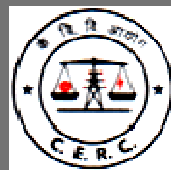




Monthly Report on Short-term Transactions of Electricity in India

June, 2012



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Abbreviations

Abbreviation	Expanded Version
ACBIL	ACB India Limited
ACP	Area Clearing Price
ACV	Area Clearing Volume
AD HYDRO	AD Hydro Power Limited
BALCO	Bharat Aluminium Company Limited
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGPL	Coastal Gujarat Power Ltd
DCPP	Donga Mahua Captive Power Plant
DVC	Damodar Valley Corporation
IEX	Indian Energy Exchange Limited
JINDAL POWER	Jindal Power Limited
KARCHAM WANGTOO	Jaypee Karcham Hydro Corporation Limited
LANKO_AMK	Lanco Amarkantak Power Private Limited
LANKO_KONDAPALLY	Lanco Kondapalli Power Limited
Meenakshi	Meenakshi Energy Private Limited
MUs	Million Units
NEEPCO Stations	North Eastern Electric Power Corporation Limited Stations
NEW Grid	North, East, North-East and Western Regional Grid
NHPC Stations	National Hydro Electric Power Corporation Limited Stations
NLDC	National Load Despatch Centre
NJPC	Nathpa Jhakri Hydroelectric Power Station
NSPCL	NTPC - SAIL Power Company Private Limited
PX	Power Exchange
PXIL	Power Exchange India Limited
RGPPL	Ratnagiri Gas and Power Private Limited
RLDC	Regional Load Despatch Centre
RTC	Round - the- Clock
SIMHAPURI	Simhapuri Energy Private Limited
SHREE CEMENT	Shree Cement Limited
SR Grid	Southern Regional Grid
STERLITE	Sterlite Energy Limited
UI	Unscheduled Interchange
UT	Union Territory

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 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; and (iii) to disclose/disseminate all relevant market information. The analysis of the report for the month of June 2012 is as under:

I: Volume of Short-term Transactions of Electricity

During the month of June 2012, total electricity generation excluding generation from renewable and captive power plants in India was 76305.68 MUs (Table-1).

Of the total electricity generation, 9362.44 MUs (12.27%) were transacted through short-term, comprising of 4095.05 MUs (5.37%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 3638.02 MUs (4.77%) through UI and 1629.37 MUs (2.14%) through day ahead collective transactions on Power Exchanges (IEX and PXIL) (Table-1 & Figure-2).

Of the total short-term transactions, Bilateral constitute 43.74% (31.47% through traders and term-ahead contracts on Power Exchanges and 12.27% directly between distribution companies) followed by 38.86% through UI and 17.40% through day ahead collective transactions on Power Exchanges (Table-1 & Figure-1). Daily volume of short-term transactions is shown in 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 43 trading licensees as on 30.06.2012, of which only 17 have engaged in trading during June

2012. Top 5 trading licenses had a share of 77.87% 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. The HHI between 0.15 - 0.25 indicates moderate concentration of market power. The HHI computed for volume of electricity traded by trading licensees was 0.1793 for the month of June 2012, which indicates moderate concentration of market power (Table-2).

The volume of electricity transacted through IEX and PXIL in the day ahead market was 1535.34 MUs and 94.03 MUs respectively. The volume of total Buy bids and Sale bids was 2947.94 MUs and 2063.41 MUs respectively in IEX and 266.58 MUs and 194.62 MUs respectively in PXIL. The gap between the volume of buy bids and sale bids placed through power exchanges shows that there was more demand in IEX (1.43 times) and in PXIL (1.37 times) when compared with the supply offered through these exchanges.

The volume of electricity transacted in term-ahead market through weekly contracts was 32.62 MUs in IEX (Table-6).

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 ₹4.11/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 ₹4.11/kWh, ₹4.91/kWh and ₹4.17/kWh respectively. Minimum and Maximum sale prices were ₹2.90/kWh and ₹6.15/kWh respectively (Table-3 & 4).

(ii) Price of electricity transacted Through Power Exchanges: Minimum, Maximum and Weighted Average Prices have been computed for the volume transacted through IEX and PXIL separately. The Minimum, Maximum and Weighted Average prices were ₹1.30/kWh, ₹19.95/kWh and ₹4.11/kWh respectively in IEX and ₹1.20/kWh, ₹20.00/kWh and ₹4.10/kWh respectively in PXIL (Table-5).

The weighted average price of electricity transacted in term-ahead market through the weekly contracts was ₹2.29/kWh in IEX (Table-6).

(iii) Price of electricity transacted Through UI: All-India UI price has been computed for NEW Grid and SR Grid separately. The average UI price was ₹5.55/kWh in the NEW Grid and ₹5.29/kWh in the SR Grid. Minimum and Maximum UI prices were ₹0.00/kWh and ₹17.46/kWh respectively in the New Grid, and ₹0.00/kWh and ₹17.46/kWh respectively in the SR Grid (Table-8).

The prices of electricity transacted through trading licensees, power exchanges and UI and their comparison is shown in Figure-5 & 6.

III: Volume of Short-term Transactions of Electricity (Regional Entity¹-Wise)

Of the total bilateral transactions, top 5 regional entities sold 58.45% of the volume, and these were Jaypee Karcham Hydro Corporation Ltd., Gujarat, Jindal Power Ltd., Sterlite Energy Ltd. and Jammu & Kashmir. Top 5 regional entities purchased 62.23% of the volume, and these were Punjab, Delhi, Andhra Pradesh, Maharashtra and West Bengal (Table-9 & 10).

Of the total Power Exchange transactions, top 5 regional entities sold 57.91% of the volume, and these were Himachal Pradesh, Gujarat, Jaypee Karcham Hydro Corporation Ltd., Chhattisgarh and Delhi. Top 5 regional entities purchased 65.42% of the volume, and these were Gujarat, Punjab, Rajasthan, Uttar Pradesh and Andhra Pradesh (Table-11 & 12).

Of the total UI transactions, top 5 regional entities underdrew 35.42% of the volume, and these were Gujarat, Delhi, Manipur, Assam and Nagaland. Top 5 regional entities overdrew 48.90% of the volume, and these were Uttar Pradesh, Haryana, Punjab, Rajasthan and Manipur (Table-13 & 14).

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. Top 5 electricity selling regional entities were Jaypee Karcham Wangtoo Hydro Corporation Ltd., Gujarat, Jindal Power Ltd, Himachal Pradesh and Sterlite Energy Ltd. Top 5 electricity purchasing regional entities were Punjab, Uttar Pradesh, Haryana, Andhra Pradesh and Kerala.

