

**MONTHLY REPORT ON
SHORT-TERM TRANSACTIONS OF ELECTRICITY
(April 2010)**

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. In this context, “short-term transactions of electricity” means 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 April 2010 is as under:

I: Volume of Short-term Transactions of Electricity

During the Month of April 2010, total electricity generation excluding generation from renewable and captive power plants in India was 66572.47 MUs (Table-1).

Of the total electricity generation, 5353.85 MUs (8.04%) were transacted through short-term, comprising of 2698.58 MUs (4.05%) through Bilateral (through traders and tem-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2010.96 MUs (3.02%) through UI and 644.31 MUs (0.97%) through Power Exchanges (IEX and PXIL) (Table-1 & Chart-2).

Of the total short-term transactions, Bilateral constitute 50.40% (39.12% through traders and tem-ahead contracts on Power Exchanges and 11.28% direct between distribution companies) followed by 37.56% through UI and 12.03% through day ahead collective transactions over 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 39 trading licensees as on 30.4.2010, of which only 14 have engaged in trading during April 2010. Top 5 trading licenses had a share of 89.57% 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 above 0.18 indicates high concentration. The HHI computed for volume of electricity traded by trading licensees was 0.2136 shows high concentration/market power (Table-2).

The volume of electricity transacted through IEX and PXIL was 563.54 MUs and 80.77 MUs respectively. The volume of total Buy bids and Sale bids was 1164.04 MUs and 686.70 MUs respectively in IEX and 257.88 MUs and 129.79 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 (1.70 times) and in PXIL (1.99 times) when compared with the supply offered through these exchanges.

The volume of electricity transacted in the term-ahead contracts of power exchanges was 1.88 MU in IEX and 0.51 MU in PXIL (Table-5A&5B).

II: Price of Short-term Transactions of Electricity

(1) **Price of electricity transacted through Traders:** Weighted average sale price has been computed for the electricity transacted through traders and it was Rs.5.74/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 Rs.5.68, Rs.6.62 and Rs.5.72 respectively. Minimum and Maximum sale price was Rs.2.83 and Rs.10.57 respectively (Table-3 & 4).

(2) **Price of electricity transacted Through Power Exchange:** The Minimum, Maximum and Weighted Average Price has been computed for the volume transacted through IEX and PXIL separately. The Minimum, Maximum and Weighted Average Price was Rs.1.00, Rs.13.90 and Rs.7.75 respectively in IEX and Rs.2.50, Rs.12.50 and Rs.7.43 respectively in PXIL (Table-5).

The weighted average price of electricity transacted in the term-ahead contracts of power exchanges was Rs.8.18/kWh for Intra-Day Contracts and Rs.10.27/kWh for Day-

Ahead Contingency Contracts in IEX and Rs.8.00/kWh for Day-Ahead Contingency Contracts in PXIL (Table-5A&5B).

(3) 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 Rs.7.75/kWh in the NEW Grid and Rs.6.66/kWh in the SR Grid. Minimum and Maximum price of UI was Rs.0.72/kWh and Rs.10.29/kWh respectively in the New Grid and Rs.0.24/kWh and Rs.10.29/kWh respectively in the SR Grid (Table-6).

The weighted average price/average 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 64.51% of the volume are Jindal Power Ltd, Gujarat, Chattisgarh, Punjab and Jammu & Kashmir and top 5 regional entities purchasing 74.20% of the volume are Tamil Nadu, Delhi, Andhra Pradesh, Maharashtra and Rajasthan (Table-7 & 8).

Of the total Power Exchange transactions, top 5 regional entities selling 75.38% of the volume are Gujarat, Delhi, Chattisgarh, Madhya Pradesh and Himachal Pradesh and top 5 regional entities purchasing 90.40% of the volume are Tamil Nadu, Rajasthan, Haryana, Maharashtra and Delhi (Table-9 & 10).

Of the total UI transactions, top 5 regional entities underdrawing 57.04% of the volume are Gujarat, Delhi, Andhra Pradesh, Lanco Amarkant Ltd and Chattisgarh top 5 regional entities overdrawing 60.88% of the volume are Uttar Pradesh, Punjab, Haryana, Orissa and Tamil Nadu (Table-11 & 12).

Regional entity-wise total volume of net short-term transactions of electricity i.e. volume of net transactions through bilateral, power exchange and UI was shown in Table-13. Top 5 regional entities selling electricity are Gujarat, Jindal Power Ltd, Chattisgarh, Jammu & Kashmir and Madhya Pradesh and top 5 regional entities purchasing electricity are Tamil Nadu, Uttar Pradesh, Maharashtra, Rajasthan and Orissa.

IV: Congestion² on Inter-state Transmission for Day-Ahead Market on Power Exchanges:

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.

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 April 2010, congestion occurred in both the power exchanges, the details of which are shown in Table-14. 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. The volume of electricity that could not be cleared due to congestion was about 2% of the actual cleared volume in IEX and about 8% of the actual cleared volume in PXIL.

In IEX congestion occurred in Southern Region and North-Eastern Region where as in PXIL congestion occurred in Southern Region. In IEX congestion occurred about 35% of the hourly time blocks whereas in PXIL it occurred about 34% of the hourly time blocks. Congestion occurred in most number of times during 6.00-12.00 hours of the day in both the exchanges.

V: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 8.04%.
- Of the total short-term transactions of electricity, 50.40% transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by

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.

distribution companies) followed by 37.56% through UI and 12.03% through Power Exchanges.

