



Monthly Report on Short-term Transactions of Electricity in India

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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 Ltd. 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 May 2012 is as under:

I: Volume of Short-term Transactions of Electricity

During the month of May 2012, total electricity generation excluding generation from renewable and captive power plants in India was 78786.00 MUs (Table-1).

Of the total electricity generation, 7699.53 MUs (9.77%) were transacted through short-term, comprising of 3484.82MUs (4.42%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2736.64 MUs (3.47%) through UI and 1478.07 MUs (1.88%) through day ahead collective transactions on Power Exchanges (IEX and PXIL) (Table-1 & Chart-2).

Of the total short-term transactions, Bilateral constitute 45.26% (31.39% through traders and term-ahead contracts on Power Exchanges and 13.87% directly between distribution companies) followed by 35.54% through UI and 19.20% through day ahead collective transactions on Power Exchanges (Table-1& Chart-1). Daily volume of short-term transactions is shown in Chart-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 & Chart-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 41 trading licensees as on 31.05.2012, of which only 16 have engaged in trading during May

2012. Top 5 trading licenses had a share of 84.93% 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 0.1950 for the month of May 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 1388.39 MUs and 89.69 MUs respectively. The volume of total Buy bids and Sale bids was 2538.35 MUs and 2030.27 MUs respectively in IEX and 297.78 MUs and 252.86 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 (1.25 times) and in PXIL (1.18 times) when compared with the supply offered through these exchanges.

The volume of electricity transacted in term-ahead market through weekly contracts of power exchanges was 23.98 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 ₹4.30/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 ₹4.26/kWh, ₹6.13/kWh and ₹4.79/kWh respectively. Minimum and Maximum sale prices were ₹2.75/kWh and ₹7.07/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 ₹1.80/kWh, ₹19.95/kWh and ₹3.60/kWh respectively in IEX and ₹1.30/kWh, ₹20.00/kWh and ₹3.89/kWh respectively in PXIL (Table-5).

The weighted average prices of electricity transacted in term-ahead market through the weekly contracts was ₹5.09/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 ₹4.26/kWh in the NEW Grid and ₹4.92/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 Chart-5 & 6.

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

Of the total bilateral transactions, top 5 regional entities sold 56.64% of the volume, and these were Gujarat, Jindal Power Ltd., Sterlite Energy Ltd, Rajasthan and J&K. Top 5 regional entities purchased 53.79% of the volume, and these were Maharashtra, Delhi, West Bengal, Punjab and Bihar (Table-9 & 10).

Of the total Power Exchange transactions, top 5 regional entities sold 55.89% of the volume, and these were Himachal Pradesh, Delhi, Gujarat, Chattisgarh and Madhya Pradesh. Top 5 regional entities purchased 77.38% of the volume, and these were Rajasthan, Gujarat, Punjab, Uttar Pradesh and Tamil Nadu (Table-11 & 12).

Of the total UI transactions, top 5 regional entities underdrew 52.19% of the volume, and these were Gujarat, Delhi, Madhya Pradesh, Maharashtra and West Bengal. Top 5 regional entities overdrew 65.92% of the volume, and these were Uttar Pradesh, Rajasthan, Haryana, Punjab and Kerala (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 Sterlite Energy Ltd., Gujarat, Jindal Power Ltd. Karcham Wangtoo Hydro Corporation Ltd. and Himachal Pradesh. Top 5 electricity purchasing regional entities were Uttar Pradesh, Punjab, Haryana, Maharashtra and Rajasthan.

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 May 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 4.09% and 38.58% of the actual cleared volume in IEX and PXIL, respectively. In percentage of time terms, it was 99.97% in IEX and 100.00% 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 9.77%.
- Of the total short-term transactions of electricity, 45.26% was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 35.54% through UI and 19.20% through Power Exchanges.
- Top 5 trading licensees had a share of 84.93% in the total volume traded by all the trading licensees.
- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.1950, indicating moderate concentration of market power.
- The price of electricity transacted through trading licensees (₹4.30/kWh) was higher when compared with the price of electricity transacted through IEX (₹3.60/kWh) and PXIL (₹3.89/kWh) respectively.
- The price of electricity transacted through UI was ₹4.26/kWh in the NEW Grid and ₹4.92/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 (1:1.25) and in PXIL (1:1.18) when compared with the supply offered through these exchanges.
- Top 5 electricity selling regional entities were Sterlite Energy Ltd., Gujarat, Jindal Power Ltd. Karcham Wangtoo Hydro Corporation Ltd. and Himachal Pradesh. Top 5 electricity purchasing regional entities were Uttar Pradesh, Punjab, Haryana, Maharashtra and Rajasthan.
- The volume of electricity that could not be cleared in the power exchanges due to congestion was about 4.09% and 38.58% of the actual cleared volume in IEX and PXIL, respectively. In percentage of time terms, it was 99.97% in IEX and 100.00% in PXIL, respectively.

