

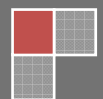


Monthly Report on Short-term Transactions of Electricity in India

March, 2012



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Contents

S.No	Contents	Page No
	Cover page	1
	Contents	2
	List of Formats, Tables and Charts	3
	Abbreviations	4
	Introduction	5
I	Volume of Short-term Transactions of Electricity	5
II	Price of Short-term Transactions of Electricity	6
(i)	<i>Price of electricity transacted through Traders</i>	6
(ii)	<i>Price of electricity transacted Through Power Exchange</i>	6
(iii)	<i>Price of electricity transacted Through UI</i>	7
III	Volume of Short-term Transactions of Electricity (Regional Entity-wise)	7
IV	Congestion on Inter-state Transmission Corridor for Day-Ahead Market on Power Exchanges	8
V	Inferences	9

List of Formats, Tables and Charts

S.No	List of Formats, Tables and Charts	Page No
I List of Formats		
Format-1	Volume of Short-term Transactions of Electricity in India	10
Format-2	Price of Short-term Transactions of Electricity	11
Format-3	Volume of Short-term Transactions of Electricity (Regional Entity-wise)	12
II List of Tables		
Table-1	Volume of Short-term Transactions of Electricity in India	13
Table-2	Percentage Share of Electricity Transacted by Trading Licensees	15
Table-3	Price of Electricity Transacted through Traders	16
Table-4	Price of Electricity Transacted through Traders (Time-wise)	16
Table-5	Price of Electricity Transacted through Power Exchanges	16
Table-6	Volume and Price of Electricity in Term Ahead Market of IEX	16
Table-7	Volume and Price of Electricity in Term Ahead Market of PXIL	16
Table-8	Price of Electricity Transacted through UI	16
Table-9	Volume of Electricity Sale through Bilateral	18
Table-10	Volume of Electricity Purchase through Bilateral	19
Table-11	Volume of Electricity Sale through Power Exchanges	20
Table-12	Volume of Electricity Purchase through Power Exchanges	21
Table-13	Volume of Electricity Export through UI	22
Table-14	Volume of Electricity Import through UI	23
Table-15	Total Volume of Net Short-term Transactions of Electricity (Regional Entity-wise)	24
Table-16	Details of Congestion in Power Exchanges	25
III List of Charts		
Chart-1	Volume of Short-term Transactions of Electricity	13
Chart-2	Volume of Various Kinds of Electricity Transactions in Total Electricity Generation	13
Chart-3	Volume of Short-term Transactions of Electricity (Day-wise)	14
Chart-4	Percentage Share of Electricity Transacted by Trading Licensees	15
Chart-5	Price of Short-term Transactions of Electricity	17
Chart-6	Price of Short-term Transactions of Electricity (Day-wise)	17

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
MUs	Million Units
NEW Grid	North, East, North-East and Western Regional Grid
NLDC	National Load Despatch Centre
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, monthly reports on short-term transactions of electricity are 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 monthly 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 short-term electricity market for the month of March 2012 is as under:

I: Volume of Short-term Transactions of Electricity

During the month of March 2012, total electricity generation excluding generation from renewable and captive power plants in India was 77101.84 MUs (Table-1).

Of the total electricity generation, 7583.82 MUs (9.84%) were transacted through short-term, comprising of 3659.87 MUs (4.75%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2699.56 MUs (3.50%) through UI and 1224.39 MUs (1.59%) through day ahead collective transactions on Power Exchanges (IEX and PXIL) (Table-1 & Chart-2).

Of the total short-term transactions, Bilateral constitute 48.26% (30.41% through traders and term-ahead contracts on Power Exchanges and 17.85% directly between distribution companies) followed by 35.60% through UI and 16.14% 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 31.03.2012, of which only 16 have engaged in trading during March

2012. Top 5 trading licenses had a share of 79.94% 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 0.2107 for the month of March 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 1164.09 MUs and 60.29MUs respectively. The volume of total Buy bids and Sale bids was 2783.31 MUs and 2226.63 MUs respectively in IEX and 601.53 MUs and 280.10 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 (2.15 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 24.01 MUs in IEX (Table-6) and 3.75 MUs in PXIL (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 ₹4.43/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 ₹4.37/kWh, ₹5.74/kWh and ₹4.86/kWh respectively. Minimum and Maximum sale prices were ₹2.96/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 ₹1.30/kWh, ₹20.00/kWh and ₹3.32/kWh respectively in IEX and ₹1.50/kWh, ₹20.00/kWh and ₹3.94/kWh respectively in PXIL (Table-5).

The weighted average prices of electricity transacted in term-ahead market through the weekly contracts were ₹3.77/kWh and ₹4.21/kWh in IEX (Table 6) and PXIL (Table 7) respectively.

(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 ₹2.96/kWh in the NEW Grid and ₹5.87/kWh in the SR Grid. Minimum and Maximum UI prices were ₹0.00/kWh and ₹12.22/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 53.74% of the volume, and these were Gujarat, Sterlite Energy Ltd, Jindal Power Ltd., Lanco Amarkantak Power Private Ltd. and Chattisgarh. Top 5 regional entities purchased 57.60% of the volume, and these were Maharashtra, West Bengal, Bihar, Uttar Pradesh and Delhi (Table-9 & 10).

Of the total Power Exchange transactions, top 5 regional entities sold 64.17% of the volume, and these were Delhi, West Bengal, Gujarat, Chattisgarh and Madhya Pradesh. Top 5 regional entities purchased 78.17% of the volume, and these were Punjab, Gujarat, Rajasthan, Tamilnadu and Maharashtra (Table-11 & 12).