- Top 5 trading licenses are having share of 89.57% in the total volume traded by all the trading licensees.
- The price of electricity transacted through Power Exchanges was relatively high (Rs.7.75/KWh in IEX and Rs.7.43/KWh in PXIL) when compared with the price of electricity transacted through Trading Licensees (Rs.5.74/KWh). The price of electricity transacted through UI was Rs.7.75/KWh in NEW Grid and Rs.6.66/KWh in SR Grid.
- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.2136 shows high concentration/market power.
- The gap between the volume of buy bids and sale bids placed through power exchanges shows that there was more demand in IEX (1.70 times) and in PXIL (1.99 times) when compared with the supply offered through these exchanges.
- Top 5 regional entities selling electricity are Gujarat, Jindal Power Ltd, Chattisgarh, Jammu & Kashmir and Madhya Pradesh and top 5 regional entities purchasing electricity are Tamil Nadu, Uttar Pradesh, Maharashtra, Rajasthan and Orissa.
- Congestion occurred in IEX in the Southern Region and North-Eastern Region whereas in PXIL congestion occurred in Southern Region. In IEX congestion occurred about 35% of the hourly time blocks whereas in PXIL it occurred about 34% of the hourly time blocks. Congestion occurred in most number of times during 6.00-12.00 hours of the day in both the exchanges.
- Volume of electricity that could not be cleared due to congestion was about 2% of the actual cleared volume in IEX and about 8% of the actual cleared volume in PXIL.

VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA) (MUs)						Total Electricity Generation (MUs) as given at CEA Website*
Month: Apr 2010						
Date	Bilateral		Power Exchange (Market Clearing Volume of day ahead market)		Unscheduled Interchange (Over Drawl+Under Generation)	
	Through Traders and PXs**	Direct	IEX	PXI		
1-Apr-10	69.74	19.65	17.79	3.53	74.87	2244.63
2-Apr-10	70.84	20.20	19.56	3.33	65.20	2230.10
3-Apr-10	73.05	20.20	22.27	3.65	58.68	2222.58
4-Apr-10	74.68	19.83	20.28	3.32	72.54	2203.36
5-Apr-10	73.48	20.20	19.63	2.00	60.52	2253.29
6-Apr-10	73.78	20.20	19.20	1.90	62.52	2254.00
7-Apr-10	72.36	21.65	17.35	2.36	65.65	2254.30
8-Apr-10	71.84	19.29	17.80	2.55	60.14	2236.99
9-Apr-10	65.10	19.31	14.96	1.32	57.07	2235.76
10-Apr-10	66.68	20.49	12.40	1.31	66.68	2223.03
11-Apr-10	64.24	20.27	15.80	0.73	82.39	2190.18
12-Apr-10	67.11	20.27	16.47	2.05	73.21	2249.49
13-Apr-10	67.73	20.27	17.07	2.37	60.42	2235.67
14-Apr-10	66.36	20.32	17.78	2.26	61.33	2216.43
15-Apr-10	70.16	20.32	13.79	2.11	56.72	2235.29
16-Apr-10	71.08	21.28	17.06	2.19	56.38	2229.45
17-Apr-10	73.82	21.79	13.47	1.09	59.56	2209.75
18-Apr-10	72.64	21.71	13.69	1.04	75.69	2169.13
19-Apr-10	70.30	21.32	14.34	1.63	79.05	2171.38
20-Apr-10	69.22	21.33	17.95	1.64	72.73	2214.98
21-Apr-10	67.66	21.39	22.36	3.74	70.87	2210.00
22-Apr-10	66.97	20.38	23.66	4.76	53.98	2231.68
23-Apr-10	72.97	19.44	21.32	4.32	56.40	2232.43
24-Apr-10	72.81	20.52	21.64	3.31	65.37	2237.27
25-Apr-10	67.60	20.29	16.56	3.26	87.93	2148.45
26-Apr-10	69.11	18.43	21.77	4.22	75.19	2224.01
27-Apr-10	68.46	18.44	24.11	3.22	82.02	2203.85
28-Apr-10	68.30	18.46	26.23	4.35	62.29	2217.73
29-Apr-10	67.91	18.39	22.36	3.09	71.37	2211.37
30-Apr-10	68.55	18.36	24.87	4.13	64.17	2175.89
Total	2094.57	604.01	563.54	80.77	2010.96	66572.47

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.

PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (Rs/KWh)												
Month: Apr 2010												
Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (UI)					
Date	Minimum MCP	Maximum MCP	Weighted Average*	Minimum MCP	Maximum MCP	Weighted Average*	NEW Grid			SR Grid		
							Minimum Price	Maximum Price	Average Price**	Minimum Price	Maximum Price	Average Price**
1-Apr-10	1.99	5.50	3.71	2.50	7.20	3.84	0.84	10.29	5.06	1.68	10.29	4.55
2-Apr-10	2.19	6.00	3.78	2.50	4.49	3.59	2.16	10.29	5.69	3.12	10.29	6.84
3-Apr-10	2.60	6.50	4.25	2.50	6.30	4.06	2.16	10.29	7.03	2.40	10.29	7.82
4-Apr-10	3.70	6.50	4.71	2.55	7.50	4.31	0.96	10.29	4.89	2.64	10.29	6.35
5-Apr-10	4.80	7.35	5.66	2.72	7.25	6.52	2.04	10.29	6.65	3.48	10.29	6.17
6-Apr-10	4.49	8.50	5.73	2.50	7.60	6.60	2.64	10.29	7.16	3.12	10.29	7.54
7-Apr-10	5.00	8.60	6.11	4.15	8.60	6.69	2.16	10.29	7.25	4.32	10.29	8.90
8-Apr-10	5.00	8.90	6.34	4.50	8.50	6.49	4.80	10.29	8.85	2.76	10.29	7.40
9-Apr-10	6.25	9.00	7.10	5.10	8.80	6.36	4.56	10.29	9.46	1.44	10.29	8.69
10-Apr-10	7.20	10.00	7.83	6.75	9.25	7.46	4.08	10.29	7.61	0.96	10.29	8.16
11-Apr-10	7.50	9.50	7.82	7.00	9.50	7.59	1.32	10.29	5.80	2.40	10.29	7.03
12-Apr-10	7.40	10.00	8.06	7.45	9.75	7.65	0.72	10.29	6.07	2.04	10.29	6.48
13-Apr-10	7.00	10.50	8.37	7.50	10.00	7.86	4.32	10.29	7.55	0.48	10.29	5.73
14-Apr-10	7.50	10.00	8.60	7.49	10.30	7.82	4.56	10.29	8.86	2.16	10.29	5.35
15-Apr-10	7.75	11.00	8.73	7.75	10.00	8.00	3.60	10.29	8.97	2.28	10.29	7.46
16-Apr-10	7.95	12.00	9.15	8.00	10.00	8.92	6.33	10.29	10.12	1.56	10.29	7.13
17-Apr-10	8.00	12.15	9.49	8.00	12.00	9.42	6.33	10.29	10.11	2.64	10.29	7.59
18-Apr-10	8.00	12.15	8.55	3.70	12.00	9.66	1.08	10.29	7.22	0.36	10.29	5.14
19-Apr-10	8.00	13.00	10.19	8.00	10.00	8.83	4.08	10.29	7.56	1.68	10.29	5.38
20-Apr-10	8.00	13.21	10.31	8.00	12.50	9.28	3.36	10.29	7.47	1.32	10.29	5.84
21-Apr-10	7.90	13.50	10.25	7.90	10.00	8.82	3.24	10.29	7.46	2.28	10.29	5.16
22-Apr-10	6.70	12.00	9.04	7.90	12.00	9.13	5.48	10.29	9.15	2.40	10.29	6.32
23-Apr-10	5.50	12.00	8.85	6.00	11.50	8.61	6.16	10.29	9.75	2.52	10.29	7.42
24-Apr-10	6.00	12.20	8.85	5.00	12.50	8.40	4.20	10.29	9.05	1.80	10.29	7.31
25-Apr-10	1.00	8.00	6.64	6.70	11.50	8.20	0.84	10.29	6.66	0.84	10.29	5.82
26-Apr-10	6.50	13.20	9.29	6.80	11.50	7.91	2.16	10.29	8.00	0.24	10.29	4.89
27-Apr-10	6.80	12.00	8.72	7.35	11.75	8.14	3.60	10.29	8.15	1.08	10.29	6.16
28-Apr-10	6.46	13.50	8.91	7.35	11.30	8.23	2.88	10.29	8.40	1.92	10.29	7.32
29-Apr-10	6.80	13.90	9.23	7.35	11.75	8.51	2.88	10.29	8.33	3.48	10.29	7.63
30-Apr-10	6.80	12.00	9.07	7.35	10.40	8.64	4.32	10.29	8.10	1.08	10.29	6.29
	1.00#	13.90#	7.75	2.50#	12.50#	7.43	0.72#	10.29#	7.75	0.24#	10.29#	6.66

Source: Data on price of PX transactions from IEX and PXIL and data on UI Price from NLDC

* Weighted average price computed based on Market Clearing Volume (MCV) and Market Clearing Price (MCP) for each hour of the day