Format-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (MUs), MAY 2012						Total Electricity Generation (MUs) 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-May-12	77.57	28.13	42.01	1.98	89.83	2366.11
2-May-12	77.11	28.37	48.52	2.11	91.26	2441.20
3-May-12	73.90	32.22	45.86	2.57	105.94	2464.20
4-May-12	72.13	34.00	39.16	2.92	113.38	2428.94
5-May-12	71.05	30.80	55.54	5.94	80.86	2442.14
6-May-12	68.06	26.54	51.61	4.25	90.71	2429.55
7-May-12	70.07	28.04	44.19	3.84	92.53	2522.30
8-May-12	69.17	32.18	44.74	4.23	89.99	2553.40
9-May-12	71.67	29.32	42.72	4.32	84.47	2574.60
10-May-12	68.25	29.30	43.44	2.97	93.34	2531.22
11-May-12	74.19	37.43	42.07	2.02	80.08	2520.47
12-May-12	74.66	33.49	45.29	2.44	96.22	2452.42
13-May-12	70.73	38.82	49.13	3.92	88.84	2393.45
14-May-12	81.24	41.20	41.88	2.45	82.63	2510.39
15-May-12	77.03	37.23	41.90	2.33	87.88	2514.02
16-May-12	75.87	32.20	41.10	2.32	92.45	2525.20
17-May-12	76.36	35.21	37.27	2.38	88.85	2569.27
18-May-12	75.31	34.50	43.71	2.53	82.44	2612.70
19-May-12	72.04	35.57	50.01	2.35	92.51	2570.28
20-May-12	73.82	36.71	49.92	2.82	85.53	2517.17
21-May-12	84.90	37.67	42.11	1.77	79.64	2581.50
22-May-12	83.65	37.67	42.18	2.69	71.52	2643.86
23-May-12	84.32	37.67	39.32	1.39	78.19	2620.35
24-May-12	85.91	38.01	34.96	1.77	86.29	2601.84
25-May-12	84.28	36.98	36.56	2.62	89.48	2631.70
26-May-12	75.25	36.38	54.48	4.02	99.50	2631.15
27-May-12	78.98	38.61	45.12	3.48	88.23	2575.90
28-May-12	89.68	36.98	46.83	2.63	82.26	2645.82
29-May-12	90.82	35.78	51.55	3.06	77.91	2659.63
30-May-12	92.34	35.90	50.15	2.91	85.84	2645.88
31-May-12	96.21	35.34	45.07	2.66	88.06	2609.34
Total	2416.57	1068.25	1388.39	89.69	2736.64	78786.00
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), MAY 2012

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Draw/Over Draw 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-May-12	2.28	12.00	3.05	2.45	14.00	3.38	0.00	12.22	2.49	0.00	8.26	2.72	
2-May-12	2.28	19.75	3.06	1.30	20.00	3.49	1.55	12.22	4.20	0.93	8.26	4.01	
3-May-12	2.20	19.50	3.15	2.47	16.00	3.97	1.55	12.22	5.10	1.40	7.79	4.02	
4-May-12	2.35	19.50	3.34	2.60	17.56	3.77	0.00	12.22	2.72	0.00	12.22	4.52	
5-May-12	2.34	19.95	3.21	1.80	19.00	3.21	0.31	7.79	2.77	0.47	8.26	3.99	
6-May-12	2.31	14.00	3.20	2.47	20.00	3.37	0.00	12.22	3.09	0.62	12.22	4.70	
7-May-12	2.00	16.00	3.28	2.70	20.00	3.68	0.62	12.22	4.01	1.55	12.22	5.25	
8-May-12	2.19	8.51	3.18	2.65	18.86	3.59	0.78	8.26	3.13	1.40	12.22	5.36	
9-May-12	2.19	16.10	3.17	2.51	14.86	3.37	1.09	12.22	3.73	0.78	8.26	4.64	
10-May-12	2.20	16.00	3.37	2.50	19.00	3.63	0.16	12.22	3.81	1.09	12.22	4.29	
11-May-12	2.24	12.00	3.36	2.40	20.00	4.01	1.09	12.22	3.58	1.55	12.22	5.04	
12-May-12	2.18	12.00	3.34	2.40	19.11	3.85	0.00	6.38	2.51	0.47	12.22	4.01	
13-May-12	1.80	15.00	3.22	2.30	19.56	3.91	0.00	5.91	2.46	0.16	8.26	3.71	
14-May-12	2.17	18.00	3.39	2.15	18.00	4.08	1.24	17.46	4.83	0.47	7.79	3.57	
15-May-12	2.08	19.00	3.33	2.25	18.00	3.90	2.17	12.22	5.94	0.78	7.79	3.81	
16-May-12	2.49	15.00	3.46	2.50	13.50	3.83	0.93	17.46	5.30	0.16	12.22	4.36	
17-May-12	2.56	18.00	3.71	2.55	18.11	4.19	0.00	12.22	3.88	0.47	12.22	4.21	
18-May-12	2.54	18.00	3.72	2.60	18.11	4.01	0.62	17.46	5.02	1.71	12.22	5.56	
19-May-12	2.39	18.00	3.69	2.65	16.00	4.20	1.24	12.22	5.23	2.17	17.46	6.01	
20-May-12	2.45	15.00	3.61	2.80	19.00	4.25	0.00	12.22	3.21	1.40	12.22	5.48	
21-May-12	2.61	12.00	4.05	3.20	20.00	5.17	0.16	12.22	3.83	2.17	12.22	5.21	
22-May-12	2.54	12.00	4.03	2.60	20.00	4.05	0.62	17.46	5.53	1.86	12.22	5.43	
23-May-12	2.50	10.50	4.13	2.81	16.00	4.94	2.02	17.46	7.82	2.02	12.22	6.24	
24-May-12	3.01	10.01	4.48	3.00	20.00	4.98	0.93	17.46	5.65	0.93	12.22	4.76	
25-May-12	3.23	12.00	4.65	3.20	20.00	4.74	0.00	12.22	4.44	2.33	12.22	5.68	
26-May-12	3.07	12.00	4.23	3.25	18.11	4.34	0.62	17.46	4.41	1.40	12.22	6.16	
27-May-12	2.00	14.02	3.38	2.70	19.11	3.65	0.00	12.22	4.30	1.71	8.26	5.02	
28-May-12	3.10	13.00	4.34	3.10	19.11	4.39	0.31	12.22	3.91	2.33	12.22	5.96	
29-May-12	2.99	13.00	3.96	3.10	17.21	3.88	0.93	12.22	5.35	2.64	12.22	5.87	
30-May-12	2.20	14.00	3.80	3.05	18.11	3.74	0.16	17.46	4.84	2.17	12.22	5.88	
31-May-12	2.29	11.00	4.09	2.80	18.11	3.77	0.31	17.46	5.10	2.95	12.22	6.99	
	1.80#	19.95#	3.60	1.30#	20.00#	3.89	0.00#	17.46#	4.26	0.00#	17.46#	4.92	