Of the total UI transactions, top 5 regional entities underdrew 51.48% of the volume, and these were Delhi, Gujarat, West Bengal, Bihar and Punjab. Top 5 regional entities overdrew 59.15% of the volume, and these were Haryana, Rajasthan, Uttar Pradesh, Maharashtra and Orissa (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 Delhi, Gujarat, Sterlite Energy Ltd., Jindal Power Ltd. and Lanco Amarkantak Power Private Ltd. Top 5 electricity purchasing regional entities were Maharashtra, Uttar Pradesh, Rajasthan, Haryana and Andhra Pradesh.

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 March 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 42% and 274% of the actual cleared volume in IEX and PXIL, respectively. In percentage terms, it was 100% of the operating time in both the exchanges.

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 9.84%.
- Of the total short-term transactions of electricity, 48.26% was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 35.60% through UI and 16.14% through Power Exchanges.
- Top 5 trading licensees had a share of 79.94% in the total volume traded by all the trading licensees.
- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.2107, indicating moderate concentration of market power.
- The price of electricity transacted through trading licensees (₹4.43/kWh) was higher when compared with the price of electricity transacted through Power Exchanges (₹3.32/kWh in IEX and ₹3.94/kWh in PXIL).
- The price of electricity transacted through UI was ₹2.96/kWh in the NEW Grid and ₹5.87/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 (1:2.15) when compared with the supply offered through these exchanges.
- Top 5 electricity selling regional entities were Delhi, Gujarat, Sterlite Energy Ltd., Jindal Power Ltd. and Lanco Amarkantak Power Private Ltd. Top 5 electricity purchasing regional entities were Maharashtra, Uttar Pradesh, Rajasthan, Haryana and Andhra Pradesh.
- The volume of electricity that could not be cleared in the power exchanges due to congestion was about 42% and 274% of the actual cleared volume in IEX and PXIL respectively. In percentage terms, congestion occurred 100% of the time in both the power exchanges.

Format-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (MUs), MARCH 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-Mar-12	66.71	40.52	31.86	2.15	91.49	2465.69
2-Mar-12	69.16	42.57	39.44	2.93	95.63	2473.84
3-Mar-12	73.22	36.35	42.10	3.51	100.30	2450.59
4-Mar-12	76.37	31.61	37.91	1.39	96.62	2444.90
5-Mar-12	76.99	37.83	38.75	1.88	88.28	2521.35
6-Mar-12	72.91	41.51	35.26	2.05	93.25	2547.05
7-Mar-12	73.63	44.10	32.32	2.01	87.06	2512.90
8-Mar-12	75.38	39.60	19.98	1.77	98.23	2326.07
9-Mar-12	76.54	39.81	25.68	0.84	83.54	2360.80
10-Mar-12	80.01	42.80	34.03	1.80	77.33	2373.39
11-Mar-12	75.24	45.34	33.73	1.60	81.97	2414.91
12-Mar-12	74.29	47.23	31.39	1.64	90.81	2460.18
13-Mar-12	73.10	46.05	32.92	2.14	86.61	2438.58
14-Mar-12	72.26	47.31	37.93	2.97	91.77	2465.17
15-Mar-12	74.75	49.27	37.86	2.60	89.11	2501.36
16-Mar-12	71.47	49.33	34.12	2.09	85.30	2525.08
17-Mar-12	72.91	45.94	34.17	1.79	80.40	2533.56
18-Mar-12	74.26	46.85	33.12	1.50	87.84	2478.86