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.

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 June 2012, 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 about 4.84% and 32.02% of the actual cleared volume in IEX and PXIL, respectively. In percentage of time terms, it was 76.67% in IEX and 80.42% in PXIL respectively.

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: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 12.27%.
- Of the total short-term transactions of electricity, 43.74% was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 38.86% through UI and 17.40% through Power Exchanges.
- Top 5 trading licensees had a share of 77.87% in the total volume traded by all the trading licensees.
- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.1793, indicating moderate concentration of market power.
- The price of electricity transacted through trading licensees (₹4.11/kWh) was almost similar when compared with the price of electricity transacted through IEX (₹4.11/kWh) and PXIL (₹4.10/kWh) respectively.
- The price of electricity transacted through UI was ₹5.55/kWh in the NEW Grid and ₹5.29/kWh in the SR Grid.
- The gap between the volume of sale bids and buy bids placed through power exchanges indicates that there was more demand in IEX (1:1.43) and in PXIL (1:1.37) when compared with the supply offered through these exchanges.
- Top 5 electricity selling regional entities were Jaypee Karcham Wangtoo Hydro Corporation Ltd, Gujarat, Jindal Power Ltd, Himachal Pradesh and Sterlite Energy Ltd. Top 5 electricity purchasing regional entities were Punjab, Uttar Pradesh, Haryana, Andhra Pradesh and Kerala.
- The volume of electricity that could not be cleared in the power exchanges due to congestion was about 4.84% and 32.02% of the actual cleared volume in IEX and PXIL, respectively. In percentage of time terms, it was 76.67% in IEX and 80.42% in PXIL, respectively.

Format-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (MUs), JUNE 2012						
Date	Bilateral		Power Exchange (Area Clearing Volume# of day ahead market)		Unscheduled Interchange (Over Drawl+Under Generation)	Total Electricity Generation (MUs) as given at CEA Website*
	Through Traders and PXs**	Direct	IEX	PXI		
1-Jun-12	74.96	38.41	67.58	3.31	123.58	2597.32
2-Jun-12	84.06	37.16	56.80	4.04	110.96	2593.42
3-Jun-12	75.76	31.53	61.22	3.54	95.68	2528.91
4-Jun-12	77.70	34.48	62.66	4.11	92.09	2595.29
5-Jun-12	83.68	40.26	58.29	4.22	94.68	2579.17
6-Jun-12	81.70	39.91	60.94	4.82	90.22	2599.18
7-Jun-12	83.02	39.91	56.99	4.70	113.72	2591.06
8-Jun-12	86.34	37.91	45.92	2.50	144.61	2554.15
9-Jun-12	79.38	37.07	37.30	2.48	141.95	2520.54
10-Jun-12	79.94	35.98	50.78	2.70	133.36	2454.79
11-Jun-12	100.88	31.31	34.24	2.52	135.33	2519.72
12-Jun-12	99.27	30.07	37.35	1.06	154.15	2547.93
13-Jun-12	100.63	31.14	35.50	1.55	138.79	2549.14
14-Jun-12	99.60	32.63	45.62	1.73	109.17	2550.83
15-Jun-12	102.46	32.48	46.54	5.17	115.65	2559.68
16-Jun-12	104.49	36.22	42.20	0.64	117.69	2509.72
17-Jun-12	106.36	37.83	34.88	1.65	142.83	2446.18
18-Jun-12	103.31	37.91	44.13	2.10	124.21	2386.25
19-Jun-12	104.08	36.34	50.73	2.45	124.09	2455.34
20-Jun-12	114.99	38.13	45.97	1.97	131.34	2507.41
21-Jun-12	114.98	34.96	41.97	2.03	129.10	2526.89
22-Jun-12	109.68	40.70	55.19	3.28	133.66	2542.11
23-Jun-12	114.29	45.19	59.87	4.06	116.17	2547.33
24-Jun-12	112.71	45.17	60.95	4.16	111.93	2485.36
25-Jun-12	116.16	43.11	56.33	4.96	105.58	2536.11
26-Jun-12	111.84	41.20	58.69	4.04	102.93	2586.96
27-Jun-12	112.72	42.49	59.39	5.12	105.87	2586.85
28-Jun-12	109.99	44.53	55.23	4.29	131.35	2617.21
29-Jun-12	101.45	47.60	56.67	3.44	129.22	2633.16
30-Jun-12	100.19	46.81	55.42	1.39	138.11	2597.67
Total	2946.62	1148.43	1535.34	94.03	3638.02	76305.68
Source: NLDC						
* Gross Electricity Generation excluding electricity generation from renewables and captive power plants.						
** The volume of bilateral through PXs represents the volume through term-ahead contracts.						
# Area Clearing Volume represents the scheduled volume of all the bid areas.						