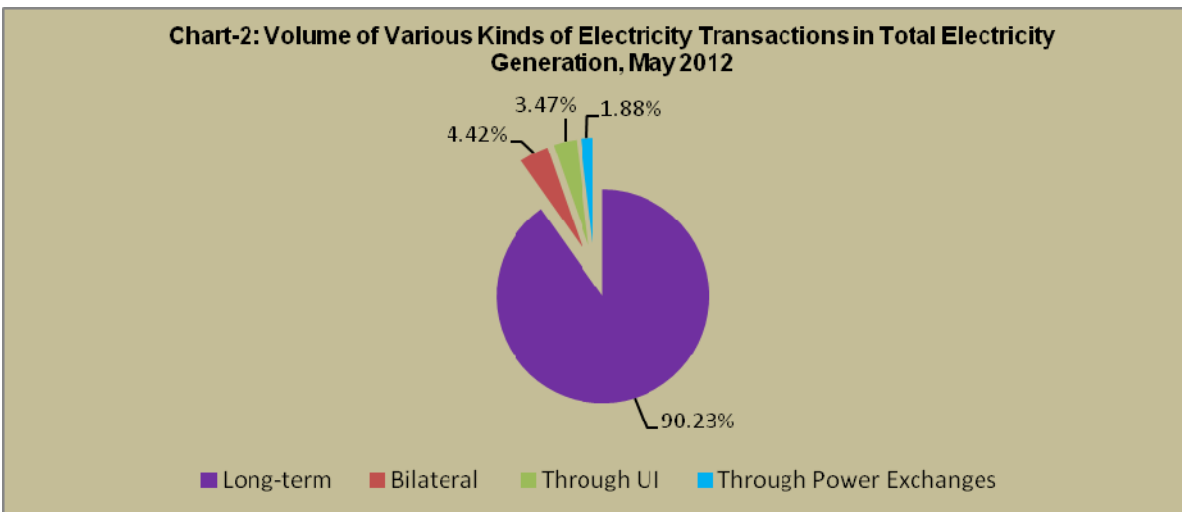
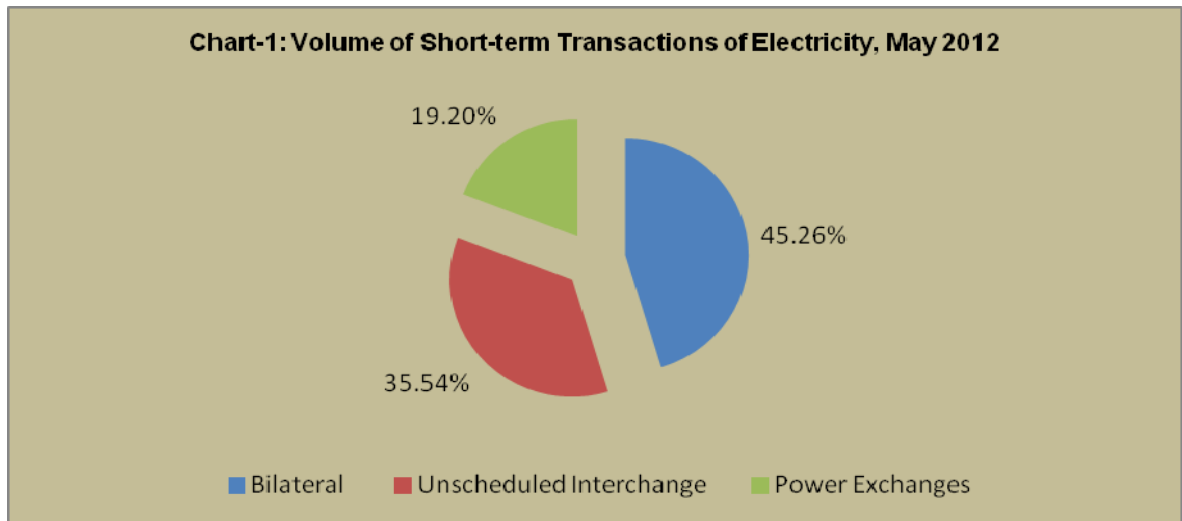
Source: Data on price of PX transactions from IEX and PXIL and data on UI Price from NLDC.
* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the 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), MAY 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 Drawl)	Import (Over Drawl)	Net**	
Punjab	0.00	356.37	356.37	0.00	232.68	232.68	43.40	159.15	115.76	704.82
Haryana	13.28	147.83	134.55	0.00	77.87	77.87	39.54	293.26	253.71	466.13
Rajasthan	333.31	39.33	-293.98	31.58	333.77	302.19	41.32	351.93	310.62	318.84
Delhi	0.78	369.29	368.51	209.04	3.13	-205.91	335.85	3.56	-332.28	-169.69
Uttar Pradesh	2.12	113.33	111.21	0.00	130.99	130.99	7.39	870.31	862.91	1105.11
Uttarakhand	15.29	37.18	21.89	0.00	17.92	17.92	9.26	88.84	79.59	119.39
Himachal Pradesh	56.10	0.00	-56.10	233.18	1.68	-231.50	52.66	28.45	-24.21	-311.81
J & K	300.93	0.00	-300.93	7.13	0.00	-7.13	38.86	44.25	5.39	-302.68
UT Chandigarh	0.00	13.45	13.45	1.36	5.26	3.90	3.88	11.40	7.52	24.88
MP	88.75	125.33	36.59	108.73	7.74	-101.00	185.92	29.56	-156.36	-220.77
Maharashtra	6.99	526.84	519.85	29.29	87.28	57.99	161.24	36.57	-124.67	453.17
Gujarat	476.67	204.65	-272.02	160.94	328.47	167.53	372.52	10.48	-362.04	-466.53
Chattisgarh	150.90	164.59	13.69	114.13	0.00	-114.13	95.08	19.12	-75.95	-176.40
Daman and Diu	0.00	14.51	14.51	0.00	0.00	0.00	5.87	5.41	-0.46	14.05
Dadra & Nagar Haveli	0.00	94.12	94.12	0.00	0.00	0.00	20.63	0.57	-20.05	74.06
Andhra Pradesh	7.13	109.38	102.26	47.45	28.81	-18.65	32.24	64.01	31.77	115.38
Karnataka	1.79	74.95	73.16	0.00	0.82	0.82	41.23	20.19	-21.04	52.93
Kerala	0.00	73.94	73.94	0.81	30.47	29.66	0.14	122.70	122.57	226.16
Tamilnadu	0.00	77.52	77.52	0.26	117.79	117.53	44.65	47.53	2.87	197.92
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	42.91	0.03	-42.89	-42.89
Goa	0.00	35.28	35.28	0.00	0.00	0.00	13.84	14.71	0.88	36.15
West Bengal	194.00	361.36	167.36	52.62	25.90	-26.73	149.29	69.50	-79.79	60.84
Orissa	0.00	92.64	92.64	0.00	12.14	12.14	35.79	43.79	7.99	112.77
Bihar	0.00	254.82	254.82	0.00	0.00	0.00	79.84	2.31	-77.53	177.29
Jharkhand	0.00	77.63	77.63	0.00	14.41	14.41	38.50	17.61	-20.89	71.15
Sikkim	25.32	1.83	-23.49	7.24	0.00	-7.24	6.43	4.61	-1.82	-32.55