19-Mar-12	73.83	46.75	30.65	1.28	80.05	2511.60
20-Mar-12	76.35	46.46	34.52	2.34	91.40	2531.02
21-Mar-12	75.32	43.34	43.68	2.10	80.16	2523.36
22-Mar-12	76.89	43.62	45.16	2.36	79.16	2486.22
23-Mar-12	81.69	43.34	46.91	2.50	84.82	2468.46
24-Mar-12	74.19	44.90	41.95	1.28	93.50	2472.35
25-Mar-12	74.38	44.85	44.01	1.30	84.38	2463.04
26-Mar-12	74.61	44.90	39.35	1.24	86.56	2530.65
27-Mar-12	72.09	46.00	45.74	1.71	84.92	2551.39
28-Mar-12	75.14	46.64	45.19	1.06	84.90	2565.61
29-Mar-12	74.55	43.17	44.14	1.78	77.02	2579.05
30-Mar-12	77.75	43.27	42.81	2.33	82.29	2574.32
31-Mar-12	70.24	42.38	47.41	2.37	84.84	2550.49
Total	2306.24	1353.63	1164.09	60.29	2699.56	77101.84
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), MARCH 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-Mar-12	2.25	15.01	3.63	2.25	8.01	3.79	1.24	12.22	4.16	2.95	12.22	6.53	
2-Mar-12	2.25	15.01	3.48	1.90	8.01	3.72	0.00	12.22	4.35	0.78	12.22	6.69	
3-Mar-12	1.90	15.01	3.47	1.90	8.01	3.56	0.00	7.79	3.57	0.47	12.22	5.53	
4-Mar-12	2.25	15.01	3.27	2.25	10.00	3.87	0.00	6.85	2.60	0.62	12.22	5.56	
5-Mar-12	2.00	15.01	3.30	2.22	10.50	3.59	0.00	6.38	2.55	2.02	12.22	6.06	
6-Mar-12	1.93	15.21	3.22	2.22	11.00	3.69	0.00	12.22	2.88	2.02	12.22	6.14	
7-Mar-12	1.90	15.51	3.07	1.80	11.00	3.65	0.47	5.44	2.47	2.95	12.22	6.23	
8-Mar-12	1.46	15.51	2.52	1.80	11.50	3.56	0.00	3.10	1.57	0.00	7.79	4.38	
9-Mar-12	1.30	15.51	2.85	1.50	13.00	3.90	0.00	3.88	2.01	1.71	12.22	5.77	
10-Mar-12	1.77	15.75	2.80	1.90	12.76	3.40	1.09	6.38	3.28	2.02	12.22	6.28	
11-Mar-12	1.60	15.75	3.01	2.00	12.01	3.46	0.00	5.44	2.89	1.86	8.26	5.03	
12-Mar-12	1.99	16.00	3.43	2.00	12.76	4.11	0.47	6.38	2.70	1.55	12.22	5.26	
13-Mar-12	2.25	16.01	3.45	2.00	13.01	4.40	0.00	7.32	2.43	2.48	12.22	5.39	
14-Mar-12	2.00	16.01	3.32	1.91	13.01	3.66	1.24	6.85	3.25	1.55	12.22	6.00	
15-Mar-12	2.10	16.01	3.30	1.57	13.26	3.57	1.40	8.26	3.31	1.71	12.22	5.77	
16-Mar-12	2.30	16.01	3.42	2.21	13.01	4.27	0.00	12.22	3.06	2.95	12.22	6.52	
17-Mar-12	2.20	16.01	3.44	2.22	13.01	4.25	0.93	12.22	3.62	2.02	8.26	5.64	
18-Mar-12	2.20	20.00	3.25	2.21	13.75	4.03	0.16	5.91	2.93	1.24	12.22	6.80	
19-Mar-12	2.21	16.01	3.54	2.25	13.00	5.10	0.78	6.85	3.01	2.79	12.22	5.61	
20-Mar-12	2.20	16.01	3.39	2.42	12.01	4.24	0.93	4.97	2.59	2.64	12.22	5.78	
21-Mar-12	2.21	16.02	3.41	2.30	12.01	4.29	0.78	4.97	2.68	2.95	12.22	6.04	
22-Mar-12	2.50	16.01	3.41	2.00	12.01	3.95	0.31	12.22	2.88	2.48	12.22	6.30	
23-Mar-12	2.29	16.01	3.36	2.42	13.86	3.69	0.93	12.22	3.49	2.02	12.22	6.88	
24-Mar-12	2.00	18.00	3.31	2.00	15.00	3.69	1.09	8.26	3.51	2.17	12.22	6.43	
25-Mar-12	2.15	19.00	3.20	2.11	16.86	3.62	0.00	6.38	2.44	0.00	8.26	4.91	
26-Mar-12	2.39	16.01	3.38	2.42	16.86	4.84	0.62	7.79	3.00	2.17	12.22	6.00	
27-Mar-12	2.40	19.50	3.40	2.30	18.00	3.74	0.31	12.22	2.94	2.95	17.46	5.91	
28-Mar-12	2.41	16.01	3.41	2.30	20.00	4.44	0.31	7.32	3.12	2.17	12.22	6.32	
29-Mar-12	2.30	16.20	3.41	2.40	17.50	4.01	0.31	12.22	3.18	2.48	8.26	5.85	
30-Mar-12	2.07	16.01	3.44	2.25	16.91	4.08	0.00	7.79	2.91	1.40	12.22	5.17	
31-Mar-12	2.06	14.01	3.49	2.50	12.01	4.88	0.00	5.91	2.28	0.00	8.26	5.13	
	1.30#	20.00#	3.32	1.50#	20.00#	3.94	0.00#	12.22#	2.96	0.00#	17.46#	5.87	