** 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

VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY*-WISE) (MUs)										
Month: Apr 2010										
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	230.09	62.02	-168.07	6.51	3.94	-2.58	9.24	304.17	294.93	124.28
Haryana	125.21	24.35	-100.86	1.84	94.45	92.61	11.34	196.19	184.85	176.61
Rajasthan	14.16	132.57	118.41	15.93	181.84	165.91	45.64	105.53	59.89	344.21
Delhi	43.40	467.12	423.72	95.54	30.67	-64.87	172.72	22.21	-150.52	208.34
Uttar Pradesh	12.29	28.80	16.51	0.00	7.00	7.00	8.73	457.59	448.86	472.37
Uttarakhand	28.80	0.00	-28.80	0.00	0.00	0.00	7.71	77.74	70.03	41.23
Himachal Pradesh	36.97	0.00	-36.97	42.28	0.00	-42.28	38.73	29.87	-8.86	-88.11
J & K	198.80	0.00	-198.80	0.70	0.00	-0.70	21.45	60.75	39.30	-160.19
UT Chandigarh	0.00	15.89	15.89	0.00	0.00	0.00	0.56	32.24	31.68	47.57
MP	97.38	76.64	-20.74	54.27	0.00	-54.27	94.44	20.43	-74.01	-149.02
Maharashtra	25.20	301.23	276.03	19.06	75.20	56.14	41.15	154.57	113.42	445.59
Gujarat	412.09	0.00	-412.09	177.78	21.33	-156.45	272.31	8.11	-264.21	-832.74
Chattisgarh	368.18	50.65	-317.53	77.32	0.00	-77.32	124.70	35.53	-89.17	-484.03
Daman and Diu	0.00	0.00	0.00	0.00	0.00	0.00	30.12	0.94	-29.19	-29.19
Dadra & Nagar Haveli	0.00	0.00	0.00	0.00	0.00	0.00	11.86	8.99	-2.88	-2.88
Andhra Pradesh	7.77	320.57	312.80	0.27	6.10	5.83	157.91	11.61	-146.30	172.33
Karnataka	139.58	91.39	-48.19	6.58	0.00	-6.58	13.49	60.38	46.89	-7.88
Kerala	97.30	63.48	-33.82	17.99	12.56	-5.43	16.30	14.46	-1.83	-41.08
Tamilnadu	0.00	803.55	803.55	0.00	200.32	200.32	18.37	170.79	152.42	1156.28
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	9.87	1.04	-8.83	-8.83
West Bengal	80.42	105.68	25.26	27.50	6.22	-21.28	17.48	73.47	55.99	59.97
Orissa	34.56	73.00	38.44	0.00	0.00	0.00	0.37	177.91	177.54	215.99
Bihar	0.00	0.00	0.00	0.00	0.00	0.00	71.83	3.65	-68.18	-68.18
Jharkhand	0.00	72.00	72.00	0.00	0.00	0.00	19.98	12.19	-7.79	64.21
Sikkim	22.37	1.44	-20.93	5.98	0.00	-5.98	5.64	9.16	3.53	-23.38
DVC	14.99	0.00	-14.99	0.00	0.00	0.00	38.54	34.89	-3.65	-18.63
Arunachal Pradesh	2.61	0.00	-2.61	3.13	0.17	-2.96	4.47	3.67	-0.80	-6.38
Assam	23.65	36.00	12.35	4.74	0.00	-4.74	31.38	5.87	-25.51	-17.90
Manipur	0.00	0.00	0.00	0.00	0.00	0.00	8.99	1.22	-7.77	-7.77
Meghalaya	8.64	2.01	-6.63	2.39	4.49	2.11	5.09	7.72	2.64	-1.89
Mizoram	0.00	0.00	0.00	0.00	0.00	0.00	1.76	4.07	2.31	2.31
Nagaland	0.00	0.00	0.00	0.00	0.00	0.00	1.98	8.01	6.02	6.02
Tripura	0.32	0.68	0.36	5.03	0.03	-5.00	7.66	2.42	-5.24	-9.88
GOA	0.00	0.00	0.00	3.36	0.00	-3.36	12.08	16.29	4.21	0.85
JINDAL POWER	485.27	0.00	-485.27	11.65	0.00	-11.65	3.17	1.16	-2.01	-498.92
LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	126.85	0.35	-126.49	-126.49
MUNDRA APL	38.50	0.00	-38.50	0.00	0.00	0.00	25.21	9.86	-15.35	-53.85
LANKO_KONDAPALLY	78.05	0.00	-78.05	13.38	0.00	-13.38	8.95	1.11	-7.83	-99.27