DVC	174.43	0.00	-174.43	11.15	0.00	-11.15	54.43	94.45	40.02	-145.56
Arunachal Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	1.13	10.17	9.04	9.04
Assam	0.00	89.14	89.14	1.98	18.34	16.36	19.62	19.90	0.28	105.78
Manipur	0.00	0.00	0.00	0.00	0.00	0.00	5.16	3.12	-2.04	-2.04
Meghalaya	0.00	0.00	0.00	3.02	2.62	-0.40	8.91	3.07	-5.84	-6.24
Mizoram	0.00	0.00	0.00	0.00	0.00	0.00	1.24	2.72	1.48	1.48
Nagaland	0.00	0.00	0.00	0.00	0.00	0.00	0.40	7.15	6.74	6.74
Tripura	0.00	17.63	17.63	0.28	0.00	-0.28	8.84	4.22	-4.62	12.73
NHPC Stations	0.00	0.00	0.00	0.00	0.00	0.00	49.28	41.14	-8.14	-8.14
NJPC	0.00	0.00	0.00	31.70	0.00	-31.70	27.04	15.32	-11.72	-43.42
AD HYDRO	31.89	0.00	-31.89	27.68	0.00	-27.68	7.66	2.23	-5.43	-65.00
KARCHAM WANGTOO	298.55	0.00	-298.55	95.48	0.00	-95.48	15.02	38.81	23.79	-370.24
SHREE CEMENT	66.49	0.00	-66.49	1.71	0.00	-1.71	10.35	2.31	-8.04	-76.24
JINDAL POWER	454.95	0.00	-454.95	11.79	0.00	-11.79	5.74	77.06	71.32	-395.43
LANKO_AMK	114.20	0.00	-114.20	104.18	0.00	-104.18	72.04	1.44	-70.60	-288.99
NSPCL	56.54	0.00	-56.54	0.00	0.00	0.00	4.91	0.96	-3.95	-60.49
ACBIL	68.93	0.00	-68.93	7.97	0.00	-7.97	3.33	1.32	-2.00	-78.91
RGPPL(Dabhol)	0.00	0.00	0.00	0.00	0.00	0.00	7.14	0.89	-6.25	-6.25
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	3.86	2.28	-1.58	-1.58
DCPP	23.31	0.00	-23.31	29.95	0.00	-29.95	27.64	11.70	-15.94	-69.20
LANKO_KONDAPALLY	90.92	0.00	-87.85	0.00	0.00	0.00	6.55	4.18	-2.38	-90.23
SIMHAPURI	23.30	0.04	-23.26	57.23	0.00	-57.23	9.36	4.37	-4.99	-85.48
Meenakshi	0.00	1.01	1.01	0.00	0.00	0.00	0.00	0.00	0.00	1.01
STERLITE	407.93	0.00	-407.93	80.28	0.00	-80.28	47.30	8.52	-38.78	-526.99
MAITHON POWER LTD	0.00	0.00	0.00	9.03	0.00	-9.03	7.56	4.85	-2.70	-11.74
NEEPCO Stations	0.00	0.00	0.00	0.87	0.00	-0.87	5.63	4.58	-1.05	-1.92
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), MAY 2012				
Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	3484.82	45.26%	4.42%
	(i) Through Traders and PXs	2416.57	31.39%	3.07%
	(ii) Direct	1068.25	13.87%	1.36%
2	Through Power Exchanges	1478.07	19.20%	1.88%
	IEX	1388.39	18.03%	1.76%
	PXIL	89.69	1.16%	0.11%
3	Through UI	2736.64	35.54%	3.47%
	Total	7699.53	100.00%	9.77%
	Total Generation	78786.00	–	–

