

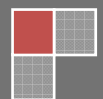


Monthly Report on Short-term Transactions of Electricity in India

January, 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
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
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 January 2012 is as under:

I: Volume of Short-term Transactions of Electricity

During the month of January 2012, total electricity generation excluding generation from renewable and captive power plants in India was 73373.77MUs (Table-1).

Of the total electricity generation, 7637.82 MUs (10.41%) were transacted through short-term, comprising of 4450.98MUs (6.07%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2116.33 MUs (2.88%) through UI and 1070.51 MUs (1.46%) through day ahead collective transactions on Power Exchanges (IEX and PXIL) (Table-1 & Chart-2).

Of the total short-term transactions, Bilateral constitute 58.28% (37.12% through traders and term-ahead contracts on Power Exchanges and 21.16% directly between distribution companies) followed by 27.71% through UI and 14.02% 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 are undertaking 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 are 41 trading licensees as on 31.01.2012, of which only 16 have engaged in trading during January

2012. Top 5 trading licenses had a share of 77.34% in the total volume traded by all the licensees.

Herfindahl-Hirschman Index (HHI) has been used for measuring the competition among the trading licensees. Increases in the HHI generally indicate a decrease in competition and an increase of market power, whereas decreases indicate the opposite. A HHI between 0.15 to 0.25 indicates moderate concentration. The HHI computed for volume of electricity traded by trading licensees was 0.1537 for the month of January 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 1031.50MUs and 39.01MUs respectively. The volume of total Buy bids and Sale bids was 2055.79 MUs and 1755.63MUs respectively in IEX and 192.27MUs and 184.13MUs 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 (1.17 times) and in PXIL (1.04 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 92.88 MU in IEX (Table-6) and 4.20 MU 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. The weighted average sale price also computed for the transactions during Round the clock (RTC), Peak and Off-Peak periods separately and the sale price was ₹4.38/kWh, ₹6.10/kWh and ₹5.12/kWh respectively. Minimum and Maximum sale price was ₹2.96/kWh and ₹7.07/kWh respectively (Table-3 & 4).

(ii) Price of electricity transacted Through Power Exchange: The Minimum, Maximum and Weighted Average Price have been computed for the volume transacted through IEX and PXIL separately. The Minimum, Maximum and Weighted Average Price were ₹1.50/kWh, ₹20.00/kWh and ₹3.29/kWh respectively in IEX and ₹1.30/kWh, ₹12.50/kWh and ₹3.36/kWh respectively in PXIL (Table-5).

The weighted average prices of electricity transacted in term-ahead market through the weekly contracts were ₹4.95/kWh and ₹4.18/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 ₹3.33/kWh in the NEW Grid and ₹4.36/kWh in the SR Grid. Minimum and Maximum price of UI was ₹0.00/kWh and ₹12.22/kWh respectively in the New Grid and ₹0.00/kWh and ₹12.22/kWh respectively in the SR Grid (Table-8).

The price of electricity transacted through trading licensees, power exchanges and UI and its 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 selling 52.29% of the volume are Gujarat, Jindal Power Ltd, Chattisgarh, West Bengal and Lanco Amarkantak Power Private Ltd. Top 5 regional entities purchasing 49.03% of the volume are Maharashtra, Madhya Pradesh, Rajasthan, Uttarakhand and Tamil Nadu (Table-9 & 10).

Of the total Power Exchange transactions, top 5 regional entities selling 73.36% of the volume are Gujarat, Maharashtra, Delhi, Chattisgarh and Karnataka. Top 5 regional entities purchasing 73.39% of the volume are Punjab, Tamil Nadu, Rajasthan, Maharashtra and Kerala (Table-11 & 12).

Of the total UI transactions, top 5 regional entities under drawing 45.98% of the volume are Delhi, Maharashtra, Gujarat, Uttar Pradesh and Madhya Pradesh. Top 5 regional entities overdrawing 45.84% of the volume are Haryana, Rajasthan, Karnataka, Uttar Pradesh and Tamil Nadu (Table-13 & 14).

Regional entity-wise total volume of net short-term transactions of electricity i.e. volume of net transactions through bilateral, power exchange and UI is shown in Table-15. Top 5 regional entities selling electricity are Gujarat, Chattisgarh, Jindal Power Ltd, Delhi and Lanco Amarkantak Power Private Ltd. Top 5 regional entities purchasing electricity are Rajasthan, Tamil Nadu, Maharashtra, Madhya Pradesh and Uttarakhand.

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 January 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 of 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 due to congestion was about 21% and 124% of the actual cleared volume in IEX and PXIL, respectively. Although the congestion occurred in power exchanges, in percentage of time terms it was around 94% and 93 % in IEX and 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 10.41%.
- Of the total short-term transactions of electricity, 58.28% transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies) followed by 27.71% through UI and 14.02% through Power Exchanges.
- Top 5 trading licenses are having share of 77.34% in the total volume traded by all the trading licensees.
- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.1537 indicates 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 (₹3.29/kWh in IEX and ₹3.36/kWh in PXIL).
- The price of electricity transacted through UI was ₹3.33/kWh in the NEW Grid and ₹4.36/kWh in the SR Grid.
- The gap between the volume of sale bids and buy bids placed through power exchanges shows that there was more demand in IEX (1:1.17) and in PXIL (1:1.04) when compared with the supply offered through these exchanges.
- Top 5 regional entities selling electricity are Gujarat, Chattisgarh, Jindal Power Ltd, Delhi and Lanco Amarkantak Power Private Ltd. Top 5 regional entities purchasing electricity are Rajasthan, Tamil Nadu, Maharashtra, Madhya Pradesh and Uttarakhand.
- The volume of electricity that could not be cleared due to congestion was about 21% and 124% of the actual cleared volume in IEX and PXIL, respectively. In percentage of time terms, congestion occurred 94% of the time (703 hrs in the month) in IEX and 93% of the time (693 hrs in the month) in PXIL.