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

Format-3: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY*-WISE) (MUs), MARCH 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	124.79	0.00	-124.79	23.20	387.01	363.81	124.08	78.16	-45.92	193.10
Haryana	243.85	119.30	-124.54	0.00	69.03	69.03	11.52	497.88	486.35	430.84
Rajasthan	42.60	61.00	18.41	44.40	179.98	135.58	26.23	411.76	385.53	539.51
Delhi	274.60	184.92	-89.68	236.40	0.00	-236.40	383.17	2.20	-380.97	-707.06
Uttar Pradesh	3.61	273.28	269.68	0.00	53.87	53.87	54.71	290.00	235.28	558.83
Uttarakhand	4.21	111.41	107.20	0.00	2.64	2.64	10.22	100.53	90.31	200.15
Himachal Pradesh	15.84	126.89	111.05	26.64	0.00	-26.64	71.49	27.01	-44.48	39.93
J & K	105.05	54.24	-50.81	2.19	0.00	-2.19	32.35	98.40	66.05	13.06
UT Chandigarh	0.00	0.00	0.00	8.51	0.20	-8.31	10.98	1.21	-9.77	-18.08
MP	0.00	146.60	146.60	59.36	21.67	-37.69	124.05	101.42	-22.63	86.28
Maharashtra	0.00	711.37	711.37	56.42	89.32	32.90	106.89	181.65	74.76	819.04
Gujarat	505.12	62.04	-443.08	96.64	206.45	109.80	244.27	27.18	-217.09	-550.36
Chattisgarh	277.09	128.78	-148.31	64.71	0.00	-64.71	50.01	44.61	-5.40	-218.43
Daman and Diu	0.00	0.00	0.00	0.00	0.00	0.00	9.83	2.99	-6.84	-6.84
Dadra & Nagar Haveli	0.00	48.89	48.89	0.00	0.00	0.00	34.15	1.39	-32.77	16.12
Andhra Pradesh	0.00	172.38	172.38	20.17	46.11	25.94	22.14	60.55	38.42	236.74
Karnataka	12.56	53.63	41.07	0.00	0.59	0.59	24.46	23.99	-0.47	41.19
Kerala	0.00	50.94	50.94	0.03	36.70	36.66	2.20	57.99	55.79	143.39
Tamilnadu	0.00	74.44	74.44	0.00	94.37	94.37	17.75	71.22	53.46	222.28
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	58.58	0.00	-58.58	-58.58
West Bengal	143.89	601.22	457.33	157.68	0.00	-157.68	222.78	42.57	-180.20	119.44
Orissa	0.00	5.50	5.50	0.00	6.65	6.65	4.12	150.46	146.33	158.48
Bihar	0.00	336.54	336.54	0.00	0.00	0.00	147.80	0.48	-147.32	189.22
Jharkhand	0.00	99.04	99.04	0.00	7.98	7.98	4.45	44.74	40.29	147.30
Sikkim	0.75	1.47	0.72	18.69	0.00	-18.69	11.80	1.02	-10.79	-28.75
DVC	146.13	134.35	-11.78	25.98	0.00	-25.98	106.14	16.35	-89.79	-127.55
Arunachal Pradesh	0.00	0.00	0.00	0.00	6.25	6.25	0.27	22.77	22.50	28.75
Assam	0.00	86.90	86.90	21.70	12.59	-9.11	8.02	23.78	15.77	93.57
Manipur	0.00	0.00	0.00	0.00	0.00	0.00	2.47	6.13	3.65	3.65
Meghalaya	0.00	11.10	11.10	1.92	2.94	1.02	0.14	41.01	40.87	52.99
Mizoram	0.00	0.00	0.00	0.06	0.00	-0.06	0.21	8.80	8.59	8.54
Nagaland	0.00	0.00	0.00	0.00	0.00	0.00	0.06	14.63	14.57	14.57
Tripura	7.59	0.00	-7.59	0.91	0.00	-0.91	2.65	5.93	3.28	-5.21
GOA	0.00	2.64	2.64	0.00	0.00	0.00	10.78	23.61	12.84	15.47
JINDAL POWER	422.35	0.00	-422.35	32.69	0.00	-32.69	4.30	19.25	14.95	-440.09
LANKO_AMK	333.99	0.00	-333.99	0.00	0.00	0.00	17.86	4.58	-13.27	-347.27
LANKO_KONDAPALLY	112.34	0.00	-112.34	0.00	0.00	0.00	1.21	4.33	3.11	-109.22
STERLITE	428.79	0.00	-428.79	3.52	0.00	-3.52	43.92	22.79	-21.12	-453.43
AD HYDRO	5.58	0.00	-5.58	9.51	0.00	-9.51	1.71	0.69	-1.02	-16.10
KARCHAM WANGTOO	112.40	0.00	-112.40	23.05	0.00	-23.05	5.57	10.20	4.63	-130.82
SHREE CEMENT	38.53	0.00	-38.53	3.45	0.00	-0.17	18.68	2.25	-16.43	-55.12
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	2.23	0.90	-1.33	-1.33
MAITHON POWER LTD	237.07	0.00	-237.07	16.15	0.00	-16.15	7.94	9.02	1.08	-252.13
ACBIL	62.04	0.00	-62.04	0.00	0.00	0.00	1.44	1.08	-0.36	-62.40
RGPPL(Dabhol)	0.00	0.00	0.00	0.00	0.00	0.00	6.02	3.77	-2.25	-2.25
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	113.41	6.46	-106.95	-106.95
DCPP	0.00	0.00	0.00	4.07	0.00	-4.07	4.02	19.74	15.72	11.64
SIMHAPURI	0.00	0.00	0.00	0.00	0.03	0.03	10.50	1.99	-8.51	-8.48

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), MARCH 2012

Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	3659.87	48.26%	4.75%
	(i) Through Traders and PXs	2306.24	30.41%	2.99%
	(ii) Direct	1353.63	17.85%	1.76%
2	Through Power Exchanges	1224.39	16.14%	1.59%
	IEX	1164.09	15.35%	1.51%
	PXIL	60.29	0.80%	0.08%
3	Through UI	2699.56	35.60%	3.50%
	Total	7583.82	100.00%	9.84%
	Total Generation	77101.84	–	–

Source: NLDC

Chart-1: Volume of Short-term Transactions of Electricity, March 2012

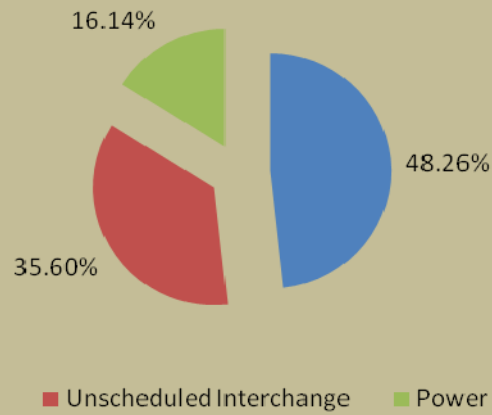
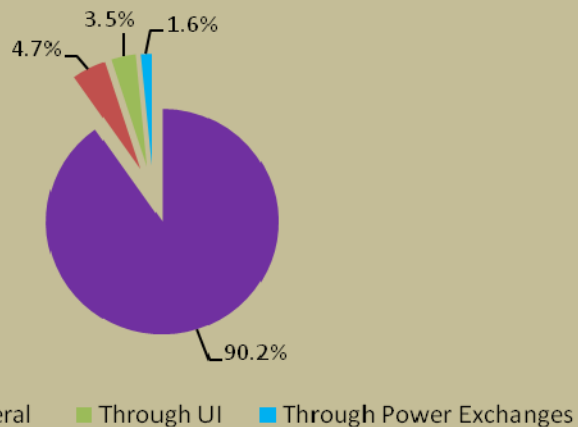


Chart-2: Volume of Various Kinds of Electricity Transactions in Total Electricity Generation, March 2012