Source: NLDC



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

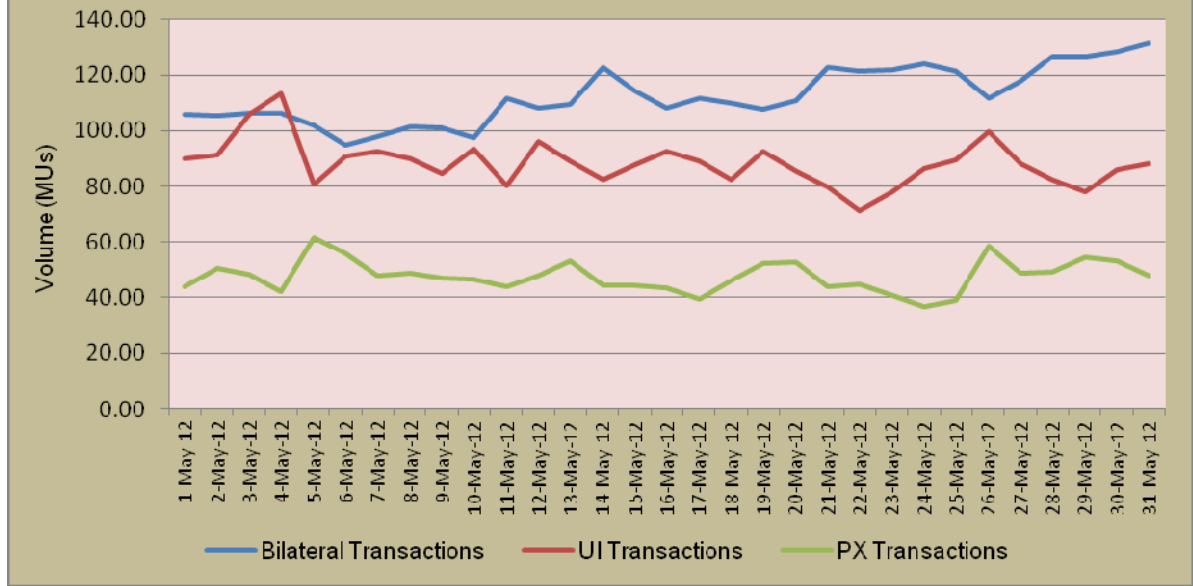


Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, MAY 2012

Sr.No	Name of the Trading Licensee	% Share in total Volume transacted by Trading Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd	34.86%	0.1215
2	NTPC Vidyut Vyapar Nigam Ltd	17.29%	0.0299
3	National Energy Trading & Services Ltd	14.00%	0.0196
4	Tata Power Trading Company (P) Ltd	11.99%	0.0144
5	Reliance Energy Trading (P) Ltd	6.80%	0.0046
6	Knowledge Infrastructure Systems (P) Ltd	5.19%	0.0027
7	Adani Enterprises Ltd	4.17%	0.0017
8	Jaiprakash Associate Ltd.	1.43%	0.0002
9	Essar Electric Power Development Corp. Ltd.	1.39%	0.0002
10	Instinct Infra & Power Ltd.	1.07%	0.0001
11	Global Energy (P) Ltd.	0.71%	0.0000
12	GMR Energy Trading Ltd	0.50%	0.0000
13	Shree Cement Ltd.	0.27%	0.0000
14	RPG Power Trading Company Ltd.	0.20%	0.0000
15	JSW Power Trading Company Ltd	0.14%	0.0000
16	Jindal Power Trading Company Ltd.	0.01%	0.0000
	TOTAL	100.00%	0.1950
	Top 5 trading licensees	84.93%	

Note: Volume of electricity transacted by the trading licensees includes bilateral transactions (inter-state) and the transactions undertaken through power exchanges.

Source: Information submitted by trading licensees

Chart-4: Percentage Share of Electricity Transacted by Trading Licensees, May 2012

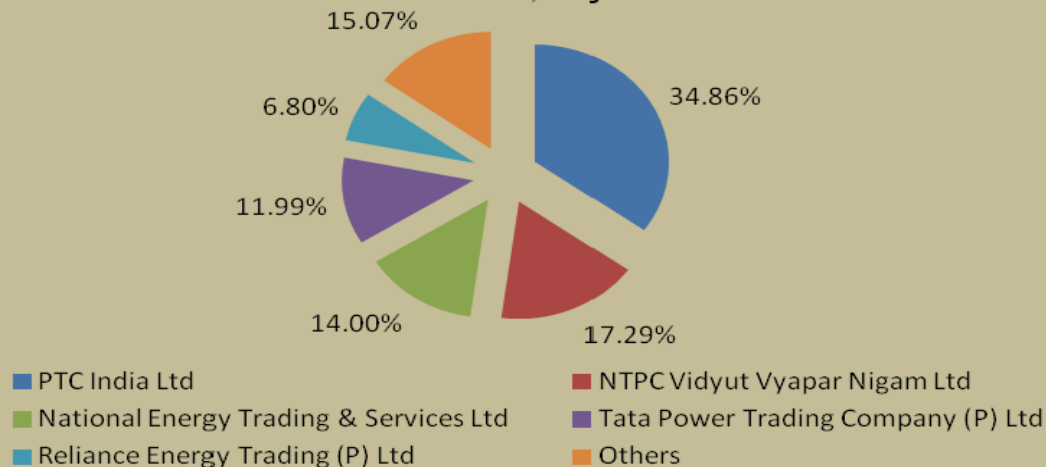


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, MAY 2012		
Sr.No		Sale Price of Traders (₹/kWh)
1	Minimum	2.75
2	Maximum	7.07
3	Weighted Average	4.30

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), MAY 2012		
Sr.No	Period of Trade	Sale Price of Traders (₹/kWh)
1	RTC	4.26
2	PEAK	6.13
3	OFF PEAK	4.79

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, MAY 2012			
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)
1	Minimum	1.80	1.30
2	Maximum	19.95	20.00
3	Weighted Average	3.60	3.89

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, MAY 2012			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	13.22	2.70
2	Day-ahead Contingency Contracts	20.59	4.00
3	Weekly Contracts	23.98	5.09
	Total	57.79	4.15