Format-2: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (₹/kWh), JUNE 2012												
Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (UI)					
Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	NEW Grid			SR Grid		
							Minimum Price	Maximum Price	Average Price**	Minimum Price	Maximum Price	Average Price**
1-Jun-12	2.00	5.51	3.89	3.35	6.00	4.33	0.00	12.22	5.54	3.57	12.22	8.10
2-Jun-12	2.09	9.12	3.96	3.00	5.00	3.92	0.00	12.22	4.44	0.47	12.22	6.34
3-Jun-12	1.99	10.12	3.69	2.50	5.50	3.64	0.00	7.32	2.17	0.00	12.22	5.42
4-Jun-12	1.99	9.62	3.90	2.90	8.00	4.02	0.00	12.22	3.61	0.16	12.22	5.39
5-Jun-12	1.99	9.62	3.76	2.90	6.52	4.07	0.93	12.22	3.80	1.55	12.22	5.48
6-Jun-12	2.10	8.12	3.69	2.80	9.00	3.89	0.31	12.22	3.64	1.55	8.26	4.21
7-Jun-12	2.18	6.12	3.66	2.50	9.00	3.8	1.09	17.46	6.29	1.55	12.22	5.15
8-Jun-12	2.20	6.12	3.96	3.20	5.50	4.34	2.48	17.46	7.93	1.71	12.22	5.41
9-Jun-12	2.91	9.70	4.46	3.30	8.00	4.44	1.24	17.46	6.70	2.02	8.26	4.80
10-Jun-12	3.07	6.22	4.49	3.35	6.50	4.5	0.93	17.46	6.77	1.55	12.22	6.12
11-Jun-12	3.21	7.12	5.01	3.50	6.50	4.81	2.79	17.46	9.86	2.33	12.22	6.62
12-Jun-12	3.41	8.12	5.57	3.75	10.11	5.5	3.88	17.46	12.00	2.95	12.22	7.04
13-Jun-12	4.50	8.12	6.73	5.30	10.11	6.29	2.33	17.46	9.11	2.79	12.22	6.87
14-Jun-12	4.50	8.12	7.04	5.25	10.00	6.67	2.02	17.46	6.90	2.33	17.46	6.72
15-Jun-12	4.00	15.00	6.37	4.50	12.00	6.26	0.47	12.22	5.07	2.48	12.22	5.92
16-Jun-12	2.90	13.00	5.08	4.00	20.00	5.57	0.31	12.22	4.15	1.40	12.22	4.94
17-Jun-12	1.50	12.00	3.52	1.20	4.25	3.31	0.00	8.26	2.52	0.00	6.85	2.51
18-Jun-12	1.30	19.50	3.43	2.20	6.52	3.49	0.00	8.26	2.76	0.00	5.91	2.38
19-Jun-12	1.50	19.00	3.07	1.50	8.52	3.11	0.00	12.22	3.18	0.00	6.38	2.56
20-Jun-12	1.31	7.52	2.96	2.50	7.00	3.19	0.31	12.22	3.98	0.00	12.22	3.88
21-Jun-12	1.50	9.12	2.90	2.50	6.00	3.23	0.00	17.46	5.07	1.55	12.22	4.93
22-Jun-12	2.00	9.00	3.23	2.50	6.87	3.09	2.48	12.22	6.85	1.71	12.22	5.52
23-Jun-12	2.28	9.12	3.65	2.50	6.87	3.41	0.62	12.22	4.93	2.17	12.22	6.13
24-Jun-12	2.15	5.08	3.46	2.48	5.30	3.06	0.00	12.22	3.20	1.71	12.22	4.81
25-Jun-12	2.18	9.12	3.81	2.58	5.27	3.87	0.00	12.22	3.25	2.17	12.22	5.08
26-Jun-12	2.18	7.04	3.80	2.50	5.26	3.74	0.62	12.22	4.43	1.55	12.22	5.20
27-Jun-12	2.09	5.21	3.67	2.70	5.20	4.01	2.17	12.22	5.31	1.55	12.22	4.85
28-Jun-12	2.50	5.21	3.91	3.00	5.20	4.03	2.64	17.46	6.32	2.64	12.22	5.35
29-Jun-12	2.95	7.00	4.32	3.20	5.20	4.07	0.78	12.22	8.03	2.02	12.22	5.69
30-Jun-12	2.95	7.00	4.66	4.50	6.30	4.93	2.33	17.46	8.75	1.09	12.22	5.16
	1.30#	19.50#	4.11	1.20#	20.00#	4.10	0.00#	17.46#	5.55	0.00#	17.46#	5.29

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

Format-3: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY*-WISE) (MUs), JUNE 2012

Name of the State/UT/Other Regional Entity	Through Bilateral			Through Power Exchange			Through UI with Regional Grid			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	Export (Under Draw)	Import (Over Draw)	Net**	
Punjab	0.00	999.82	999.82	0.00	241.06	241.06	38.90	289.06	250.15	1491.04
Haryana	0.00	328.18	328.18	0.00	69.76	69.76	39.01	327.09	288.08	686.02
Rajasthan	156.86	26.22	-130.63	37.20	173.65	136.45	56.47	197.85	141.38	147.20
Delhi	0.60	459.18	458.58	102.01	25.65	-76.35	196.78	8.72	-188.05	194.17
Uttar Pradesh	0.00	111.63	111.63	0.00	166.24	166.24	11.09	771.10	760.01	1037.88
Uttarakhand	9.16	33.82	24.66	5.11	11.51	6.40	18.71	55.23	36.52	67.58
Himachal Pradesh	201.16	0.00	-201.16	336.51	2.09	-334.42	35.69	34.46	-1.23	-536.81
J & K	414.73	1.70	-413.03	8.59	0.00	-8.59	32.89	50.34	17.45	-404.17
UT Chandigarh	0.00	34.82	34.82	3.75	1.71	-2.04	10.31	4.87	-5.44	27.33
MP	219.00	50.69	-168.31	37.26	11.42	-25.84	145.24	28.87	-116.37	-310.52
Maharashtra	26.49	339.65	313.16	45.04	65.82	20.78	141.14	83.16	-57.98	275.97
Gujarat	505.99	170.97	-335.02	227.50	337.17	109.67	421.99	18.05	-403.93	-629.28
Chattisgarh	126.66	0.00	-126.66	115.68	0.00	-115.68	63.47	37.36	-26.11	-268.45
Daman and Diu	0.00	62.64	62.64	0.00	0.00	0.00	9.63	3.18	-6.46	56.18
Dadra & Nagar Haveli	0.00	40.90	40.90	0.00	0.00	0.00	2.95	22.30	19.34	60.24
Andhra Pradesh	10.95	379.66	368.71	31.14	147.77	116.64	36.30	51.51	15.21	500.56
Karnataka	223.45	3.94	-219.51	90.40	10.34	-80.06	20.92	44.75	23.83	-275.74
Kerala	0.00	83.49	83.49	0.00	113.15	113.15	0.82	87.42	86.60	283.23
Tamilnadu	0.00	88.53	88.53	0.00	131.95	131.95	78.12	23.31	-54.82	165.67
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	20.48	0.71	-19.77	-19.77
Goa	0.00	0.00	0.00	0.02	0.00	-0.02	13.49	16.86	3.37	3.35
West Bengal	102.41	331.61	229.19	15.28	52.80	37.52	89.19	84.15	-5.04	261.68
Orissa	0.00	29.38	29.38	0.05	8.71	8.66	44.83	46.26	1.42	39.46
Bihar	0.00	238.43	238.43	0.00	0.00	0.00	128.31	2.46	-125.84	112.58
Jharkhand	27.60	106.19	78.59	0.00	30.80	30.80	105.24	4.54	-100.70	8.68
Sikkim	34.24	4.23	-30.01	23.39	0.00	-23.39	3.12	4.54	1.42	-51.99
DVC	131.52	9.19	-122.33	7.69	11.73	4.05	65.33	50.85	-14.47	-132.76
Arunachal Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	133.04	133.04	0.00	0.00
Assam	0.00	85.40	85.40	14.65	12.44	-2.21	165.13	165.13	0.00	83.19
Manipur	0.00	0.00	0.00	0.00	0.00	0.00	178.30	178.30	0.00	0.00
Meghalaya	0.00	0.00	0.00	5.37	2.89	-2.48	137.99	137.99	0.00	-2.48
Mizoram	0.00	0.00	0.00	4.03	0.00	-4.03	128.15	128.15	0.00	-4.03
Nagaland	1.24	0.00	-1.24	0.00	0.00	0.00	152.54	152.54	0.00	-1.24
Tripura	5.46	11.77	6.31	0.43	0.68	0.25	146.03	146.03	0.00	6.56
NHPC Stations	0.00	0.00	0.00	61.70	0.00	-61.70	32.96	29.76	-3.21	-64.91
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	11.05	7.72	-3.33	-3.33
AD HYDRO	71.30	0.00	-71.30	35.05	0.00	-35.05	6.92	10.94	4.02	-102.33
KARCHAM WANGTOO	531.06	0.00	-531.06	161.88	0.00	-161.88	15.80	47.66	31.86	-661.08
SHREE CEMENT	45.89	0.00	-45.89	26.67	0.00	-26.67	10.05	4.03	-6.02	-78.57
JINDAL POWER	494.20	0.00	-494.20	83.64	0.00	-83.64	25.77	18.84	-6.93	-584.78
LANKO_AMK	18.00	0.00	-18.00	87.14	0.00	-87.14	49.77	1.14	-48.63	-153.78
NSPCL	55.30	0.00	-55.30	0.00	0.00	0.00	3.09	0.74	-2.35	-57.65
ACBIL	56.55	0.00	-56.55	4.44	0.00	-4.44	5.04	7.24	2.20	-58.79
BALCO	0.00	0.00	0.00	2.69	0.00	-2.63	18.00	2.98	-15.02	-17.65
RGPPL(Dabhol)	0.00	0.00	0.00	0.00	0.00	0.00	4.69	20.49	15.80	15.80
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	4.14	1.73	-2.41	-2.41
DCPP	14.30	0.00	-14.30	21.24	0.00	-21.24	13.18	8.53	-4.65	-40.19
LANKO_KONDAPALLY	80.28	0.00	-80.32	0.00	0.00	0.00	0.39	6.49	6.10	-74.22
SIMHAPURI	61.09	0.17	-60.92	2.84	0.02	-2.84	0.75	8.97	8.22	-55.55
Meenakshi	0.00	0.90	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.92
STERLITE	417.05	0.00	-417.05	30.00	0.00	-30.00	14.94	28.91	13.96	-433.09
MAITHON POWER LTD	0.00	0.00	0.00	0.00	0.00	0.00	53.99	5.47	-48.52	-48.52
NEEPCO Stations	0.00	0.00	0.00	0.97	0.00	-0.97	5.27	4.19	-1.08	-2.05

