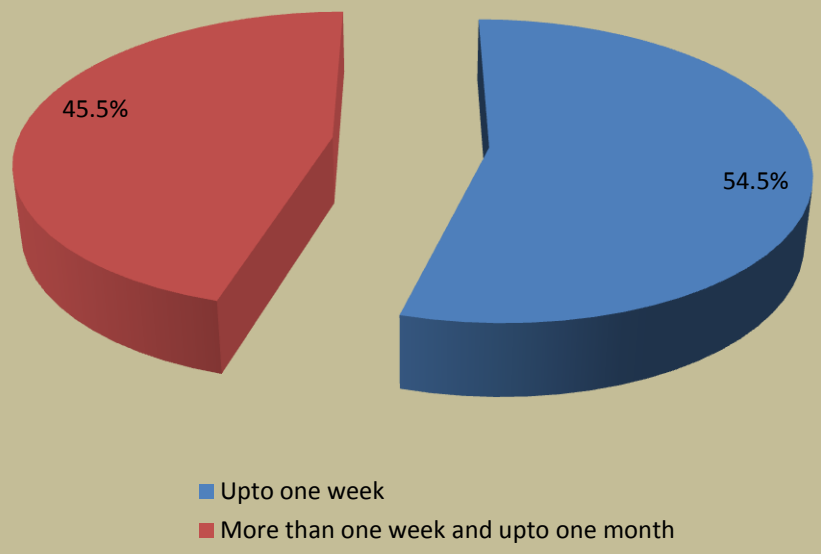


Figure-8: Forward Curve based on Prices of Bilateral Contracts

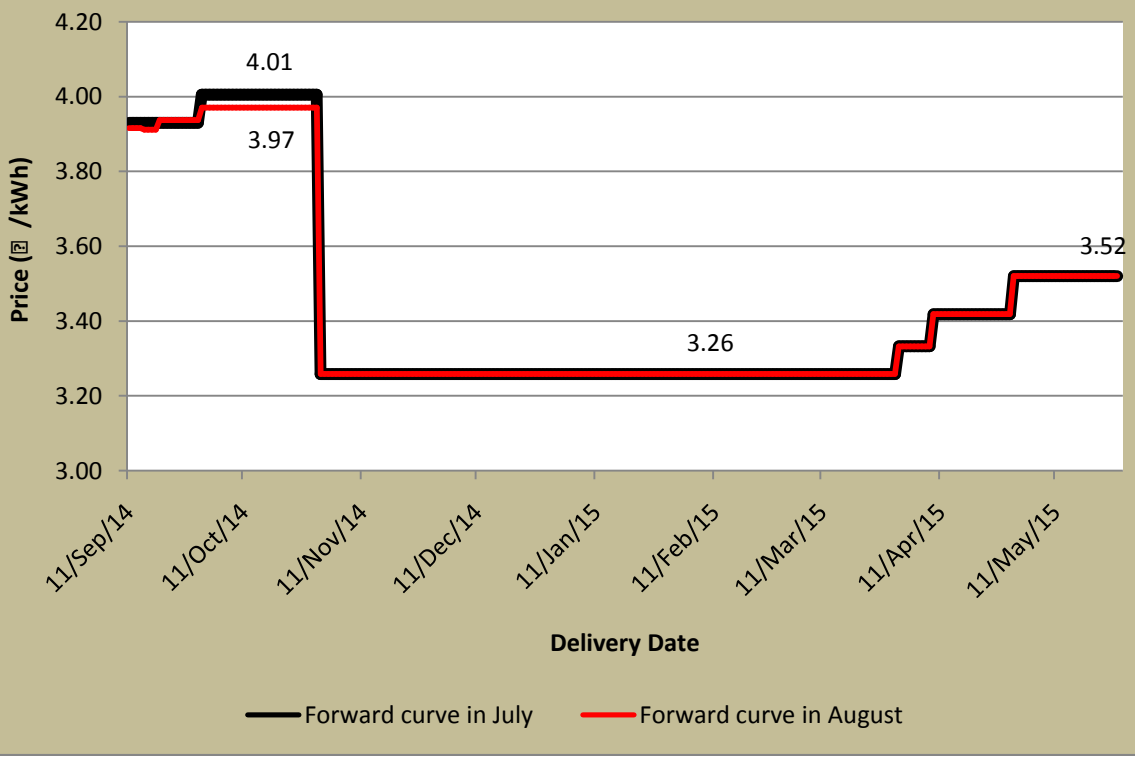


Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTED THROUGH POWER EXCHANGES, JULY 2014					
Sr.No.	**Details of REC Transactions**	**IEX**		**PXIL**	
		Solar	**Non-Solar**	**Solar**	**Non Solar**
A	Volume of Buy Bid	498	13609	6135	18200
B	Volume of Sell Bid	179581	4241244	111577	4036077
C	Ratio of Buy Bid to Sell Bid Volume	0.003	0.003	0.055	0.005
D	Market Clearing Volume (MWh)	498	13609	6135	18200
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*