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

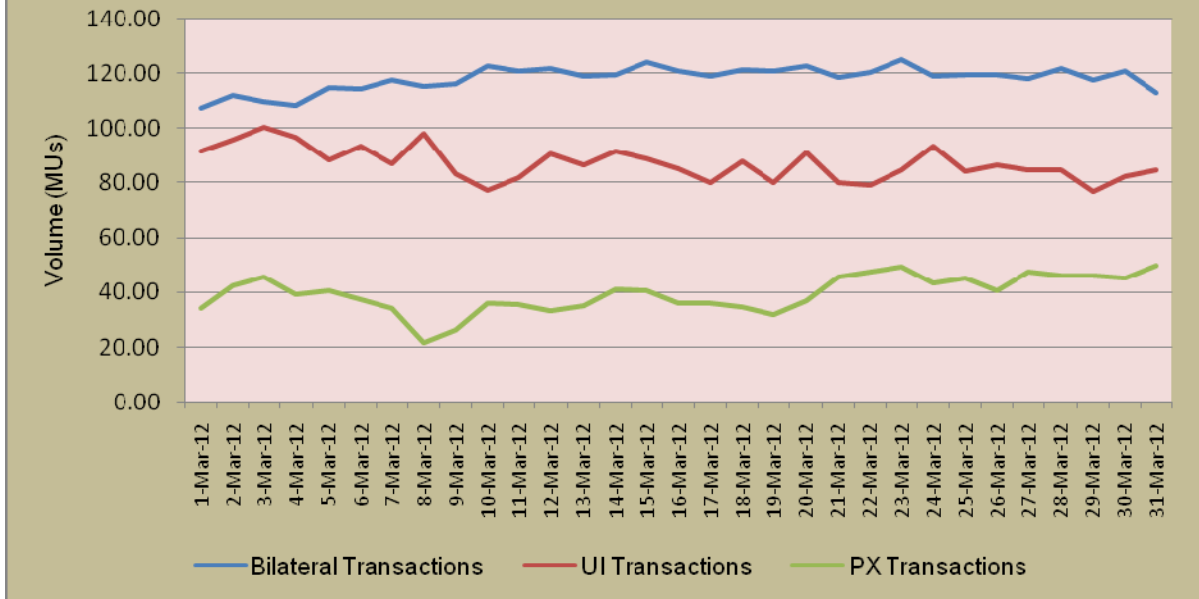


Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, MARCH 2012			
Sr.No	Name of the Trading Licensee	% Share in total Volume transacted by Trading Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd	39.28%	0.1543
2	NTPC Vidyut Vyapar Nigam Ltd	17.53%	0.0307
3	National Energy Trading & Services Ltd	8.04%	0.0065
4	Reliance Energy Trading (P) Ltd	7.94%	0.0063
5	Tata Power Trading Company (P) Ltd	7.14%	0.0051
6	Knowledge Infrastructure Systems (P) Ltd	6.05%	0.0037
7	Adani Enterprises Ltd	4.77%	0.0023
8	Shree Cement Ltd.	2.82%	0.0008
9	Instinct Infra & Power Ltd.	2.68%	0.0007
10	JSW Power Trading Company Ltd	1.09%	0.0001
11	GMR Energy Trading Ltd	0.97%	0.0001
12	Jaiprakash Associate Ltd.	0.68%	0.0000
13	Global Energy (P) Ltd.	0.68%	0.0000
14	RPG Power Trading Company Ltd.	0.26%	0.0000
15	Jindal Power Trading Company Ltd.	0.02%	0.0000
16	Essar Electric Power Development Corp. Ltd.	0.02%	0.0000
	TOTAL	100.00%	0.2107
	Top 5 trading licensees	79.94%	
<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>			

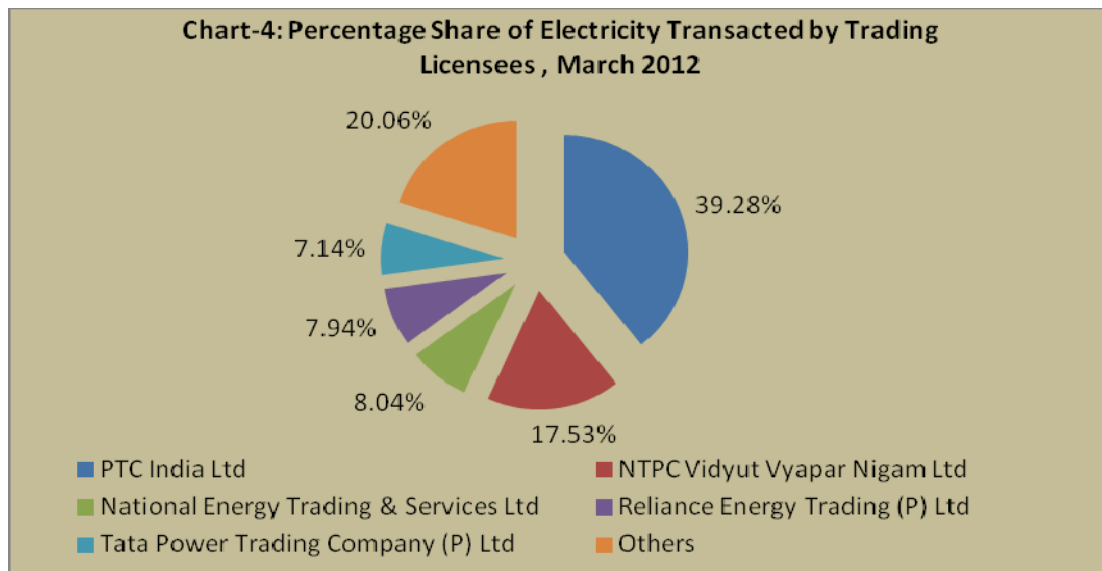


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, MARCH 2012		
Sr.No		Sale Price of Traders (₹/kWh)
1	Minimum	2.96
2	Maximum	7.07
3	Weighted Average	4.43