Source: NLDC

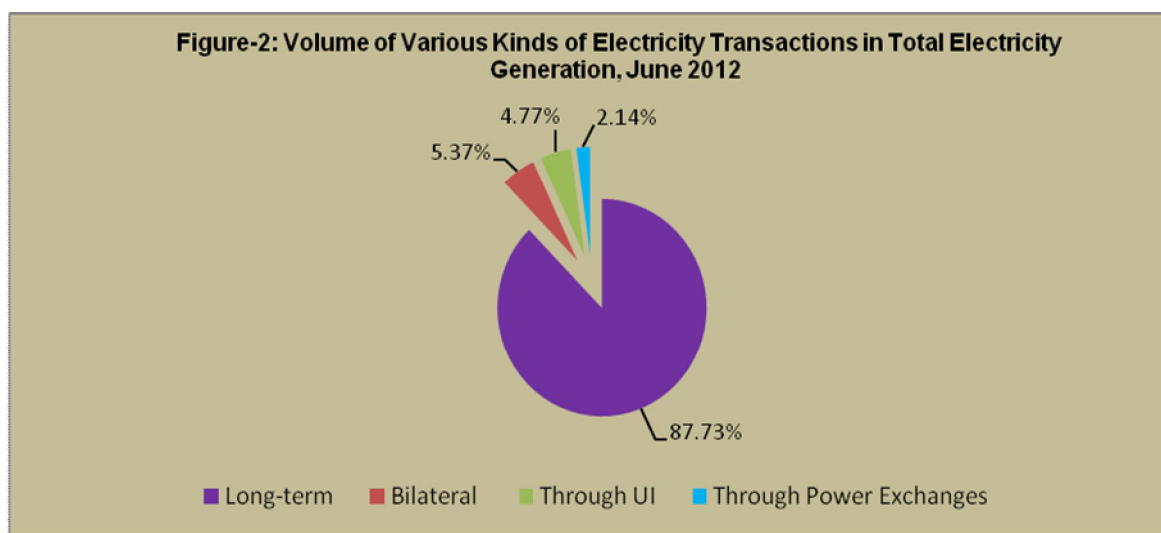
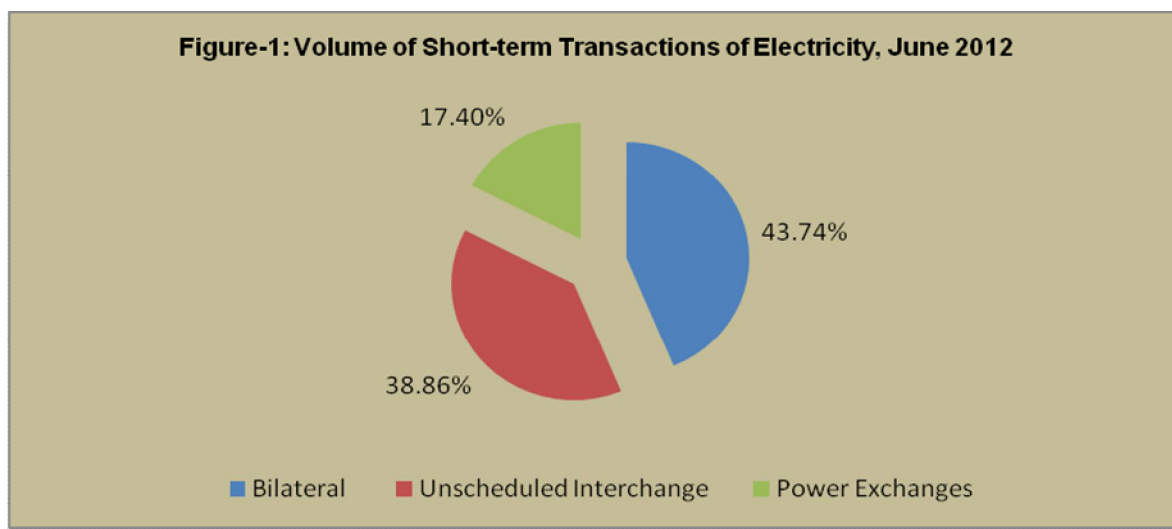
* in case of a state, the entities which are "selling" also include generators connected to state grid and the entities which are "buying" also include open access consumers.