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), APR 2010				
Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	2698.58	50.40%	4.05%
	(i) Through Traders and PXs	2094.57	39.12%	3.15%
	(ii) Direct	604.01	11.28%	0.91%
2	Through Power Exchanges	644.31	12.03%	0.97%
	IEX	563.54	10.53%	0.85%
	PXIL	80.77	1.51%	0.12%
3	Through UI	2010.96	37.56%	3.02%
	Total	5353.85	100.00%	8.04%
	Total Generation	66572.47		

Source: NLDC

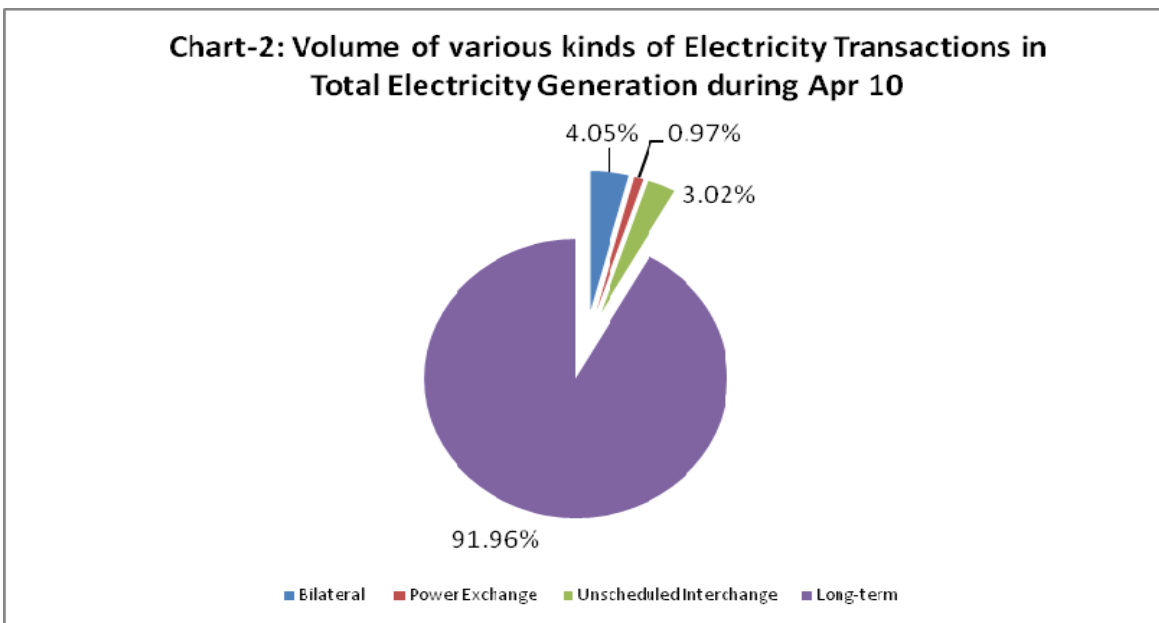
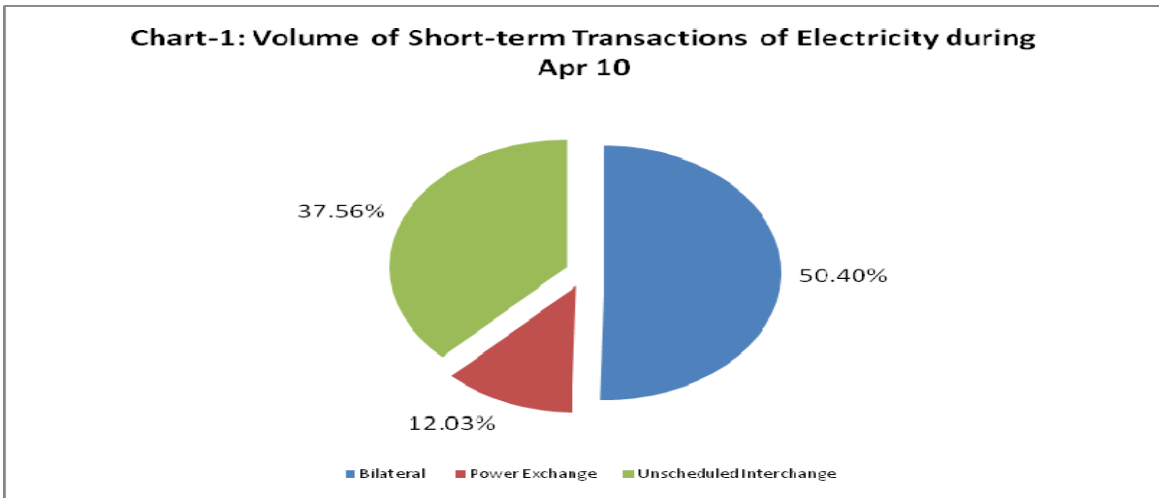
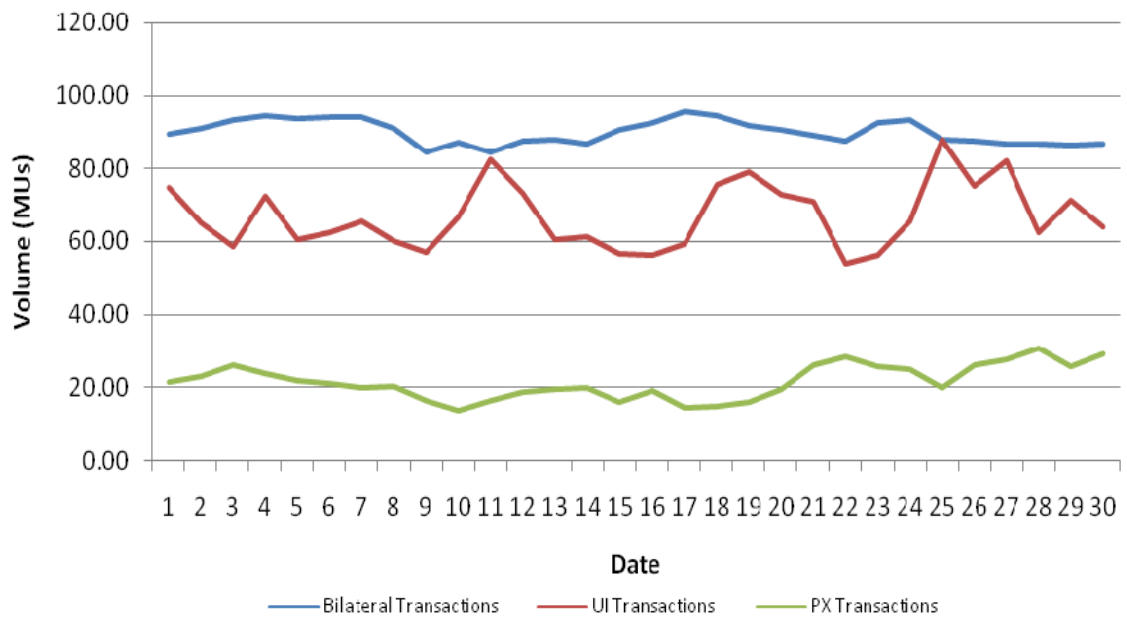