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), MARCH 2012		
Sr.No	Period of Trade	Sale Price of Traders (₹/kWh)
1	RTC	4.37
2	PEAK	5.74
3	OFF PEAK	4.86

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, MARCH 2012			
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)
1	Minimum	1.30	1.50
2	Maximum	20.00	20.00
3	Weighted Average	3.32	3.94

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, MARCH 2012			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	4.92	4.13
2	Day-ahead Contingency Contracts	6.78	3.72
3	Weekly Contracts	24.01	3.77
	Total	35.71	3.81

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, MARCH 2012			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Weekly Contracts	3.75	4.21
	Total	3.75	4.21

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH UI, MARCH 2012			
Sr.No		Price in NEW Grid (₹/kWh)	Price in SR Grid (₹/kWh)
1	Minimum	0.00	0.00
2	Maximum	12.22	17.46
3	Average	2.96	5.87

Source: NLDC

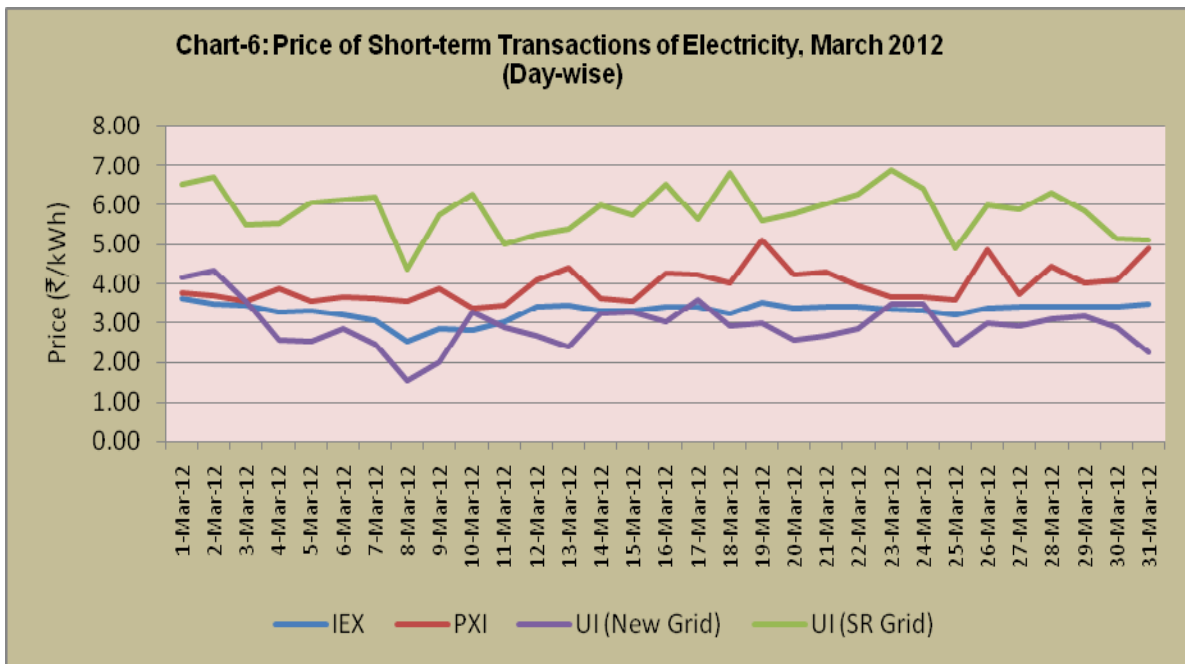
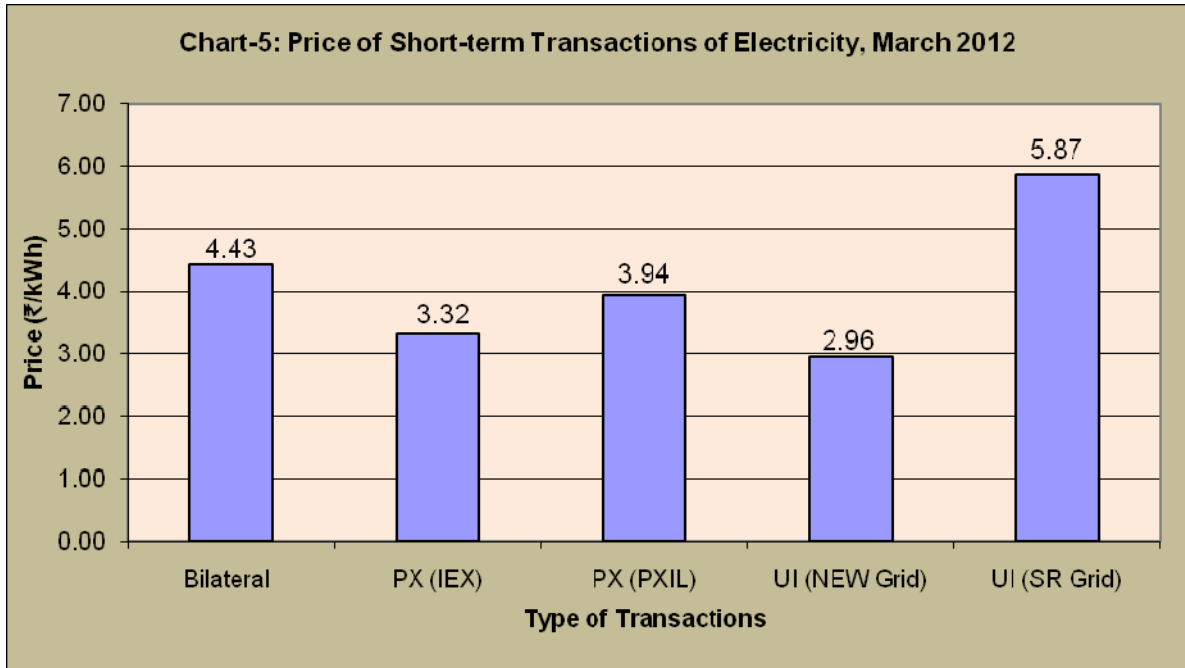