** (-) indicates sale and (+) indicates purchase,

*** Total net includes net of transactions through bilateral, power exchange and UI

Table-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA), JUNE 2012				
Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	4095.05	43.74%	5.37%
	(i) Through Traders and PXs	2946.62	31.47%	3.86%
	(ii) Direct	1148.43	12.27%	1.51%
2	Through Power Exchanges	1629.37	17.40%	2.14%
	IEX	1535.34	16.40%	2.01%
	PXIL	94.03	1.00%	0.12%
3	Through UI	3638.02	38.86%	4.77%
	Total	9362.44	100.00%	12.27%
	Total Generation	76305.68	—	—

Source: NLDC



**Figure-3: Volume of Short-term Transactions of Electricity, June 2012
(Day-wise)**

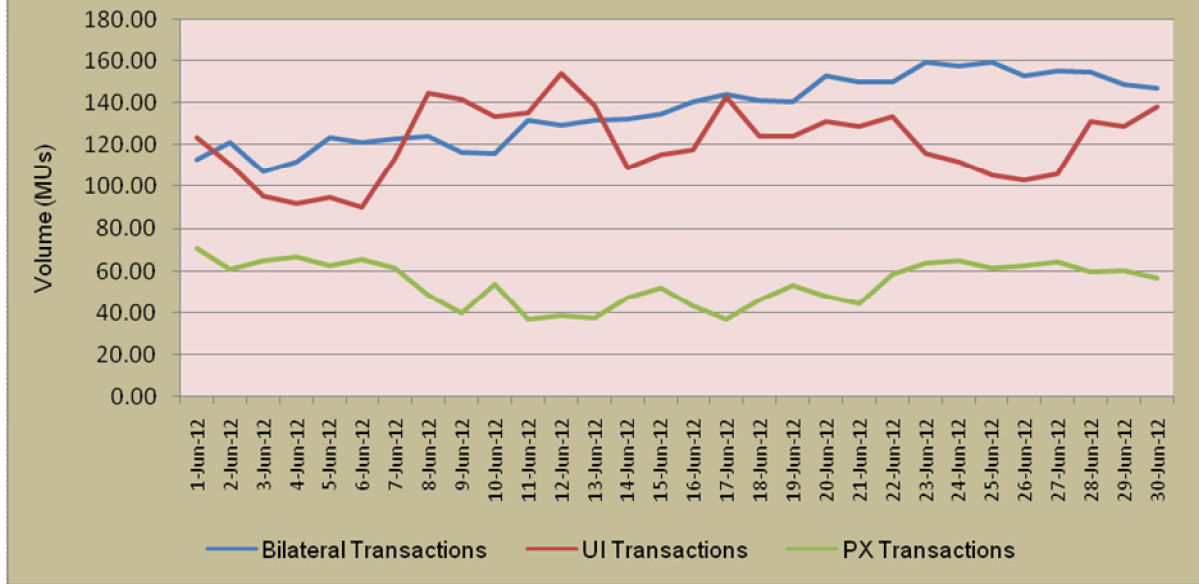


Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, JUNE 2012			
Sr.No	Name of the Trading Licensee	% Share in total Volume transacted by Trading Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd	34.69%	0.1203
2	NTPC Vidyut Vyapar Nigam Ltd	13.87%	0.0192
3	Tata Power Trading Company (P) Ltd	12.15%	0.0148
4	National Energy Trading & Services Ltd	11.41%	0.0130
5	Knowledge Infrastructure Systems (P) Ltd	5.75%	0.0033
6	JSW Power Trading Company Ltd	5.50%	0.0030
7	Adani Enterprises Ltd	5.00%	0.0025
8	Reliance Energy Trading (P) Ltd	4.68%	0.0022
9	Jaiprakash Associate Ltd.	1.95%	0.0004
10	Global Energy (P) Ltd.	1.29%	0.0002
11	GMR Energy Trading Ltd	1.20%	0.0001
12	Shree Cement Ltd.	1.17%	0.0001
13	Essar Electric Power Development Corp. Ltd.	0.60%	0.0000
14	Instinct Infra & Power Ltd.	0.40%	0.0000
15	RPG Power Trading Company Ltd.	0.30%	0.0000
16	Jindal Power Trading Company Ltd.	0.03%	0.0000
17	Customized Energy Solutions India Pvt. Ltd.	0.01%	0.0000
	TOTAL	100.00%	0.1793
	Top 5 trading licensees	77.87%	
<i>Note: Volume of electricity transacted by the trading licensees includes bilateral transactions (inter-state) and the transactions undertaken through power exchanges.</i>			
<i>Source: Information submitted by trading licensees</i>			