Chart-3: Volume of Short-term Transactions of Electricity, Apr 2010



Sr.No	Name of the Trading Licensee	% Share in total Volume traded by Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd	36.46%	0.1329
2	NTPC Vidyut Vyapar Nigam Ltd	19.88%	0.0395
3	Lanco Electric Utility Ltd	14.21%	0.0202
4	Tata Power Trading Company (P) Ltd	10.61%	0.0113
5	Reliance Energy Trading (P) Ltd	8.41%	0.0071
6	GMR Energy Trading Ltd	3.72%	0.0014
7	JSW Power Trading Company Ltd	3.06%	0.0009
8	Adani Enterprises Ltd	1.26%	0.0002
9	RPG Power Trading Company Ltd	0.85%	0.0001
10	Pune Power Development (P) Ltd	0.50%	0.0000
11	Instinct Advertisement & Marketing Ltd	0.44%	0.0000
12	Shree Cement Ltd.	0.26%	0.0000
13	Mittal Processors (P) Ltd	0.21%	0.0000
14	Knowledge Infrastructure Systems (P) Ltd	0.12%	0.0000
	Total	100.00%	0.2136
	Top 5 trading licensees	89.57%	

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

Source: Information submitted by trading licensees

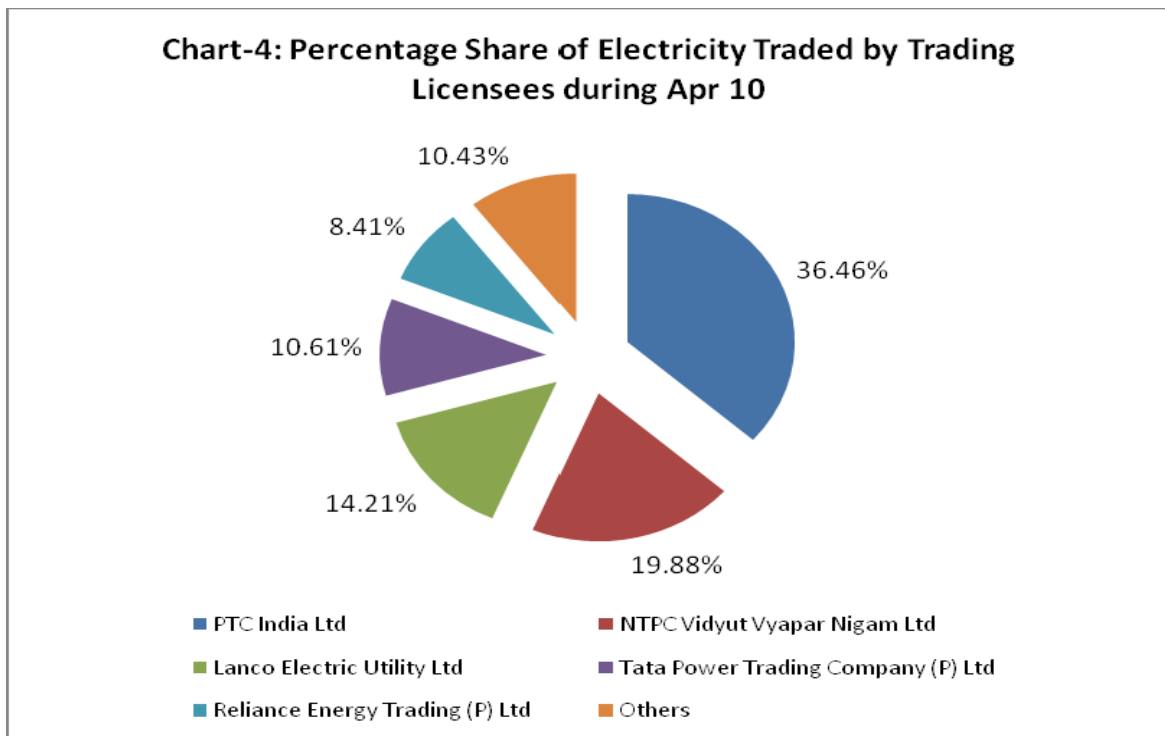


Table-3: PRICE OF POWER TRANSACTED THROUGH TRADERS		
Sr.No	Period of Trade	Weighted Average Sale Price (Rs)
1	RTC	5.68
2	PEAK	6.62
3	OFF PEAK	5.72
	Total	5.74

Source: Information submitted by trading licensees

Table-4: PRICE OF POWER TRANSACTED THROUGH TRADERS		
Sr.No		Sale Price (Rs/KWh)
1	Minimum	2.83
2	Maximum	10.57
3	Weighted Average	5.74

Source: Information submitted by trading licensees

Table-5: PRICE OF POWER TRANSACTED THROUGH POWER EXCHANGE (Rs/KWh)			
Sr.No	MCP	IEX	PXIL
1	Minimum	1.00	2.50
2	Maximum	13.90	12.50
3	Weighted Average	7.75	7.43

Source: Information submitted by IEX and PXIL

Table-5A: Term ahead market of IEX			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (Rs/kwh)
1	Intra-Day Contracts	1.38	8.18
2	Day-Ahead Contingency Contracts	0.50	10.27
3	Weekly Contracts		
	Total	1.88	

Source: IEX

Table-5B: Term ahead market of PXIL			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (Rs/kwh)
1	Day-Ahead Contingency Contracts	0.51	8.00

Source: PXIL

Table-6: PRICE OF POWER TRANSACTED THROUGH UI (Rs/KWh)			
Sr.No		NEW Grid	SR Grid
1	Minimum	0.72	0.24
2	Maximum	10.29	10.29
3	Average	7.75	6.66