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, MAY 2012			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Day-Ahead Contingency Contracts	0.34	3.58
	Total	0.34	3.58

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH UI, MAY 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	4.26	4.92

Source: NLDC

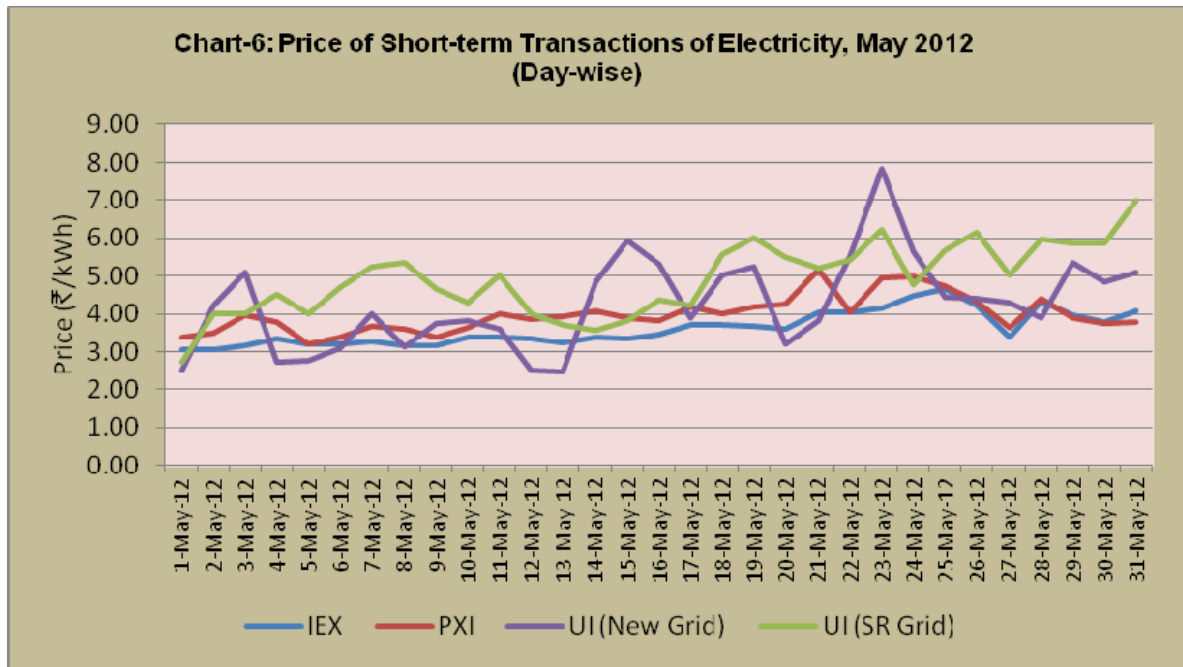
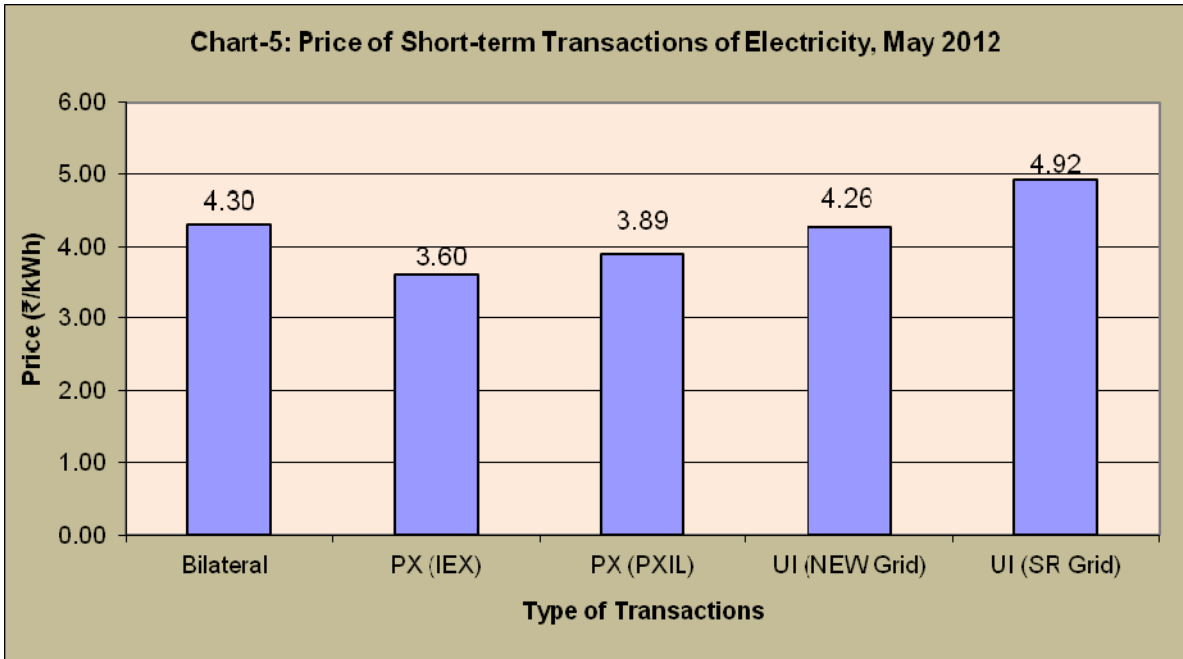