Format-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (MUs), JANUARY 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-Jan-12	90.94	51.31	32.97	2.21	92.25	2177.24
2-Jan-12	89.90	54.59	35.37	1.69	81.57	2230.48
3-Jan-12	88.85	52.29	36.96	2.12	65.62	2314.61
4-Jan-12	85.24	53.41	40.18	0.86	62.92	2363.96
5-Jan-12	86.94	45.49	34.85	1.19	55.79	2382.86
6-Jan-12	85.99	51.14	32.17	0.85	62.89	2369.47
7-Jan-12	88.03	53.89	34.19	0.68	78.90	2339.25
8-Jan-12	87.74	54.87	32.14	1.03	73.80	2307.21
9-Jan-12	89.27	53.44	29.23	0.60	74.08	2352.18
10-Jan-12	87.44	52.39	31.22	0.84	66.41	2392.58
11-Jan-12	93.50	45.29	34.82	0.80	68.42	2373.87
12-Jan-12	93.51	52.12	38.88	0.72	63.47	2377.77
13-Jan-12	92.90	51.50	34.85	0.73	64.54	2390.73
14-Jan-12	92.42	50.62	34.03	1.74	69.94	2377.42
15-Jan-12	91.90	50.74	34.92	1.01	74.58	2292.99
16-Jan-12	92.41	50.74	32.98	0.79	65.93	2333.65
17-Jan-12	94.80	50.93	32.77	0.61	57.37	2383.04
18-Jan-12	94.51	52.65	36.53	0.93	62.60	2409.19
19-Jan-12	92.11	53.23	30.80	1.00	61.39	2404.42
20-Jan-12	92.93	53.78	35.65	1.14	62.11	2415.29
21-Jan-12	92.66	54.09	36.30	0.97	65.73	2409.44
22-Jan-12	92.07	54.19	29.47	0.95	68.07	2354.52
23-Jan-12	89.36	54.24	27.81	1.72	62.79	2403.64
24-Jan-12	89.05	54.24	33.84	2.03	57.24	2424.04
25-Jan-12	94.78	53.95	32.75	1.33	58.91	2435.63
26-Jan-12	96.74	51.66	28.42	1.69	75.19	2369.37
27-Jan-12	100.50	52.97	26.42	1.23	74.18	2393.85
28-Jan-12	96.54	51.84	31.08	2.24	70.92	2400.44
29-Jan-12	90.98	51.72	33.59	1.53	72.13	2376.65
30-Jan-12	89.75	51.15	32.68	1.31	72.59	2409.32
31-Jan-12	91.29	51.46	33.62	2.50	74.00	2408.66
Total	2835.03	1615.95	1031.50	39.01	2116.33	73373.77
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), JANUARY 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-Jan-12	2.00	10.00	3.27	2.45	8.00	3.28	0.00	5.44	1.54	0.00	6.38	2.66	
2-Jan-12	2.00	12.01	3.32	2.25	8.75	3.21	0.00	8.26	3.14	0.00	8.26	4.07	
3-Jan-12	1.98	12.01	3.25	2.01	8.50	3.25	1.24	12.22	4.51	0.78	12.22	4.54	
4-Jan-12	2.00	12.00	3.30	2.40	11.00	3.59	1.55	12.22	6.05	1.55	12.22	4.24	
5-Jan-12	2.20	12.00	3.59	2.30	8.75	3.50	0.62	12.22	4.32	2.17	8.26	4.36	
6-Jan-12	2.35	8.65	3.65	2.20	12.25	3.25	0.00	12.22	2.93	1.09	12.22	4.48	
7-Jan-12	1.90	9.00	3.47	2.25	12.50	3.56	0.00	6.85	2.50	0.16	8.26	3.69	
8-Jan-12	1.75	7.00	3.04	1.75	9.10	3.43	0.00	6.85	2.32	1.24	7.79	3.64	
9-Jan-12	1.75	12.01	3.23	1.75	9.00	3.74	0.00	12.22	2.89	1.24	12.22	3.86	
10-Jan-12	1.70	13.00	3.20	1.70	10.10	3.31	0.00	12.22	2.87	1.55	8.26	4.02	
11-Jan-12	1.70	5.50	3.12	1.70	10.10	3.19	0.78	12.22	3.50	2.02	12.22	4.76	
12-Jan-12	1.77	4.80	3.09	2.75	11.00	3.71	0.62	12.22	4.88	1.55	12.22	4.41	
13-Jan-12	1.77	5.20	3.23	2.75	7.01	3.85	1.40	12.22	4.76	1.55	7.79	4.23	
14-Jan-12	1.77	12.00	3.26	2.45	5.21	3.43	0.00	7.32	2.97	0.16	6.85	3.86	
15-Jan-12	1.75	10.10	3.02	1.40	9.00	2.77	0.00	5.44	1.93	0.31	7.79	2.84	
16-Jan-12	1.77	13.50	3.19	1.30	8.50	2.72	0.00	7.32	2.29	0.93	8.26	3.24	
17-Jan-12	1.77	13.50	3.08	2.25	11.00	3.06	0.31	8.26	3.44	0.47	7.32	3.42	
18-Jan-12	1.99	4.51	3.19	1.90	10.01	3.29	1.09	12.22	3.93	1.55	12.22	4.55	
19-Jan-12	1.77	12.01	3.39	2.25	6.00	3.58	0.93	12.22	4.55	2.02	8.26	4.18	
20-Jan-12	1.90	7.01	3.54	2.25	5.51	3.57	0.93	8.26	3.67	2.48	12.22	4.98	
21-Jan-12	1.77	5.50	3.40	1.70	5.51	3.41	0.31	12.22	4.16	2.64	12.22	5.50	
22-Jan-12	1.80	20.00	2.99	1.70	9.00	3.41	0.31	7.32	2.86	0.93	12.22	4.48	
23-Jan-12	2.49	8.01	3.80	2.25	5.50	3.59	0.00	12.22	3.55	0.78	12.22	4.12	
24-Jan-12	1.77	12.00	3.40	2.00	6.01	3.30	1.09	12.22	4.08	2.17	12.22	5.20	
25-Jan-12	1.77	12.00	3.49	1.50	5.50	3.39	0.78	7.79	3.35	1.71	12.22	5.20	
26-Jan-12	2.01	10.00	3.08	1.70	5.50	3.44	0.16	6.38	2.68	1.55	7.79	4.17	
27-Jan-12	1.77	10.00	3.35	2.00	5.51	3.35	0.00	8.26	2.68	2.33	12.22	4.99	
28-Jan-12	1.50	9.88	3.33	1.70	5.50	3.53	0.47	7.79	2.84	2.17	12.22	5.63	
29-Jan-12	1.75	10.00	3.17	1.80	6.01	3.26	0.00	7.79	2.41	1.55	8.26	4.52	
30-Jan-12	1.70	6.00	3.25	1.80	11.50	3.34	0.00	6.38	2.51	2.02	12.22	5.63	
31-Jan-12	1.50	12.00	3.44	1.90	6.01	3.26	0.31	6.38	3.25	1.71	12.22	5.57	
	1.50#	20.00#	3.29	1.30#	12.50#	3.36	0.00#	12.22#	3.33	0.00#	12.22#	4.36	