Source: NLDC

Chart-5: PRICE OF SHORT TERM TRANSACTIONS OF ELECTRICITY - APR '10

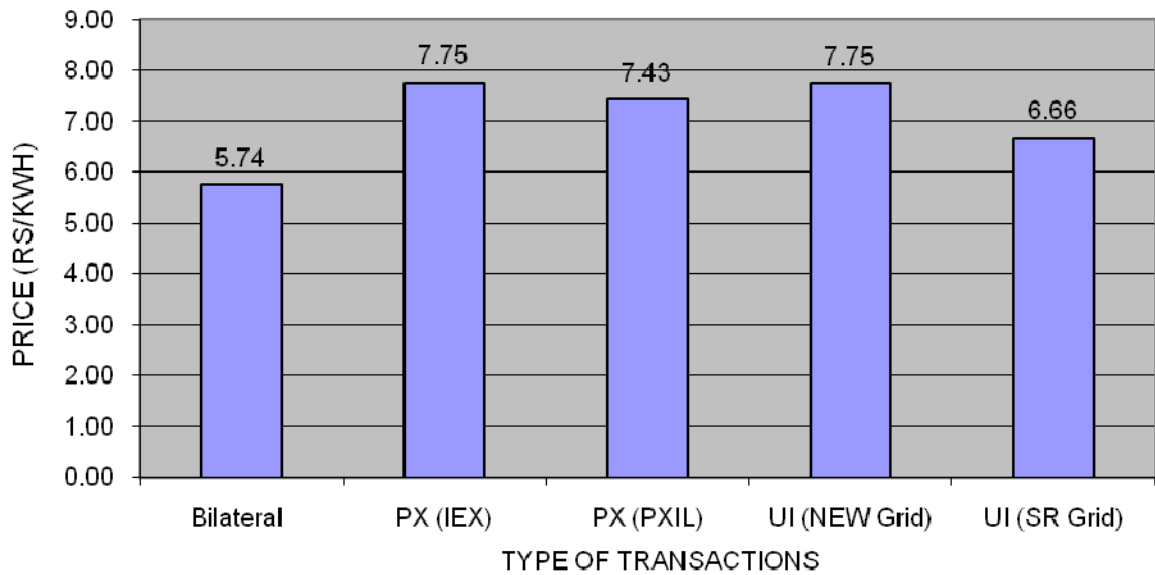


Chart-6: Price of Short-term Transactions of Electricity, Apr 2010

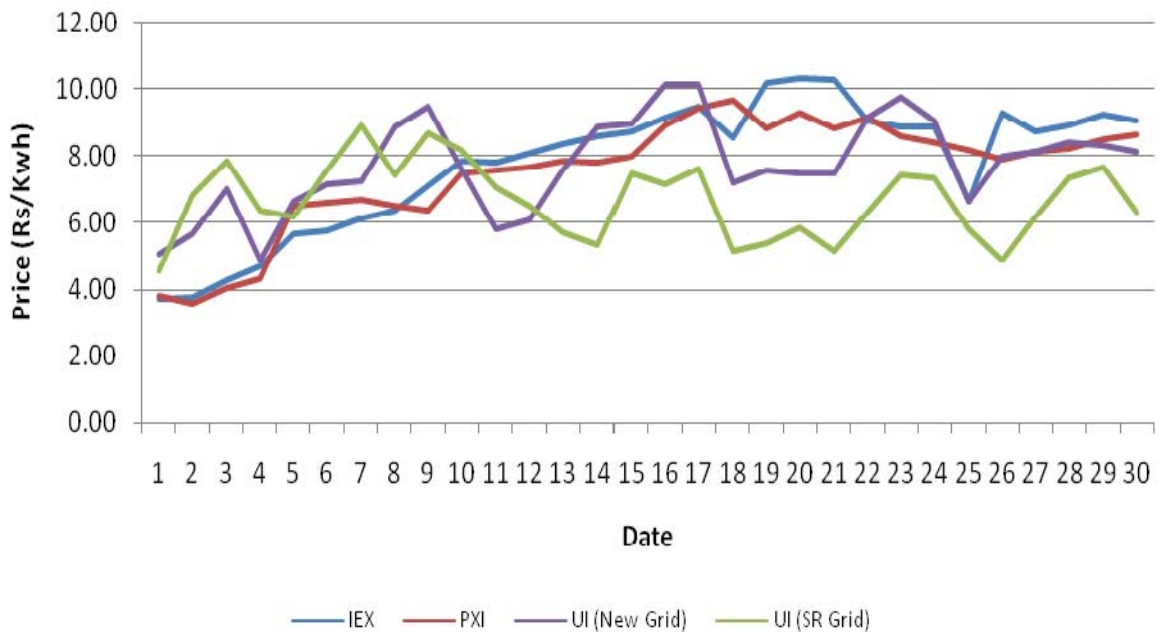


Table-7: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
JINDAL POWER	485.27	18.48%
Gujarat	412.09	15.69%
Chattisgarh	368.18	14.02%
Punjab	230.09	8.76%
J & K	198.80	7.57%
Karnataka	139.58	5.31%
Haryana	125.21	4.77%
MP	97.38	3.71%
Kerala	97.30	3.70%
West Bengal	80.42	3.06%
LANKO_KONDAPALLY	78.05	2.97%
Delhi	43.40	1.65%
MUNDRA APL	38.50	1.47%
Himachal Pradesh	36.97	1.41%
Orissa	34.56	1.32%
Uttarakhand	28.80	1.10%
Maharashtra	25.20	0.96%
Assam	23.65	0.90%
Sikkim	22.37	0.85%
DVC	14.99	0.57%
Rajasthan	14.16	0.54%
Uttar Pradesh	12.29	0.47%
Meghalaya	8.64	0.33%
Andhra Pradesh	7.77	0.30%
Arunachal Pradesh	2.61	0.10%
Tripura	0.32	0.01%
Total	2626.58	100.00%
Volume of sale by top 5 States	1694.42	64.51%

Table-8: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Tamilnadu	803.55	29.44%
Delhi	467.12	17.12%
Andhra Pradesh	320.57	11.75%
Maharashtra	301.23	11.04%
Rajasthan	132.57	4.86%
West Bengal	105.68	3.87%
Karnataka	91.39	3.35%
MP	76.64	2.81%
Orissa	73.00	2.67%
Jharkhand	72.00	2.64%
Kerala	63.48	2.33%
Punjab	62.02	2.27%
Chattisgarh	50.65	1.86%
Assam	36.00	1.32%
Uttar Pradesh	28.80	1.06%
Haryana	24.35	0.89%
UT Chandigarh	15.89	0.58%
Meghalaya	2.01	0.07%
Sikkim	1.44	0.05%
Tripura	0.68	0.02%
Total	2729.06	100.00%
Volume of purchase by top 5 States	2025.04	74.20%

Table-9: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGE		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Gujarat	177.78	29.97%
Delhi	95.54	16.10%
Chattisgarh	77.32	13.03%
MP	54.27	9.15%
Himachal Pradesh	42.28	7.13%
West Bengal	27.50	4.64%
Maharashtra	19.06	3.21%
Kerala	17.99	3.03%
Rajasthan	15.93	2.69%
LANKO_KONDAPALLY	13.38	2.26%
JINDAL POWER	11.65	1.96%
Karnataka	6.58	1.11%
Punjab	6.51	1.10%
Sikkim	5.98	1.01%
Tripura	5.03	0.85%
Assam	4.74	0.80%
GOA	3.36	0.57%
Arunachal Pradesh	3.13	0.53%
Meghalaya	2.39	0.40%
Haryana	1.84	0.31%
J & K	0.70	0.12%
Andhra Pradesh	0.27	0.05%
Total	593.23	100.00%
Volume of sale by top 5 States	447.19	75.38%

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGE		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Tamilnadu	200.32	31.09%
Rajasthan	181.84	28.22%
Haryana	94.45	14.66%
Maharashtra	75.20	11.67%
Delhi	30.67	4.76%
Gujarat	21.33	3.31%
Kerala	12.56	1.95%
Uttar Pradesh	7.00	1.09%
West Bengal	6.22	0.97%
Andhra Pradesh	6.10	0.95%
Meghalaya	4.49	0.70%
Punjab	3.94	0.61%
Arunachal Pradesh	0.17	0.03%
Tripura	0.03	0.00%
Total	644.31	100.00%
Volume of purchase by top 5 States	582.47	90.40%