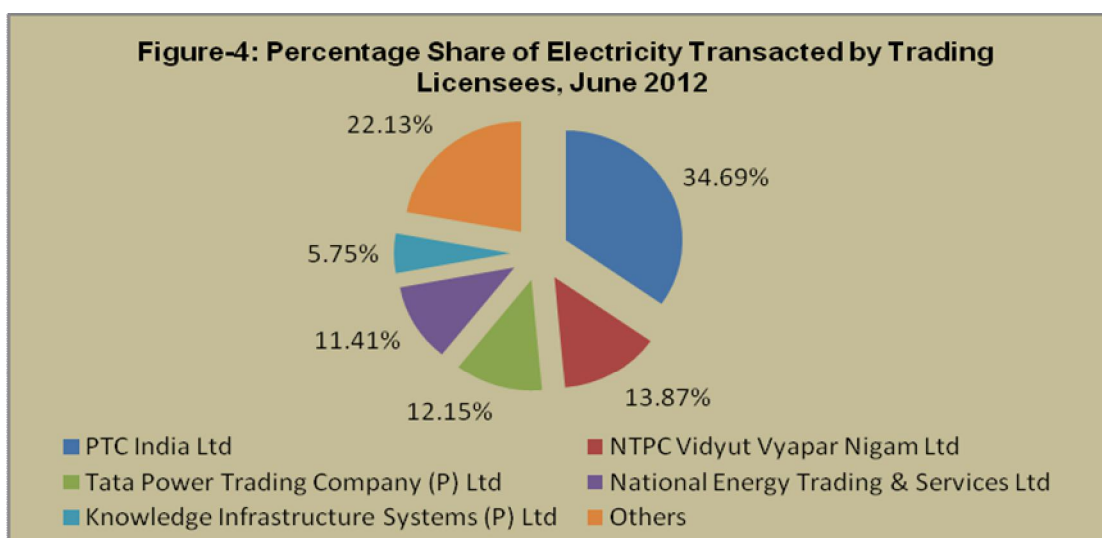


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, JUNE 2012		
Sr.No		Sale Price of Traders (₹/kWh)
1	Minimum	2.90
2	Maximum	6.15
3	Weighted Average	4.11

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), JUNE 2012		
Sr.No	Period of Trade	Sale Price of Traders (₹/kWh)
1	RTC	4.11
2	PEAK	4.91
3	OFF PEAK	4.17

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, JUNE 2012			
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)
1	Minimum	1.30	1.20
2	Maximum	19.50	20.00
3	Weighted Average	4.11	4.10

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, JUNE 2012			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	8.29	4.70
2	Day-ahead Contingency Contracts	11.86	5.01
3	Daily Contracts	0.50	4.50
4	Weekly Contracts	32.62	2.29
	Total	53.28	3.29

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, JUNE 2012			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Day-Ahead Contingency Contracts	2.17	3.82
	Total	2.17	3.82

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH UI, JUNE 2012			
Sr.No		Price in NEW Grid (₹/kWh)	Price in SR Grid (₹/kWh)
1	Minimum	0.00	0.00
2	Maximum	17.46	17.46
3	Average	5.55	5.29

Source: NLDC

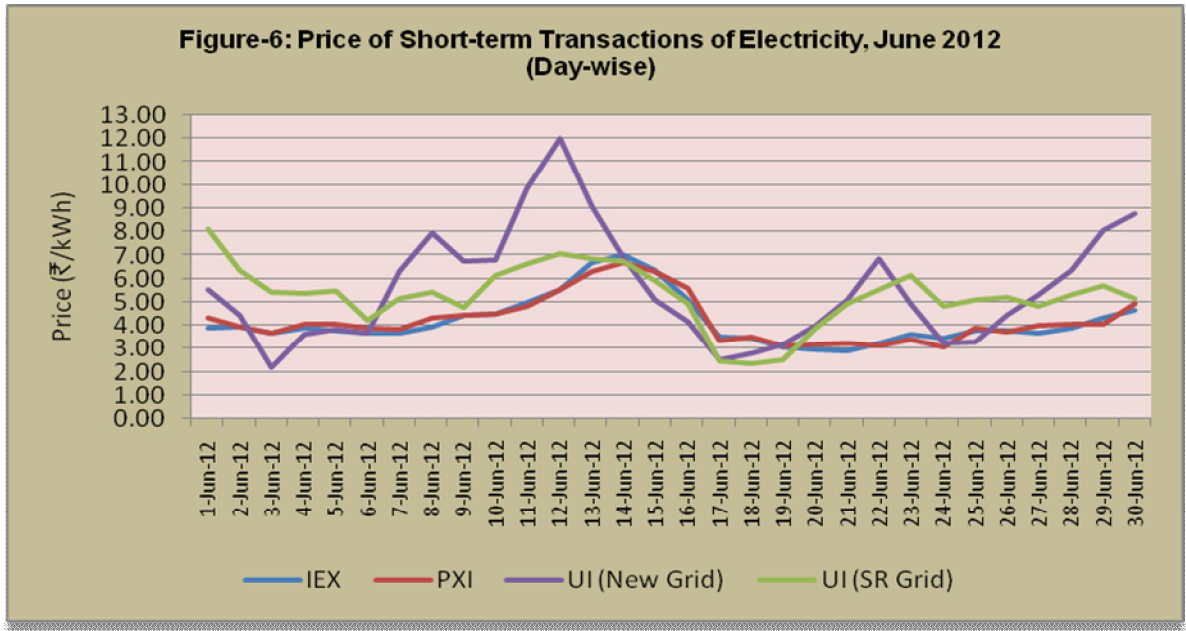
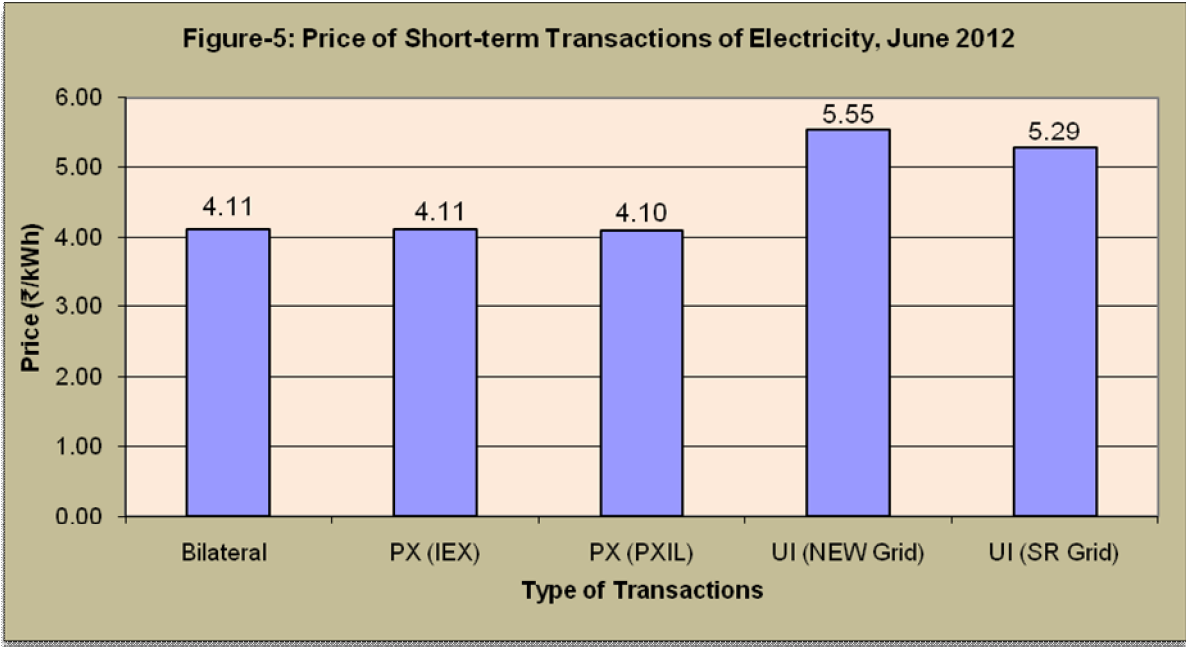