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), JANUARY 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	246.55	0.00	-246.55	10.63	265.22	254.58	83.26	75.01	-8.24	-0.21
Haryana	235.46	95.24	-140.22	0.00	58.34	58.34	21.62	270.62	249.00	167.11
Rajasthan	148.15	416.81	268.66	23.07	153.66	130.59	26.45	251.54	225.09	624.35
Delhi	211.83	108.48	-103.35	138.48	2.38	-136.09	217.65	7.33	-210.32	-449.76
Uttar Pradesh	0.00	224.14	224.14	0.00	0.00	0.00	122.13	106.95	-15.18	208.95
Uttarakhand	0.00	326.04	326.04	3.08	0.24	-2.85	18.26	73.25	54.99	378.19
Himachal Pradesh	2.49	284.94	282.44	6.38	4.11	-2.27	52.71	16.37	-36.34	243.84
J & K	34.55	240.18	205.63	0.28	0.00	-0.28	50.12	47.50	-2.62	202.72
UT Chandigarh	7.44	0.00	-7.44	0.89	0.69	-0.19	0.97	12.57	11.60	3.97
MP	0.00	474.39	474.39	5.99	6.53	0.54	104.10	62.32	-41.79	433.15
Maharashtra	3.20	675.60	672.40	178.11	108.94	-69.18	194.44	60.77	-133.68	469.55
Gujarat	596.55	39.43	-557.12	246.63	78.61	-168.02	164.26	73.45	-90.81	-815.95
Chattisgarh	497.86	43.68	-454.18	115.01	0.00	-115.01	97.20	19.99	-77.21	-646.41
Daman and Diu	0.00	0.00	0.00	0.00	0.00	0.00	26.78	1.62	-25.15	-25.15
Dadra & Nagar Haveli	0.00	52.08	52.08	0.00	0.00	0.00	19.76	2.64	-17.12	34.96
Andhra Pradesh	34.98	283.93	248.95	31.49	41.94	10.46	49.63	17.48	-32.15	227.26
Karnataka	178.12	90.86	-87.26	94.32	55.74	-38.58	5.22	113.85	108.63	-17.21
Kerala	0.00	178.33	178.33	0.00	86.20	86.20	2.30	49.10	46.80	311.32
Tamilnadu	0.00	300.58	300.58	0.00	171.69	171.69	15.98	105.94	89.96	562.23
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	82.42	0.00	-82.42	-82.42
West Bengal	328.49	31.53	-296.96	22.44	3.00	-19.44	84.54	87.97	3.44	-312.96
Orissa	0.00	82.94	82.94	0.00	9.58	9.58	26.77	73.83	47.06	139.58
Bihar	0.00	223.59	223.59	0.00	0.00	0.00	42.20	5.83	-36.37	187.22
Jharkhand	0.00	74.40	74.40	0.00	0.00	0.00	14.29	38.40	24.12	98.52
Sikkim	0.00	1.92	1.92	16.31	0.00	-16.31	4.77	2.96	-1.81	-16.20
DVC	110.04	125.19	15.15	0.49	0.00	-0.49	76.94	42.40	-34.54	-19.89
Arunachal Pradesh	0.00	0.00	0.00	0.00	5.21	5.21	0.33	23.46	23.13	28.34
Assam	0.00	63.31	63.31	10.50	18.30	7.80	12.49	10.69	-1.80	69.32
Manipur	0.00	0.00	0.00	0.00	0.00	0.00	5.47	3.94	-1.53	-1.53
Meghalaya	0.00	18.83	18.83	0.70	0.00	-0.70	0.78	25.89	25.11	43.25
Mizoram	0.00	0.21	0.21	0.76	0.00	-0.76	0.23	9.47	9.24	8.70
Nagaland	0.00	0.00	0.00	0.00	0.00	0.00	0.25	7.69	7.44	7.44
Tripura	0.00	0.00	0.00	6.10	0.14	-5.95	6.40	1.79	-4.61	-10.57
GOA	0.00	17.28	17.28	0.00	0.00	0.00	19.63	12.74	-6.89	10.39
JINDAL POWER	579.97	0.00	-579.97	31.01	0.00	-31.01	5.79	73.99	68.20	-542.78
LANKO_AMK	324.56	0.00	-324.56	0.00	0.00	0.00	19.01	7.69	-11.32	-335.88
LANKO_KONDAPALLY	126.61	0.00	-126.61	2.57	0.00	-2.57	2.94	7.19	4.25	-124.93
STERLITE	312.33	0.00	-312.33	8.22	0.00	-8.22	18.36	19.61	1.25	-319.30
AD HYDRO	4.43	0.00	-4.43	3.76	0.00	-3.76	0.50	0.38	-0.12	-8.31
KARCHAM WANGTOO	80.26	0.00	-80.26	28.97	0.00	-28.97	5.06	3.03	-2.03	-111.26
SHREE CEMENT	114.00	0.00	-114.00	4.89	0.00	-4.89	9.80	12.39	2.59	-116.30
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	3.39	1.11	-2.28	-2.28
MAITHON POWER LTD	233.67	0.00	-233.67	62.02	0.00	-62.02	9.26	1.25	-8.02	-303.71
ACBIL	39.38	0.00	-39.38	0.00	0.00	0.00	2.63	2.15	-0.48	-39.87
BALCO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RGPPL	0.00	0.00	0.00	0.00	0.00	0.00	7.19	2.92	-4.28	-4.28
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	11.13	4.76	-6.37	-6.37