Table-9: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL, MARCH 2012		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Gujarat	505.12	13.80%
STERLITE	428.79	11.71%
JINDAL POWER	422.35	11.54%
LANKO_AMK	333.99	9.12%
Chattisgarh	277.09	7.57%
Delhi	274.60	7.50%
Haryana	243.85	6.66%
MAITHON POWER LTD	237.07	6.48%
DVC	146.13	3.99%
West Bengal	143.89	3.93%
Punjab	124.79	3.41%
KARCHAM WANGTOO	112.40	3.07%
LANKO_KONDAPALLY	112.34	3.07%
J & K	105.05	2.87%
ACBIL	62.04	1.69%
Rajasthan	42.60	1.16%
SHREE CEMENT	38.53	1.05%
Himachal Pradesh	15.84	0.43%
Karnataka	12.56	0.34%
Tripura	7.59	0.21%
AD HYDRO	5.58	0.15%
Uttarakhand	4.21	0.12%
Uttar Pradesh	3.61	0.10%
Sikkim	0.75	0.02%
Total	3660.74	100.00%
Volume of sale by top 5 States	1967.34	53.74%

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL, MARCH 2012

Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Maharashtra	711.37	19.44%
West Bengal	601.22	16.43%
Bihar	336.54	9.20%
Uttar Pradesh	273.28	7.47%
Delhi	184.92	5.05%
Andhra Pradesh	172.38	4.71%
MP	146.60	4.01%
DVC	134.35	3.67%
Chattisgarh	128.78	3.52%
Himachal Pradesh	126.89	3.47%
Haryana	119.30	3.26%
Uttarakhand	111.41	3.04%
Jharkhand	99.04	2.71%
Assam	86.90	2.38%
Tamilnadu	74.44	2.03%
Gujarat	62.04	1.70%
Rajasthan	61.00	1.67%
J & K	54.24	1.48%
Karnataka	53.63	1.47%
Kerala	50.94	1.39%
Dadra & Nagar Haveli	48.89	1.34%
Meghalaya	11.10	0.30%
Orissa	5.50	0.15%
GOA	2.64	0.07%
Sikkim	1.47	0.04%
Total	3658.86	100.00%
Volume of sale by top 5 States	2107.33	57.60%

Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, MARCH 2012		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Delhi	236.40	24.68%
West Bengal	157.68	16.46%
Gujarat	96.64	10.09%
Chattisgarh	64.71	6.75%
MP	59.36	6.20%
Maharashtra	56.42	5.89%
Rajasthan	44.40	4.63%
JINDAL POWER	32.69	3.41%
Himachal Pradesh	26.64	2.78%
DVC	25.98	2.71%
Punjab	23.20	2.42%
KARCHAM WANGTOO	23.05	2.41%
Assam	21.70	2.27%
Andhra Pradesh	20.17	2.10%
Sikkim	18.69	1.95%
MAITHON POWER LTD	16.15	1.69%
AD HYDRO	9.51	0.99%
UT Chandigarh	8.51	0.89%
DCPP	4.07	0.43%
STERLITE	3.52	0.37%
SHREE CEMENT	3.45	0.36%
J & K	2.19	0.23%
Meghalaya	1.92	0.20%
Tripura	0.91	0.09%
Mizoram	0.06	0.01%
Kerala	0.03	0.00%
Total	958.05	100.00%
Volume of sale by top 5 States	614.80	64.17%

Table-12: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGES, MARCH 2012		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Punjab	387.01	31.61%
Gujarat	206.45	16.86%
Rajasthan	179.98	14.70%
Tamilnadu	94.37	7.71%
Maharashtra	89.32	7.30%
Haryana	69.03	5.64%
Uttar Pradesh	53.87	4.40%
Andhra Pradesh	46.11	3.77%
Kerala	36.70	3.00%
MP	21.67	1.77%
Assam	12.59	1.03%
Jharkhand	7.98	0.65%
Orissa	6.65	0.54%
Arunachal Pradesh	6.25	0.51%
Meghalaya	2.94	0.24%
Uttarakhand	2.64	0.22%
Karnataka	0.59	0.05%
UT Chandigarh	0.20	0.02%
SIMHAPURI	0.03	0.00%
Total	1224.39	100.00%
Volume of purchase by top 5 States	957.14	78.17%

Table-13: VOLUME OF ELECTRICITY EXPORT THROUGH UI, MARCH 2012

Name of the State/UT/Other Regional Entity	Volume of Export (MUs)	% of Volume
Delhi	383.17	17.58%
Gujarat	244.27	11.21%
West Bengal	222.78	10.22%
Bihar	147.80	6.78%
Punjab	124.08	5.69%
MP	124.05	5.69%
CGPL	113.41	5.20%
Maharashtra	106.89	4.90%
DVC	106.14	4.87%
Himachal Pradesh	71.49	3.28%
Pondicherry	58.58	2.69%
Uttar Pradesh	54.71	2.51%
Chattisgarh	50.01	2.29%
STERLITE	43.92	2.01%
Dadra & Nagar Haveli	34.15	1.57%
J & K	32.35	1.48%
Rajasthan	26.23	1.20%
Karnataka	24.46	1.12%
Andhra Pradesh	22.14	1.02%
SHREE CEMENT	18.68	0.86%
LANKO_AMK	17.86	0.82%
Tamilnadu	17.75	0.81%
Sikkim	11.80	0.54%
Haryana	11.52	0.53%
UT Chandigarh	10.98	0.50%
GOA	10.78	0.49%
SIMHAPURI	10.50	0.48%
Uttarakhand	10.22	0.47%
Daman and Diu	9.83	0.45%
Assam	8.02	0.37%
MAITHON POWER LTD	7.94	0.36%
RGPPPL(Dabhol)	6.02	0.28%
KARCHAM WANGTOO	5.57	0.26%
Jharkhand	4.45	0.20%
JINDAL POWER	4.30	0.20%
Orissa	4.12	0.19%
DCPP	4.02	0.18%
Tripura	2.65	0.12%
Manipur	2.47	0.11%
NSPCL	2.23	0.10%
Kerala	2.20	0.10%
AD HYDRO	1.71	0.08%
ACBIL	1.44	0.07%
LANKO_KONDAPALLY	1.21	0.06%
Arunachal Pradesh	0.27	0.01%
Mizoram	0.21	0.01%
Meghalaya	0.14	0.01%
Nagaland	0.06	0.00%
Total	2179.58	100.00%
Volume of Export by top 5 States	1122.09	51.48%