Table-9: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL, JUNE 2012		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
KARCHAM WANGTOO	531.06	13.14%
Gujarat	505.99	12.52%
JINDAL POWER	494.20	12.23%
STERLITE	417.05	10.32%
J & K	414.73	10.26%
Karnataka	223.45	5.53%
MP	219.00	5.42%
Himachal Pradesh	201.16	4.98%
Rajasthan	156.86	3.88%
DVC	131.52	3.25%
Chattisgarh	126.66	3.13%
West Bengal	102.41	2.53%
LANKO_KONDAPALLY	80.28	1.99%
AD HYDRO	71.30	1.76%
SIMHAPURI	61.09	1.51%
ACBIL	56.55	1.40%
NSPCL	55.30	1.37%
SHREE CEMENT	45.89	1.14%
Sikkim	34.24	0.85%
Jharkhand	27.60	0.68%
Maharashtra	26.49	0.66%
LANKO_AMK	18.00	0.45%
DCPP	14.30	0.35%
Andhra Pradesh	10.95	0.27%
Uttarakhand	9.16	0.23%
Tripura	5.46	0.14%
Nagaland	1.24	0.03%
Delhi	0.60	0.01%
Total	4042.54	100.00%
Volume of sale by top 5 States	2363.03	58.45%

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL, JUNE 2012		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Punjab	999.82	24.79%
Delhi	459.18	11.39%
Andhra Pradesh	379.66	9.41%
Maharashtra	339.65	8.42%
West Bengal	331.61	8.22%
Haryana	328.18	8.14%
Bihar	238.43	5.91%
Gujarat	170.97	4.24%
Uttar Pradesh	111.63	2.77%
Jharkhand	106.19	2.63%
Tamilnadu	88.53	2.20%
Assam	85.40	2.12%
Kerala	83.49	2.07%
Daman and Diu	62.64	1.55%
MP	50.69	1.26%
Dadra & Nagar Haveli	40.90	1.01%
UT Chandigarh	34.82	0.86%
Uttarakhand	33.82	0.84%
Orissa	29.38	0.73%
Rajasthan	26.22	0.65%
Tripura	11.77	0.29%
DVC	9.19	0.23%
Sikkim	4.23	0.10%
Karnataka	3.94	0.10%
J & K	1.70	0.04%
Meenakshi	0.90	0.02%
SIMHAPURI	0.17	0.00%
Total	4033.10	100.00%
Volume of sale by top 5 States	2509.93	62.23%

Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, JUNE 2012		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Himachal Pradesh	336.51	20.65%
Gujarat	227.50	13.96%
KARCHAM WANGTOO	161.88	9.93%
Chattisgarh	115.68	7.10%
Delhi	102.01	6.26%
Karnataka	90.40	5.55%
LANKO_AMK	87.14	5.35%
JINDAL POWER	83.64	5.13%
NHPC Stations	61.70	3.79%
Maharashtra	45.04	2.76%
MP	37.26	2.29%
Rajasthan	37.20	2.28%
AD HYDRO	35.05	2.15%
Andhra Pradesh	31.14	1.91%
STERLITE	30.00	1.84%
SHREE CEMENT	26.67	1.64%
Sikkim	23.39	1.44%
DCPP	21.24	1.30%
West Bengal	15.28	0.94%
Assam	14.65	0.90%
J & K	8.59	0.53%
DVC	7.69	0.47%
Meghalaya	5.37	0.33%
Uttarakhand	5.11	0.31%
ACBIL	4.44	0.27%
Mizoram	4.03	0.25%
UT Chandigarh	3.75	0.23%
SIMHAPURI	2.84	0.17%
BALCO	2.69	0.17%
NEEPCO Stations	0.97	0.06%
Tripura	0.43	0.03%
Orissa	0.05	0.00%
Goa	0.02	0.00%
Total	1629.36	100.00%
Volume of sale by top 5 States	943.57	57.91%

Table-12: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGES, JUNE 2012

Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Gujarat	337.17	20.69%
Punjab	241.06	14.79%
Rajasthan	173.65	10.66%
Uttar Pradesh	166.24	10.20%
Andhra Pradesh	147.77	9.07%
Tamilnadu	131.95	8.10%
Kerala	113.15	6.94%
Haryana	69.76	4.28%
Maharashtra	65.82	4.04%
West Bengal	52.80	3.24%
Jharkhand	30.80	1.89%
Delhi	25.65	1.57%
Assam	12.44	0.76%
DVC	11.73	0.72%
Uttarakhand	11.51	0.71%
MP	11.42	0.70%
Karnataka	10.34	0.63%
Orissa	8.71	0.53%
Meghalaya	2.89	0.18%
Himachal Pradesh	2.09	0.13%
UT Chandigarh	1.71	0.10%
Tripura	0.68	0.04%
SIMHAPURI	0.02	0.00%
Total	1629.37	100.00%
Volume of purchase by top 5 States	1065.89	65.42%