Table-11: VOLUME OF ELECTRICITY EXPORT THROUGH UI		
Name of the State/UT/Other Regional Entity	Volume of Export (MUs)	% of Volume
Gujarat	272.31	18.18%
Delhi	172.72	11.53%
Andhra Pradesh	157.91	10.54%
LANKO_AMK	126.85	8.47%
Chattisgarh	124.70	8.32%
MP	94.44	6.30%
Bihar	71.83	4.80%
Rajasthan	45.64	3.05%
Maharashtra	41.15	2.75%
Himachal Pradesh	38.73	2.59%
DVC	38.54	2.57%
Assam	31.38	2.09%
Daman and Diu	30.12	2.01%
MUNDRA APL	25.21	1.68%
J & K	21.45	1.43%
Jharkhand	19.98	1.33%
Tamilnadu	18.37	1.23%
West Bengal	17.48	1.17%
Kerala	16.30	1.09%
Karnataka	13.49	0.90%
GOA	12.08	0.81%
Dadra & Nagar Haveli	11.86	0.79%
Haryana	11.34	0.76%
Pondicherry	9.87	0.66%
Punjab	9.24	0.62%
Manipur	8.99	0.60%
LANKO_KONDAPALLY	8.95	0.60%
Uttar Pradesh	8.73	0.58%
Uttarakhand	7.71	0.51%
Tripura	7.66	0.51%
Sikkim	5.64	0.38%
Meghalaya	5.09	0.34%
Arunachal Pradesh	4.47	0.30%
JINDAL POWER	3.17	0.21%
Nagaland	1.98	0.13%
Mizoram	1.76	0.12%
UT Chandigarh	0.56	0.04%
Orissa	0.37	0.02%
Total	1498.06	100.00%
Volume of Export by top 5 States	854.49	57.04%

Table-12: VOLUME OF ELECTRICITY IMPORT THROUGH UI		
Name of the State/UT/Other Regional Entity	Volume of Import (MUs)	% of Volume
Uttar Pradesh	457.59	21.32%
Punjab	304.17	14.17%
Haryana	196.19	9.14%
Orissa	177.91	8.29%
Tamilnadu	170.79	7.96%
Maharashtra	154.57	7.20%
Rajasthan	105.53	4.92%
Uttarakhand	77.74	3.62%
West Bengal	73.47	3.42%
J & K	60.75	2.83%
Karnataka	60.38	2.81%
Chattisgarh	35.53	1.66%
DVC	34.89	1.63%
UT Chandigarh	32.24	1.50%
Himachal Pradesh	29.87	1.39%
Delhi	22.21	1.03%
MP	20.43	0.95%
GOA	16.29	0.76%
Kerala	14.46	0.67%
Jharkhand	12.19	0.57%
Andhra Pradesh	11.61	0.54%
MUNDRA APL	9.86	0.46%
Sikkim	9.16	0.43%
Dadra & Nagar Haveli	8.99	0.42%
Gujarat	8.11	0.38%
Nagaland	8.01	0.37%
Meghalaya	7.72	0.36%
Assam	5.87	0.27%
Mizoram	4.07	0.19%
Arunachal Pradesh	3.67	0.17%
Bihar	3.65	0.17%
Tripura	2.42	0.11%
Manipur	1.22	0.06%
JINDAL POWER	1.16	0.05%
LANKO_KONDAPALLY	1.11	0.05%
Pondicherry	1.04	0.05%
Daman and Diu	0.94	0.04%
LANKO_AMK	0.35	0.02%
Total	2146.16	100.00%
Volume of Export by top 5 States	1306.65	60.88%

Table-13: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE)		
Sr.No	Name of the State/UT/Other Regional Entity	Total volume of net short-term transactions of electricity*
1	Tamilnadu	1156.28
2	Uttar Pradesh	472.37
3	Maharashtra	445.59
4	Rajasthan	344.21
5	Orissa	215.99
6	Delhi	208.34
7	Haryana	176.61
8	Andhra Pradesh	172.33
9	Punjab	124.28
10	Jharkhand	64.21
11	West Bengal	59.97
12	UT Chandigarh	47.57
13	Uttarakhand	41.23
14	Nagaland	6.02
15	Mizoram	2.31
16	GOA	0.85
17	Meghalaya	-1.89
18	Dadra & Nagar Haveli	-2.88
19	Arunachal Pradesh	-6.38
20	Manipur	-7.77
21	Karnataka	-7.88
22	Pondicherry	-8.83
23	Tripura	-9.88
24	Assam	-17.90
25	DVC	-18.63
26	Sikkim	-23.38
27	Daman and Diu	-29.19
28	Kerala	-41.08
29	MUNDRA APL	-53.85
30	Bihar	-68.18
31	Himachal Pradesh	-88.11
32	LANKO_KONDAPALLY	-99.27
33	LANKO_AMK	-126.49
34	MP	-149.02
35	J & K	-160.19
36	Chattisgarh	-484.03
37	JINDAL POWER	-498.92
38	Gujarat	-832.74
* 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-14: Details of Congestion in Power Exchanges for Apr 2010			
	Details of Congestion	IEX	PXIL
A	Unconstrained Cleared Volume* (MU)	574.89	87.58
B	Actual Cleared Volume and hence scheduled (MU)	563.54	80.77
C	Volume of electricity that could not be cleared as hence not scheduled because of congestion (MU) (A-B)	11.35	6.81
D	Volume of electricity that could not be cleared as % to Actual Cleared Volume	2%	8%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	35%	34%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	32%	34%
	6.00 - 12.00 hours	36%	37%
	12.00 - 18.00 hours	11%	11%
	18.00 - 24.00 hours	22%	18%

* This power would have been scheduled had there been no congestion.