Table-9: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL, MAY 2012		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Gujarat	476.67	13.68%
JINDAL POWER	454.95	13.06%
STERLITE	407.93	11.71%
Rajasthan	333.31	9.56%
J & K	300.93	8.64%
KARCHAM WANGTOO	298.55	8.57%
West Bengal	194.00	5.57%
DVC	174.43	5.01%
Chattisgarh	150.90	4.33%
LANKO_AMK	114.20	3.28%
LANKO_KONDAPALLY	90.92	2.61%
MP	88.75	2.55%
ACBIL	68.93	1.98%
SHREE CEMENT	66.49	1.91%
NSPCL	56.54	1.62%
Himachal Pradesh	56.10	1.61%
AD HYDRO	31.89	0.92%
Sikkim	25.32	0.73%
DCPP	23.31	0.67%
SIMHAPURI	23.30	0.67%
Uttarakhand	15.29	0.44%
Haryana	13.28	0.38%
Andhra Pradesh	7.13	0.20%
Maharashtra	6.99	0.20%
Uttar Pradesh	2.12	0.06%
Karnataka	1.79	0.05%
Delhi	0.78	0.02%
Total	3484.82	100.00%
Volume of sale by top 5 States	1973.79	56.64%

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL, MAY 2012		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Maharashtra	526.84	15.17%
Delhi	369.29	10.63%
West Bengal	361.36	10.40%
Punjab	356.37	10.26%
Bihar	254.82	7.34%
Gujarat	204.65	5.89%
Chattisgarh	164.59	4.74%
Haryana	147.83	4.26%
MP	125.33	3.61%
Uttar Pradesh	113.33	3.26%
Andhra Pradesh	109.38	3.15%
Dadra & Nagar Haveli	94.12	2.71%
Orissa	92.64	2.67%
Assam	89.14	2.57%
Jharkhand	77.63	2.23%
Tamilnadu	77.52	2.23%
Karnataka	74.95	2.16%
Kerala	73.94	2.13%
Rajasthan	39.33	1.13%
Uttarakhand	37.18	1.07%
Goa	35.28	1.02%
Tripura	17.63	0.51%
Daman and Diu	14.51	0.42%
UT Chandigarh	13.45	0.39%
Sikkim	1.83	0.05%
Meenakshi	1.01	0.03%
SIMHAPURI	0.04	0.00%
Total	3473.99	100.00%
Volume of sale by top 5 States	1868.68	53.79%

Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, MAY 2012		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Himachal Pradesh	233.18	15.78%
Delhi	209.04	14.14%
Gujarat	160.94	10.89%
Chattisgarh	114.13	7.72%
MP	108.73	7.36%
LANKO_AMK	104.18	7.05%
KARCHAM WANGTOO	95.48	6.46%
STERLITE	80.28	5.43%
SIMHAPURI	57.23	3.87%
West Bengal	52.62	3.56%
Andhra Pradesh	47.45	3.21%
NJPC	31.70	2.14%
Rajasthan	31.58	2.14%
DCPP	29.95	2.03%
Maharashtra	29.29	1.98%
AD HYDRO	27.68	1.87%
JINDAL POWER	11.79	0.80%
DVC	11.15	0.75%
MAITHON POWER LTD	9.03	0.61%
ACBIL	7.97	0.54%
Sikkim	7.24	0.49%
J & K	7.13	0.48%
Meghalaya	3.02	0.20%
Assam	1.98	0.13%
SHREE CEMENT	1.71	0.12%
UT Chandigarh	1.36	0.09%
NEEPCO Stations	0.87	0.06%
Kerala	0.81	0.05%
Tripura	0.28	0.02%
Tamilnadu	0.26	0.02%
Total	1478.07	100.00%
Volume of sale by top 5 States	826.02	55.89%

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

Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Rajasthan	333.77	22.58%
Gujarat	328.47	22.22%
Punjab	232.68	15.74%
Uttar Pradesh	130.99	8.86%
Tamilnadu	117.79	7.97%
Maharashtra	87.28	5.90%
Haryana	77.87	5.27%
Kerala	30.47	2.06%
Andhra Pradesh	28.81	1.95%
West Bengal	25.90	1.75%
Assam	18.34	1.24%
Uttarakhand	17.92	1.21%
Jharkhand	14.41	0.98%
Orissa	12.14	0.82%
MP	7.74	0.52%
UT Chandigarh	5.26	0.36%
Delhi	3.13	0.21%
Meghalaya	2.62	0.18%
Himachal Pradesh	1.68	0.11%
Karnataka	0.82	0.06%
Total	1478.07	100.00%
Volume of purchase by top 5 States	1143.71	77.38%

Table-13: VOLUME OF ELECTRICITY EXPORT THROUGH UI, MAY 2012		
Name of the State/UT/Other Regional Entity	Volume of Export (MUs)	% of Volume
Gujarat	372.52	16.14%
Delhi	335.85	14.55%
MP	185.92	8.05%
Maharashtra	161.24	6.99%
West Bengal	149.29	6.47%
Chattisgarh	95.08	4.12%
Bihar	79.84	3.46%
LANKO_AMK	72.04	3.12%
DVC	54.43	2.36%
Himachal Pradesh	52.66	2.28%
NHPC Stations	49.28	2.13%
STERLITE	47.30	2.05%
Tamilnadu	44.65	1.93%
Punjab	43.40	1.88%
Pondicherry	42.91	1.86%
Rajasthan	41.32	1.79%
Karnataka	41.23	1.79%
Haryana	39.54	1.71%
J & K	38.86	1.68%
Jharkhand	38.50	1.67%
Orissa	35.79	1.55%
Andhra Pradesh	32.24	1.40%
DCPP	27.64	1.20%
NJPC	27.04	1.17%
Dadra & Nagar Haveli	20.63	0.89%
Assam	19.62	0.85%
KARCHAM WANGTOO	15.02	0.65%
Goa	13.84	0.60%
SHREE CEMENT	10.35	0.45%
SIMHAPURI	9.36	0.41%
Uttarakhand	9.26	0.40%
Meghalaya	8.91	0.39%
Tripura	8.84	0.38%
AD HYDRO	7.66	0.33%
MAITHON POWER LTD	7.56	0.33%
Uttar Pradesh	7.39	0.32%
RGPPL(Dabhol)	7.14	0.31%
LANKO_KONDAPALLY	6.55	0.28%
Sikkim	6.43	0.28%
Daman and Diu	5.87	0.25%
JINDAL POWER	5.74	0.25%
NEEPCO Stations	5.63	0.24%
Manipur	5.16	0.22%
NSPCL	4.91	0.21%
UT Chandigarh	3.88	0.17%
CGPL	3.86	0.17%
ACBIL	3.33	0.14%
Mizoram	1.24	0.05%
Arunachal Pradesh	1.13	0.05%
Nagaland	0.40	0.02%
Kerala	0.14	0.01%
Meenakshi	0.00	0.00%
Total	2308.40	100.00%
Volume of Export by top 5 States	1204.82	52.19%