Source: NLDC

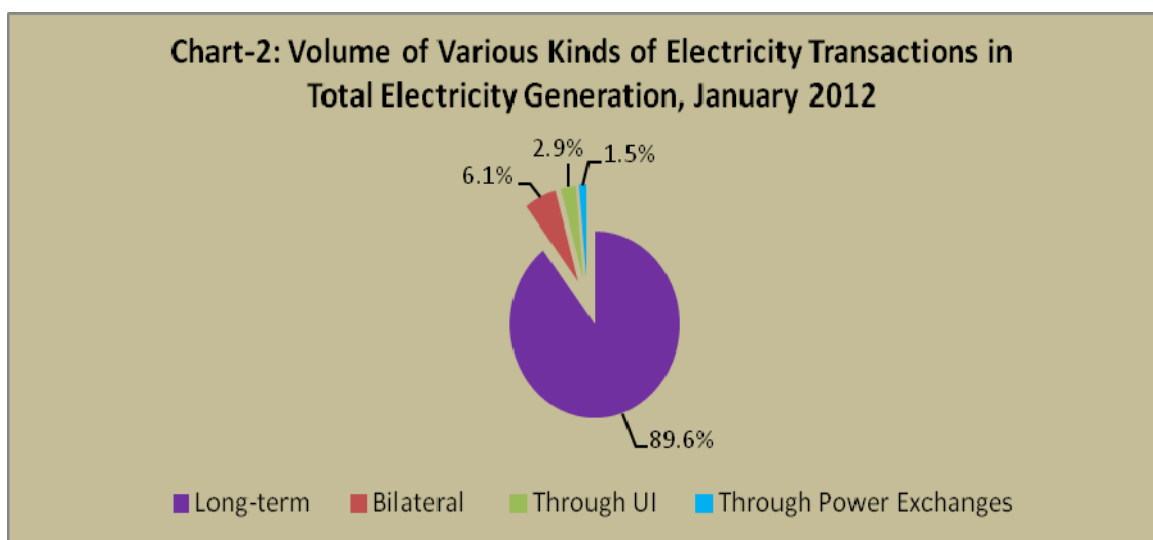
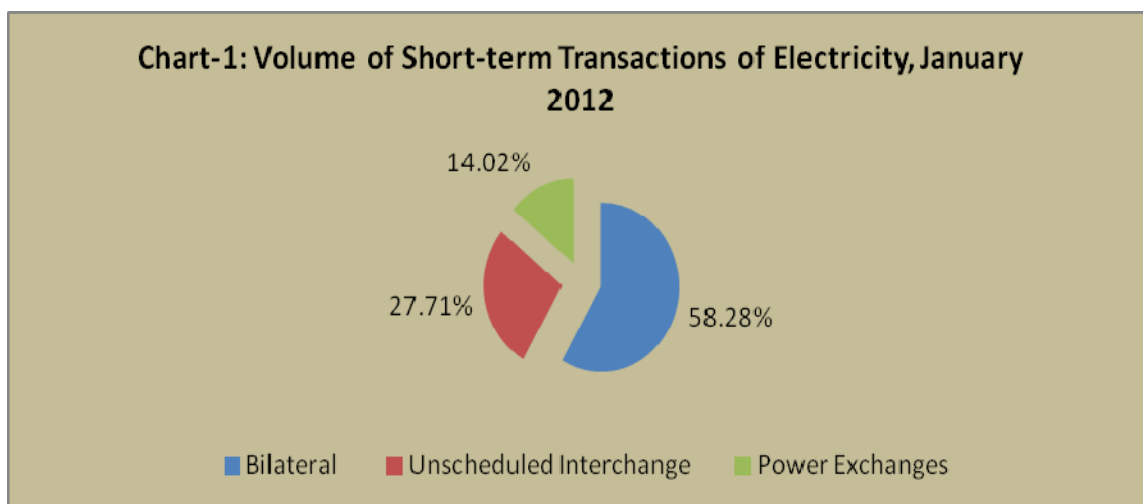
* in case of a state, the entities which are "selling" also include generators connected to state grid and the entities which are "buying" also include open access consumers.