Table-13: VOLUME OF ELECTRICITY EXPORT THROUGH UI, JUNE 2012		
Name of the State/UT/Other Regional Entity	Volume of Export (MUs)	% of Volume
Gujarat	421.99	13.41%
Delhi	196.78	6.25%
Manipur	178.30	5.66%
Assam	165.13	5.25%
Nagaland	152.54	4.85%
Tripura	146.03	4.64%
MP	145.24	4.61%
Maharashtra	141.14	4.48%
Meghalaya	137.99	4.38%
Arunachal Pradesh	133.04	4.23%
Bihar	128.31	4.08%
Mizoram	128.15	4.07%
Jharkhand	105.24	3.34%
West Bengal	89.19	2.83%
Tamilnadu	78.12	2.48%
DVC	65.33	2.08%
Chattisgarh	63.47	2.02%
Rajasthan	56.47	1.79%
MAITHON POWER LTD	53.99	1.72%
LANKO_AMK	49.77	1.58%
Orissa	44.83	1.42%
Haryana	39.01	1.24%
Punjab	38.90	1.24%
Andhra Pradesh	36.30	1.15%
Himachal Pradesh	35.69	1.13%
NHPC Stations	32.96	1.05%
J & K	32.89	1.04%
JINDAL POWER	25.77	0.82%
Karnataka	20.92	0.66%
Pondicherry	20.48	0.65%
Uttarakhand	18.71	0.59%
BALCO	18.00	0.57%
KARCHAM WANGTOO	15.80	0.50%
STERLITE	14.94	0.47%
Goa	13.49	0.43%
DCPP	13.18	0.42%
Uttar Pradesh	11.09	0.35%
NJPC	11.05	0.35%
UT Chandigarh	10.31	0.33%
SHREE CEMENT	10.05	0.32%
Daman and Diu	9.63	0.31%
AD HYDRO	6.92	0.22%
NEEPCO Stations	5.27	0.17%
ACBIL	5.04	0.16%
RGPPPL(Dabhol)	4.69	0.15%
CGPL	4.14	0.13%
Sikkim	3.12	0.10%
NSPCL	3.09	0.10%
Dadra & Nagar Haveli	2.95	0.09%
Kerala	0.82	0.03%
SIMHAPURI	0.75	0.02%
LANKO_KONDAPALLY	0.39	0.01%
Total	3147.40	100.00%
Volume of Export by top 5 States	1114.73	35.42%

Table-14: VOLUME OF ELECTRICITY IMPORT THROUGH UI, JUNE 2012		
Name of the State/UT/Other Regional Entity	Volume of Import (MUs)	% of Volume
Uttar Pradesh	771.10	21.38%
Haryana	327.09	9.07%
Punjab	289.06	8.02%
Rajasthan	197.85	5.49%
Manipur	178.30	4.94%
Assam	165.13	4.58%
Nagaland	152.54	4.23%
Tripura	146.03	4.05%
Meghalaya	137.99	3.83%
Arunachal Pradesh	133.04	3.69%
Mizoram	128.15	3.55%
Kerala	87.42	2.42%
West Bengal	84.15	2.33%
Maharashtra	83.16	2.31%
Uttarakhand	55.23	1.53%
Andhra Pradesh	51.51	1.43%
DVC	50.85	1.41%
J & K	50.34	1.40%
KARCHAM WANGTOO	47.66	1.32%
Orissa	46.26	1.28%
Karnataka	44.75	1.24%
Chattisgarh	37.36	1.04%
Himachal Pradesh	34.46	0.96%
NHPC Stations	29.76	0.83%
STERLITE	28.91	0.80%
MP	28.87	0.80%
Tamilnadu	23.31	0.65%
Dadra & Nagar Haveli	22.30	0.62%
RGPPPL(Dabhol)	20.49	0.57%
JINDAL POWER	18.84	0.52%
Gujarat	18.05	0.50%
Goa	16.86	0.47%
AD HYDRO	10.94	0.30%
SIMHAPURI	8.97	0.25%
Delhi	8.72	0.24%
DCPP	8.53	0.24%
NJPC	7.72	0.21%
ACBIL	7.24	0.20%
LANKO_KONDAPALLY	6.49	0.18%
MAITHON POWER LTD	5.47	0.15%
UT Chandigarh	4.87	0.14%
Jharkhand	4.54	0.13%
Sikkim	4.54	0.13%
NEEPCO Stations	4.19	0.12%
SHREE CEMENT	4.03	0.11%
Daman and Diu	3.18	0.09%
BALCO	2.98	0.08%
Bihar	2.46	0.07%
CGPL	1.73	0.05%
LANKO_AMK	1.14	0.03%
NSPCL	0.74	0.02%
Pondicherry	0.71	0.02%
Total	3605.98	100.00%
Volume of Export by top 5 States	1763.39	48.90%

Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), JUNE 2012		
Sr.No	Name of the State/UT/Other Regional Entity	Total volume of net short-term transactions of electricity*
1	Punjab	1491.04
2	Uttar Pradesh	1037.88
3	Haryana	686.02
4	Andhra Pradesh	500.56
5	Kerala	283.23
6	Maharashtra	275.97
7	West Bengal	261.68
8	Delhi	194.17
9	Tamilnadu	165.67
10	Rajasthan	147.20
11	Bihar	112.58
12	Assam	83.19
13	Uttarakhand	67.58
14	Dadra & Nagar Haveli	60.24
15	Daman and Diu	56.18
16	Orissa	39.46
17	UT Chandigarh	27.33
18	RGPPPL(Dabhol)	15.80
19	Jharkhand	8.68
20	Tripura	6.56
21	Goa	3.35
22	Meenakshi	0.92
23	Nagaland	-1.24
24	NEEPCO Stations	-2.05
25	CGPL	-2.41
26	Meghalaya	-2.48
27	NJPC	-3.33
28	Mizoram	-4.03
29	BALCO	-17.65
30	Pondicherry	-19.77
31	DCPP	-40.19
32	MAITHON POWER LTD	-48.52
33	Sikkim	-51.99
34	SIMHAPURI	-55.55
35	NSPCL	-57.65
36	ACBIL	-58.79
37	NHPC Stations	-64.91
38	LANKO_KONDAPALLY	-74.22
39	SHREE CEMENT	-78.57
40	AD HYDRO	-102.33
41	DVC	-132.76
42	LANKO_AMK	-153.78
43	Chattisgarh	-268.45
44	Karnataka	-275.74
45	MP	-310.52
46	J & K	-404.17
47	STERLITE	-433.09
48	Himachal Pradesh	-536.81
49	JINDAL POWER	-584.78
50	Gujarat	-629.28
51	KARCHAM WANGTOO	-661.08

* 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, JUNE 2012			
	Details of Congestion	IEX	PXIL
A	Unconstrained Cleared Volume* (MUs)	1609.69	124.14
B	Actual Cleared Volume and hence scheduled (MUs)	1535.34	94.03
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	74.35	30.11
D	Volume of electricity that could not be cleared as % to Actual Cleared Volume	4.84%	32.02%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	76.67%	80.42%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	24.74%	24.92%
	6.00 - 12.00 hours	27.64%	26.91%
	12.00 - 18.00 hours	25.92%	26.52%
	18.00 - 24.00 hours	21.70%	21.64%
<i>* This power would have been scheduled had there been no congestion.</i>			
<i>Source: IEX & PXIL</i>			