Table-14: VOLUME OF ELECTRICITY IMPORT THROUGH UI, MAY 2012		
Name of the State/UT/Other Regional Entity	Volume of Import (MUs)	% of Volume
Uttar Pradesh	870.31	31.92%
Rajasthan	351.93	12.91%
Haryana	293.26	10.76%
Punjab	159.15	5.84%
Kerala	122.70	4.50%
DVC	94.45	3.46%
Uttarakhand	88.84	3.26%
JINDAL POWER	77.06	2.83%
West Bengal	69.50	2.55%
Andhra Pradesh	64.01	2.35%
Tamilnadu	47.53	1.74%
J & K	44.25	1.62%
Orissa	43.79	1.61%
NHPC Stations	41.14	1.51%
KARCHAM WANGTOO	38.81	1.42%
Maharashtra	36.57	1.34%
MP	29.56	1.08%
Himachal Pradesh	28.45	1.04%
Karnataka	20.19	0.74%
Assam	19.90	0.73%
Chattisgarh	19.12	0.70%
Jharkhand	17.61	0.65%
NJPC	15.32	0.56%
Goa	14.71	0.54%
DCPP	11.70	0.43%
UT Chandigarh	11.40	0.42%
Gujarat	10.48	0.38%
Arunachal Pradesh	10.17	0.37%
STERLITE	8.52	0.31%
Nagaland	7.15	0.26%
Daman and Diu	5.41	0.20%
MAITHON POWER LTD	4.85	0.18%
Sikkim	4.61	0.17%
NEEPCO Stations	4.58	0.17%
SIMHAPURI	4.37	0.16%
Tripura	4.22	0.15%
LANKO_KONDAPALLY	4.18	0.15%
Delhi	3.56	0.13%
Manipur	3.12	0.11%
Meghalaya	3.07	0.11%
Mizoram	2.72	0.10%
SHREE CEMENT	2.31	0.08%
Bihar	2.31	0.08%
CGPL	2.28	0.08%
AD HYDRO	2.23	0.08%
LANKO_AMK	1.44	0.05%
ACBIL	1.32	0.05%
NSPCL	0.96	0.04%
RGPPPL(Dabhol)	0.89	0.03%
Dadra & Nagar Haveli	0.57	0.02%
Pondicherry	0.03	0.00%
Total	2726.62	100.00%
Volume of Export by top 5 States	1797.35	65.92%

Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), MAY 2012		
Sr.No	Name of the State/UT/Other Regional Entity	Total volume of net short-term transactions of electricity*
1	Uttar Pradesh	1105.11
2	Punjab	704.82
3	Haryana	466.13
4	Maharashtra	453.17
5	Rajasthan	318.84
6	Kerala	226.16
7	Tamilnadu	197.92
8	Bihar	177.29
9	Uttarakhand	119.39
10	Andhra Pradesh	115.38
11	Orissa	112.77
12	Assam	105.78
13	Dadra & Nagar Haveli	74.06
14	Jharkhand	71.15
15	West Bengal	60.84
16	Karnataka	52.93
17	Goa	36.15
18	UT Chandigarh	24.88
19	Daman and Diu	14.05
20	Tripura	12.73
21	Arunachal Pradesh	9.04
22	Nagaland	6.74
23	Mizoram	1.48
24	Meenakshi	1.01
26	CGPL	-1.58
27	NEEPCO Stations	-1.92
28	Manipur	-2.04
29	Meghalaya	-6.24
30	RGPPL(Dabhol)	-6.25
31	NHPC Stations	-8.14
32	MAITHON POWER LTD	-11.74
33	Sikkim	-32.55
34	Pondicherry	-42.89
35	NJPC	-43.42
36	NSPCL	-60.49
37	AD HYDRO	-65.00
38	DCPP	-69.20
39	SHREE CEMENT	-76.24
40	ACBIL	-78.91
41	SIMHAPURI	-85.48
42	LANKO_KONDAPALLY	-90.23
43	DVC	-145.56
44	Delhi	-169.69
45	Chattisgarh	-176.40
46	MP	-220.77
47	LANKO_AMK	-288.99
48	J & K	-302.68
49	Himachal Pradesh	-311.81
50	KARCHAM WANGTOO	-370.24
51	JINDAL POWER	-395.43
52	Gujarat	-466.53
53	STERLITE	-526.99

* 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, MAY 2012			
	Details of Congestion	IEX	PXIL
A	Unconstrained Cleared Volume* (MUs)	1445.21	124.29
B	Actual Cleared Volume and hence scheduled (MUs)	1388.39	89.69
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	56.82	34.60
D	Volume of electricity that could not be cleared as % to Actual Cleared Volume	4.09%	38.58%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	99.97%	100.00%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	25.01%	25.00%
	6.00 - 12.00 hours	25.01%	25.00%
	12.00 - 18.00 hours	24.97%	25.00%
	18.00 - 24.00 hours	25.01%	25.00%
* This power would have been scheduled had there been no congestion.			
Source: IEX & PXIL			