** (-) 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), JANUARY 2012				
Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	4450.98	58.28%	6.07%
	(i) Through Traders and PXs	2835.03	37.12%	3.86%
	(ii) Direct	1615.95	21.16%	2.20%
2	Through Power Exchanges	1070.51	14.02%	1.46%
	IEX	1031.50	13.51%	1.41%
	PXIL	39.01	0.51%	0.05%
3	Through UI	2116.33	27.71%	2.88%
	Total	7637.82	100.00%	10.41%
	Total Generation	73373.77	–	–

Source: NLDC



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

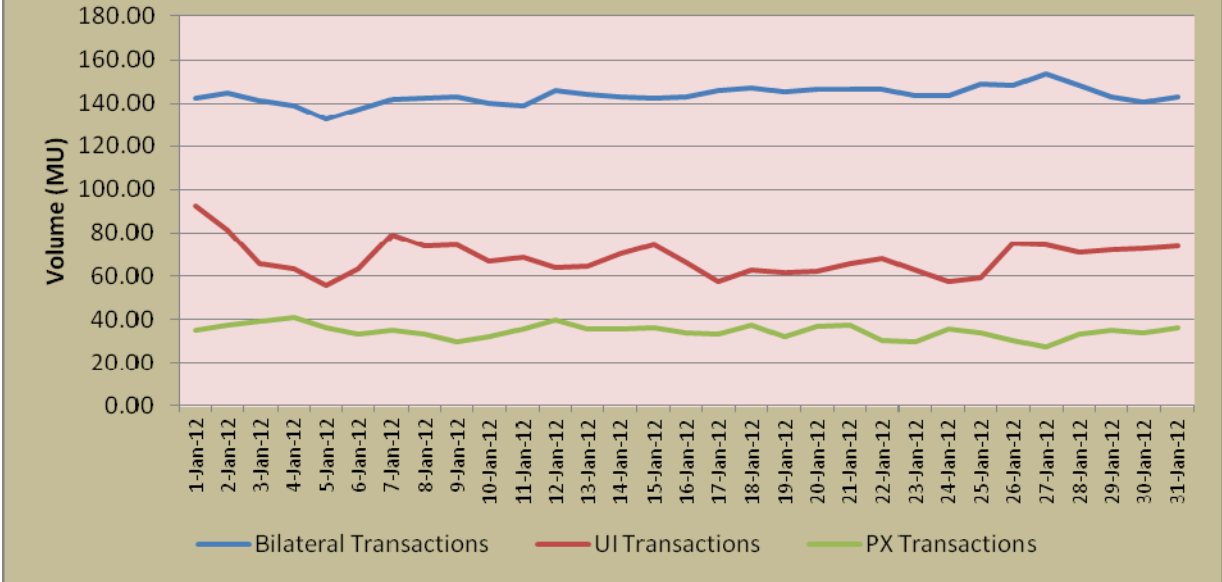


Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, JANUARY 2012

Sr.No	Name of the Trading Licensee	% Share in total Volume transacted by Trading Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd	28.76%	0.0827
2	NTPC Vidyut Vyapar Nigam Ltd	15.33%	0.0235
3	Tata Power Trading Company (P) Ltd	13.75%	0.0189
4	Reliance Energy Trading (P) Ltd	10.29%	0.0106
5	Knowledge Infrastructure Systems (P) Ltd	9.20%	0.0085
6	National Energy Trading & Services Ltd	5.95%	0.0035
7	Adani Enterprises Ltd	5.51%	0.0030
8	Shree Cement Ltd.	4.05%	0.0016
9	JSW Power Trading Company Ltd	2.59%	0.0007
10	Instinct Infra & Power Ltd.	1.93%	0.0004
11	Global Energy (P) Ltd.	1.25%	0.0002
12	Jaiprakash Associate Ltd.	0.90%	0.0001
13	RPG Power Trading Company Ltd.	0.27%	0.0000
14	GMR Energy Trading Ltd	0.18%	0.0000
15	Essar Electric Power Development Corp. Ltd.	0.02%	0.0000
16	Jindal Power Trading Company Ltd.	0.01%	0.0000
	TOTAL	100.00%	0.1537
	Top 5 trading licensees	77.34%	
<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>			

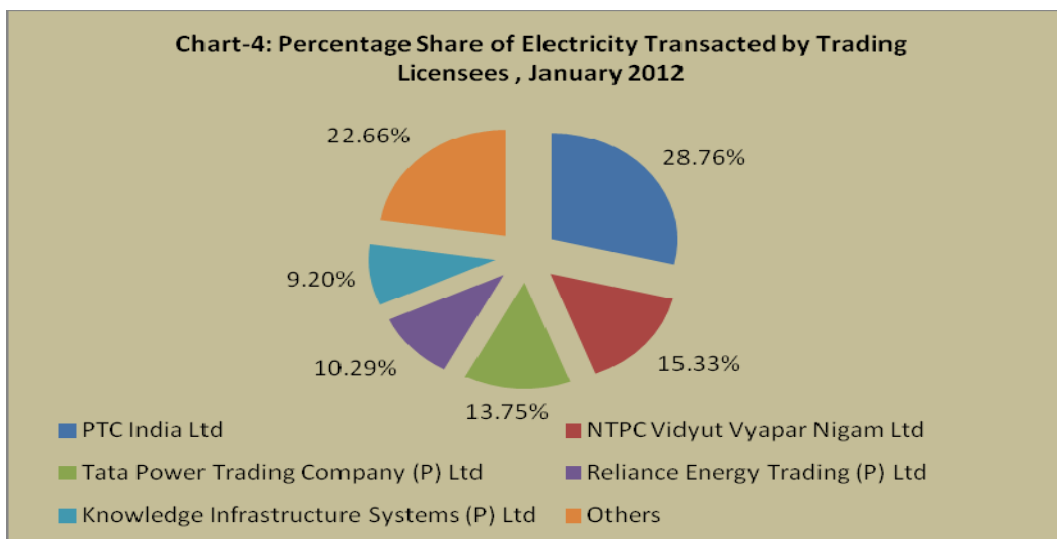


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, JANUARY 2012		
Sr.No		Sale Price of Traders (₹/kWh)
1	Minimum	2.96
2	Maximum	7.07
3	Weighted Average	4.43