Table-14: VOLUME OF ELECTRICITY IMPORT THROUGH UI, MARCH 2012		
Name of the State/UT/Other Regional Entity	Volume of Import (MUs)	% of Volume
Haryana	497.88	19.23%
Rajasthan	411.76	15.90%
Uttar Pradesh	290.00	11.20%
Maharashtra	181.65	7.02%
Orissa	150.46	5.81%
MP	101.42	3.92%
Uttarakhand	100.53	3.88%
J & K	98.40	3.80%
Punjab	78.16	3.02%
Tamilnadu	71.22	2.75%
Andhra Pradesh	60.55	2.34%
Kerala	57.99	2.24%
Jharkhand	44.74	1.73%
Chattisgarh	44.61	1.72%
West Bengal	42.57	1.64%
Meghalaya	41.01	1.58%
Gujarat	27.18	1.05%
Himachal Pradesh	27.01	1.04%
Karnataka	23.99	0.93%
Assam	23.78	0.92%
GOA	23.61	0.91%
STERLITE	22.79	0.88%
Arunachal Pradesh	22.77	0.88%
DCPP	19.74	0.76%
JINDAL POWER	19.25	0.74%
DVC	16.35	0.63%
Nagaland	14.63	0.57%
KARCHAM WANGTOO	10.20	0.39%
MAITHON POWER LTD	9.02	0.35%
Mizoram	8.80	0.34%
CGPL	6.46	0.25%
Manipur	6.13	0.24%
Tripura	5.93	0.23%
LANKO_AMK	4.58	0.18%
LANKO_KONDAPALLY	4.33	0.17%
RGPPL(Dabhol)	3.77	0.15%
Daman and Diu	2.99	0.12%
SHREE CEMENT	2.25	0.09%
Delhi	2.20	0.08%
SIMHAPURI	1.99	0.08%
Dadra & Nagar Haveli	1.39	0.05%
UT Chandigarh	1.21	0.05%
ACBIL	1.08	0.04%
Sikkim	1.02	0.04%
NSPCL	0.90	0.03%
AD HYDRO	0.69	0.03%
Bihar	0.48	0.02%
Total	2589.46	100.00%
Volume of Export by top 5 States	1531.74	59.15%

**Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY
(REGIONAL ENTITY-WISE), MARCH 2012**

Sr.No	Name of the State/UT/Other Regional Entity	Total volume of net short-term transactions of electricity*
1	Maharashtra	819.04
2	Uttar Pradesh	558.83
3	Rajasthan	539.51
4	Haryana	430.84
5	Andhra Pradesh	236.74
6	Tamilnadu	222.28
7	Uttarakhand	200.15
8	Punjab	193.10
9	Bihar	189.22
10	Orissa	158.48
11	Jharkhand	147.30
12	Kerala	143.39
13	West Bengal	119.44
14	Assam	93.57
15	MP	86.28
16	Meghalaya	52.99
17	Karnataka	41.19
18	Himachal Pradesh	39.93
19	Arunachal Pradesh	28.75
20	Dadra & Nagar Haveli	16.12
21	GOA	15.47
22	Nagaland	14.57
23	J & K	13.06
24	DCPP	11.64
25	Mizoram	8.54
26	Manipur	3.65
27	NSPCL	-1.33
28	RGPPL(Dabhol)	-2.25
29	Tripura	-5.21
30	Daman and Diu	-6.84
31	SIMHAPURI	-8.48
32	AD HYDRO	-16.10
33	UT Chandigarh	-18.08
34	Sikkim	-28.75
35	SHREE CEMENT	-55.12
36	Pondicherry	-58.58
37	ACBIL	-62.40
38	CGPL	-106.95
39	LANKO_KONDAPALLY	-109.22
40	DVC	-127.55
41	KARCHAM WANGTOO	-130.82
42	Chattisgarh	-218.43
43	MAITHON POWER LTD	-252.13
44	LANKO_AMK	-347.27
45	JINDAL POWER	-440.09
46	STERLITE	-453.43
47	Gujarat	-550.36
48	Delhi	-707.06

* 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, MARCH 2012			
	Details of Congestion	IEX	PXIL
A	Unconstrained Cleared Volume* (MUs)	1654.52	225.45
B	Actual Cleared Volume and hence scheduled (MUs)	1164.09	60.29
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	490.43	165.16
D	Volume of electricity that could not be cleared as % to Actual Cleared Volume	42%	274%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	100.00%	100.00%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	25%	25%
	6.00 - 12.00 hours	25%	25%
	12.00 - 18.00 hours	25%	25%
	18.00 - 24.00 hours	25%	25%
<i>* This power would have been scheduled had there been no congestion.</i>			
<i>Source: IEX & PXIL</i>			