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), JANUARY 2012		
Sr.No	Period of Trade	Sale Price of Traders (₹/kWh)
1	RTC	4.38
2	PEAK	6.10
3	OFF PEAK	5.12

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, JANUARY 2012			
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)
1	Minimum	1.50	1.30
2	Maximum	20.00	12.50
3	Weighted Average	3.29	3.36

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, JANUARY 2012			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
2	Day Ahead Contingency Contracts	0.06	4.10
3	Weekly Contracts	92.88	4.95
	Total	92.94	4.95

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, JANUARY 2012			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Weekly Contracts	4.20	4.18
	Total	4.20	4.18

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH UI, JANUARY 2012			
Sr.No		Price in NEW Grid (₹/kWh)	Price in SR Grid (₹/kWh)
1	Minimum	0.00	0.00
2	Maximum	12.22	12.22
3	Average	3.33	4.36

Source: NLDC

Chart-5: Price of Short-term Transactions of Electricity, January 2012

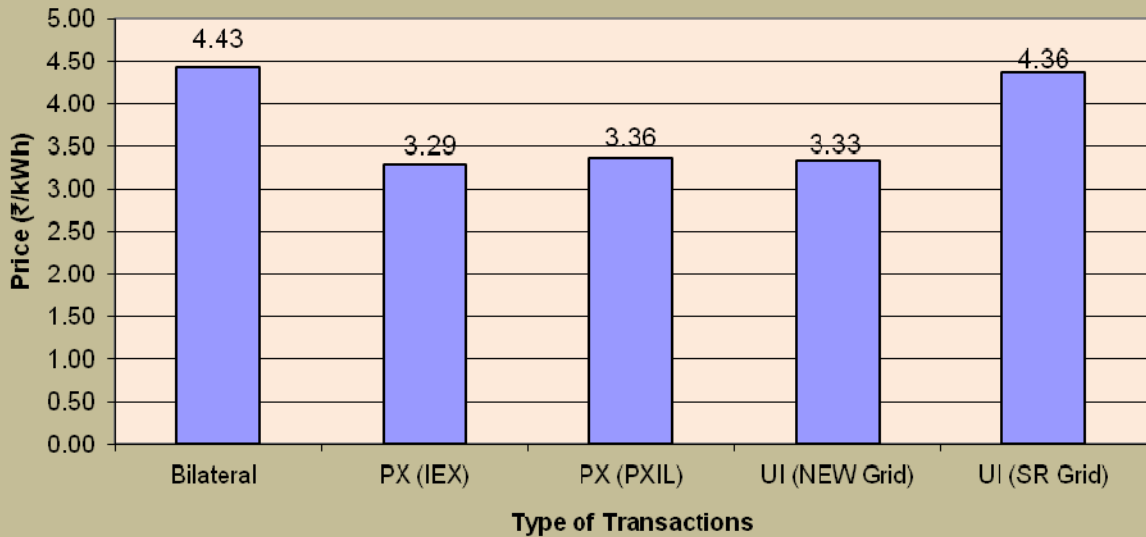


Chart-6: Price of Short-term Transactions of Electricity, January 2012 (Day-wise)

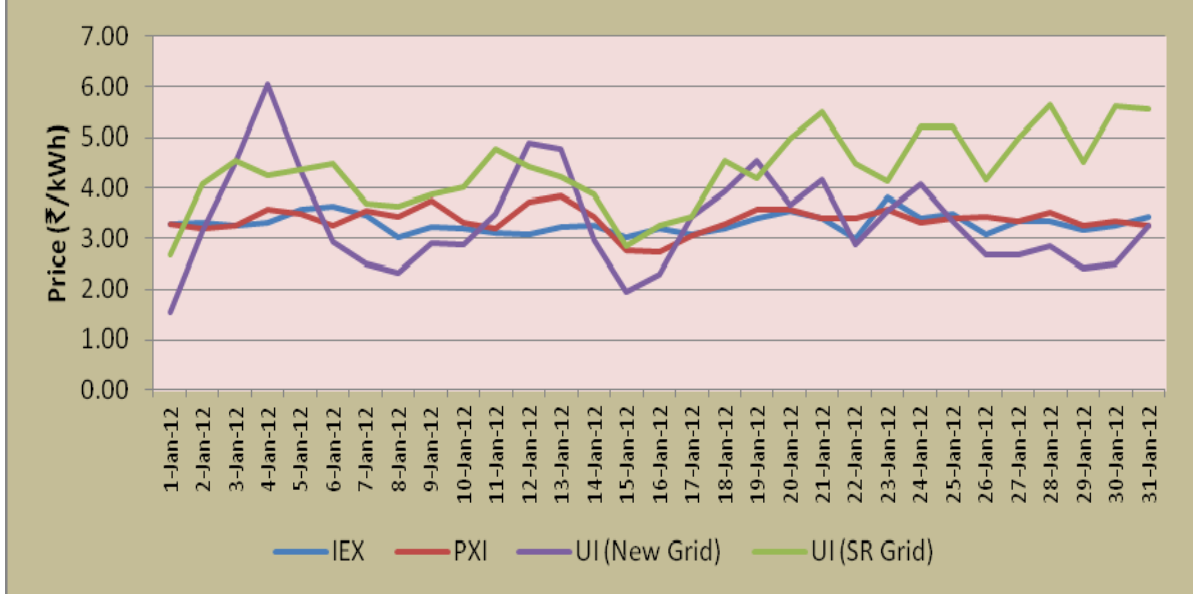


Table-9: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL, JANUARY 2012		
Name of the State/UT/Other Regional Entity	Volume of sale (MUs)	% of Volume
Gujarat	596.55	13.40%
JINDAL POWER	579.97	13.03%
Chattisgarh	497.86	11.19%
West Bengal	328.49	7.38%
LANKO_AMK	324.56	7.29%
STERLITE	312.33	7.02%
Punjab	246.55	5.54%
Haryana	235.46	5.29%
MAITHON POWER LTD	233.67	5.25%
Delhi	211.83	4.76%
Karnataka	178.12	4.00%
Rajasthan	148.15	3.33%
LANKO_KONDAPALLY	126.61	2.84%
SHREE CEMENT	114.00	2.56%
DVC	110.04	2.47%
KARCHAM WANGTOO	80.26	1.80%
ACBIL	39.38	0.88%
Andhra Pradesh	34.98	0.79%
J & K	34.55	0.78%
UT Chandigarh	7.44	0.17%
AD HYDRO	4.43	0.10%
Maharashtra	3.20	0.07%
Himachal Pradesh	2.49	0.06%
Total	4450.92	100.00%
Volume of sale by top 5 regional entities	2327.44	52.29%

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL, JANUARY 2012		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Maharashtra	675.60	15.10%
MP	474.39	10.60%
Rajasthan	416.81	9.32%
Uttarakhand	326.04	7.29%
Tamilnadu	300.58	6.72%
Himachal Pradesh	284.94	6.37%
Andhra Pradesh	283.93	6.35%
J & K	240.18	5.37%
Uttar Pradesh	224.14	5.01%
Bihar	223.59	5.00%
Kerala	178.33	3.99%
DVC	125.19	2.80%
Delhi	108.48	2.42%
Haryana	95.24	2.13%
Karnataka	90.86	2.03%
Orissa	82.94	1.85%
Jharkhand	74.40	1.66%
Assam	63.31	1.42%
Dadra & Nagar Haveli	52.08	1.16%
Chattisgarh	43.68	0.98%
Gujarat	39.43	0.88%
West Bengal	31.53	0.70%
Meghalaya	18.83	0.42%
GOA	17.28	0.39%
Sikkim	1.92	0.04%
Mizoram	0.21	0.00%
Total	4473.91	100.00%
Volume of sale by top 5 regional entities	2193.43	49.03%

Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, JANUARY 2012		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Gujarat	246.63	23.42%
Maharashtra	178.11	16.91%
Delhi	138.48	13.15%
Chattisgarh	115.01	10.92%
Karnataka	94.32	8.96%
MAITHON POWER LTD	62.02	5.89%
Andhra Pradesh	31.49	2.99%
JINDAL POWER	31.01	2.94%
KARCHAM WANGTOO	28.97	2.75%
Rajasthan	23.07	2.19%
West Bengal	22.44	2.13%
Sikkim	16.31	1.55%
Punjab	10.63	1.01%
Assam	10.50	1.00%
STERLITE	8.22	0.78%
Himachal Pradesh	6.38	0.61%
Tripura	6.10	0.58%
MP	5.99	0.57%
SHREE CEMENT	4.89	0.46%
AD HYDRO	3.76	0.36%
Uttarakhand	3.08	0.29%
LANKO_KONDAPALLY	2.57	0.24%
UT Chandigarh	0.89	0.08%
Mizoram	0.76	0.07%
Meghalaya	0.70	0.07%
DVC	0.49	0.05%
J & K	0.28	0.03%
Total	1053.09	100.00%
Volume of sale by top 5 regional entities	772.55	73.36%

Table-12: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGES, JANUARY 2012		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Punjab	265.22	24.77%
Tamilnadu	171.69	16.04%
Rajasthan	153.66	14.35%
Maharashtra	108.94	10.18%
Kerala	86.20	8.05%
Gujarat	78.61	7.34%
Haryana	58.34	5.45%
Karnataka	55.74	5.21%
Andhra Pradesh	41.94	3.92%
Assam	18.30	1.71%
Orissa	9.58	0.90%
MP	6.53	0.61%
Arunachal Pradesh	5.21	0.49%
Himachal Pradesh	4.11	0.38%
West Bengal	3.00	0.28%
Delhi	2.38	0.22%
UT Chandigarh	0.69	0.06%
Uttarakhand	0.24	0.02%
Tripura	0.14	0.01%
Total	1070.51	100.00%
Volume of purchase by top 5 regional entities	785.70	73.39%

Table-13: VOLUME OF ELECTRICITY EXPORT THROUGH UI, JANUARY 2012		
Name of the State/UT/Other Regional Entity	Volume of Export (MUs)	% of Volume
Delhi	217.65	12.47%
Maharashtra	194.44	11.14%
Gujarat	164.26	9.41%
Uttar Pradesh	122.13	7.00%
MP	104.10	5.96%
Chattisgarh	97.20	5.57%
West Bengal	84.54	4.84%
Punjab	83.26	4.77%
Pondicherry	82.42	4.72%
DVC	76.94	4.41%
Himachal Pradesh	52.71	3.02%
J & K	50.12	2.87%
Andhra Pradesh	49.63	2.84%
Bihar	42.20	2.42%
Daman and Diu	26.78	1.53%
Orissa	26.77	1.53%
Rajasthan	26.45	1.52%
Haryana	21.62	1.24%
Dadra & Nagar Haveli	19.76	1.13%
GOA	19.63	1.12%
LANKO_AMK	19.01	1.09%
STERLITE	18.36	1.05%
Uttarakhand	18.26	1.05%
Tamilnadu	15.98	0.92%
Jharkhand	14.29	0.82%
Assam	12.49	0.72%
CGPL	11.13	0.64%
SHREE CEMENT	9.80	0.56%
MAITHON POWER LTD	9.26	0.53%
RGPPPL	7.19	0.41%
Tripura	6.40	0.37%
JINDAL POWER	5.79	0.33%
Manipur	5.47	0.31%
Karnataka	5.22	0.30%
KARCHAM WANGTOO	5.06	0.29%
Sikkim	4.77	0.27%
NSPCL	3.39	0.19%
LANKO_KONDAPALLY	2.94	0.17%
ACBIL	2.63	0.15%
Kerala	2.30	0.13%
UT Chandigarh	0.97	0.06%
Meghalaya	0.78	0.04%
AD HYDRO	0.50	0.03%
Arunachal Pradesh	0.33	0.02%
Nagaland	0.25	0.01%
Mizoram	0.23	0.01%
BALCO	0.00	0.00%
Total	1745.42	100.00%
Volume of Export by top 5 regional entities	802.58	45.98%

Table-14: VOLUME OF ELECTRICITY IMPORT THROUGH UI, JANUARY 2012		
Name of the State/UT/Other Regional Entity	Volume of Import (MUs)	% of Volume
Haryana	270.62	14.61%
Rajasthan	251.54	13.58%
Karnataka	113.85	6.15%
Uttar Pradesh	106.95	5.78%
Tamilnadu	105.94	5.72%
West Bengal	87.97	4.75%
Punjab	75.01	4.05%
JINDAL POWER	73.99	4.00%
Orissa	73.83	3.99%
Gujarat	73.45	3.97%
Uttarakhand	73.25	3.96%
MP	62.32	3.37%
Maharashtra	60.77	3.28%
Kerala	49.10	2.65%
J & K	47.50	2.57%
DVC	42.40	2.29%
Jharkhand	38.40	2.07%
Meghalaya	25.89	1.40%
Arunachal Pradesh	23.46	1.27%
Chattisgarh	19.99	1.08%
STERLITE	19.61	1.06%
Andhra Pradesh	17.48	0.94%
Himachal Pradesh	16.37	0.88%
GOA	12.74	0.69%
UT Chandigarh	12.57	0.68%
SHREE CEMENT	12.39	0.67%
Assam	10.69	0.58%
Mizoram	9.47	0.51%
Nagaland	7.69	0.42%
LANKO_AMK	7.69	0.42%
Delhi	7.33	0.40%
LANKO_KONDAPALLY	7.19	0.39%
Bihar	5.83	0.31%
CGPL	4.76	0.26%
Manipur	3.94	0.21%
KARCHAM WANGTOO	3.03	0.16%
Sikkim	2.96	0.16%
RGPPL	2.92	0.16%
Dadra & Nagar Haveli	2.64	0.14%
ACBIL	2.15	0.12%
Tripura	1.79	0.10%
Daman and Diu	1.62	0.09%
MAITHON POWER LTD	1.25	0.07%
NSPCL	1.11	0.06%
AD HYDRO	0.38	0.02%
Total	1851.84	100.00%
Volume of Export by top 5 regional entities	848.89	45.84%

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

Sr.No	Name of the State/UT/Other Regional Entity	Total volume of net short-term transactions of electricity*
1	Rajasthan	624.35
2	Tamilnadu	562.23
3	Maharashtra	469.55
4	MP	433.15
5	Uttarakhand	378.19
6	Kerala	311.32
7	Himachal Pradesh	243.84
8	Andhra Pradesh	227.26
9	Uttar Pradesh	208.95
10	J & K	202.72
11	Bihar	187.22
12	Haryana	167.11
13	Orissa	139.58
14	Jharkhand	98.52
15	Assam	69.32
16	Meghalaya	43.25
17	Dadra & Nagar Haveli	34.96
18	Arunachal Pradesh	28.34
19	GOA	10.39
20	Mizoram	8.70
21	Nagaland	7.44
22	UT Chandigarh	3.97
23	BALCO	0.00
24	Punjab	-0.21
25	Manipur	-1.53
26	NSPCL	-2.28
27	RGPPL	-4.28
28	CGPL	-6.37
29	AD HYDRO	-8.31
30	Tripura	-10.57
31	Sikkim	-16.20
32	Karnataka	-17.21
33	DVC	-19.89
34	Daman and Diu	-25.15
35	ACBIL	-39.87
36	Pondicherry	-82.42
37	KARCHAM WANGTOO	-111.26
38	SHREE CEMENT	-116.30
39	LANKO_KONDAPALLY	-124.93
40	MAITHON POWER LTD	-303.71
41	West Bengal	-312.96
42	STERLITE	-319.30
43	LANKO_AMK	-335.88
44	Delhi	-449.76
45	JINDAL POWER	-542.78
46	Chattisgarh	-646.41
47	Gujarat	-815.95

* 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, JANUARY 2012			
	Details of Congestion	IEX	PXIL
A	Unconstrained Cleared Volume* (MUs)	1249.71	87.32
B	Actual Cleared Volume and hence scheduled (MUs)	1031.05	39.01
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	218.66	48.31
D	Volume of electricity that could not be cleared as % to Actual Cleared Volume	21%	124%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	94%	93%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	24%	26%
	6.00 - 12.00 hours	25%	23%
	12.00 - 18.00 hours	25%	25%
	18.00 - 24.00 hours	26%	26%
<i>* This power would have been scheduled had there been no congestion.</i>			