MONTHLY REPORT ON
SHORT-TERM TRANSACTIONS OF ELECTRICITY
(February 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 February 2010 is as under:

I: Volume of Short-term Transactions of Electricity

During the Month of February 2010, total electricity generation excluding generation from renewable and captive power plants in India was 61076.19 MUs (Table-1).

Of the total electricity generation, 5708.12 MUs (9.35%) were transacted through short-term, comprising of 2726.43 MUs (4.46%) through Bilateral (through traders and Power Exchanges and directly between distribution companies), followed by 2214.72 MUs (3.63%) through UI and 766.97 MUs (1.26%) through Power Exchanges (IEX and PXIL) (Table-1 & Chart-2).

Of the total short-term transactions, Bilateral constitute 47.76% (38.86% through traders and tem-ahead contracts on Power Exchanges and 8.91% direct between distribution companies) followed by 38.80% through UI and 13.44% 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 38 trading licensees as on 28.2.2010, of which only 12 have engaged in trading during February 2010. Top 5 trading licenses had a share of 88.13% 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 0.1707 shows moderate concentration/market power (Table-2).

The volume of electricity transacted through IEX and PXIL was 656.48 MUs and 110.49 MUs respectively. The volume of total Buy bids and Sale bids was 1177.27 MUs and 1113.93 MUs respectively in IEX and 206.39 MUs and 302.75 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 (1.06 times) and less demand in PXIL (0.68 times) when compared with the supply offered through these exchanges.

The volume of electricity transacted through IEX in the term-ahead contracts was 10.96 MU and the entire volume was in the 'day ahead contingency contracts' (Table-5A). There is no electricity transacted through PXIL in the term-ahead contracts.

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.5.05. 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.4.95, Rs.5.72 and Rs.5.22 respectively. Minimum and Maximum sale price was Rs.2.34 and Rs.9.04 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.0.92, Rs.5.75 and Rs.3.24 respectively in IEX and Rs.0.00, Rs.7.00 and Rs.3.30 respectively in PXIL (Table-5).

The weighted average price of electricity transacted through IEX in the term-ahead contracts i.e. in the 'day ahead contingency contracts' was Rs.4.20/KWh (Table-5A).

(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.3.00 in the NEW Grid and Rs.5.21 in the SR Grid. Minimum and Maximum price of UI was Rs.0.00 and Rs.10.29 respectively in the New Grid and Rs.0.00 and Rs.10.29 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 Entity[1]-Wise):

Of the total bilateral transactions, top 5 regional entities selling 62.82% of the volume are Chattisgarh, Jindal Power Ltd, Gujarat, Karnataka and Punjab and top 5 regional entities purchasing 73.62% of the volume are Tamil Nadu, Rajasthan, Delhi, Maharashtra and Himachal Pradesh (Table-7 & 8).

Of the total Power Exchange transactions, top 5 regional entities selling 87.08% of the volume are Delhi, Gujarat, Chattisgarh, West Bengal and Jindal Power Ltd and top 5 regional entities purchasing 81.97% of the volume are Rajasthan, Andhra Pradesh, Tamil Nadu, Maharashtra and Kerala (Table-9 & 10).

Of the total UI transactions, top 5 regional entities underdrawing 56.75% of the volume are Delhi, Gujarat, Damodar vally Corporation, Chattisgarh, and Lanco Amarkant Ltd and top 5 regional entities overdrawing 58.41% of the volume are Haryana, Rajasthan, Maharashtra, Punjab and Karnataka (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, Chattisgarh, Jindal Power Ltd, Delhi and Damodar vally Corporation and top 5 regional entities purchasing electricity are Tamil Nadu, Rajasthan, Maharashtra Haryana and Himachal Pradesh.

IV: Congestion[2] 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.*
[2] *"Congestion" means a situation where the demand for transmission capacity exceeds the available transfer capability*

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 Feb 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 been 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 11% of the actual cleared volume in IEX and about 34% of the actual cleared volume in PXIL.

In IEX congestion occurred in the Northern Region, Southern Region and North-Eastern region whereas in PXIL it occurred in Northern and Southern Regions. In IEX congestion occurred about 52% of the hourly time blocks whereas in PXIL it occurred about 49% 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 9.35%.
- Of the total short-term transactions of electricity, 47.76% transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies) followed by 38.80% through UI and 13.44% through Power Exchanges.

[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.

- Top 5 trading licenses are having share of 88.13% in the total volume traded by all the trading licensees.
- The price of electricity transacted through Trading Licensees was relatively high (Rs.5.05/KWh) when compared with the price of electricity transacted through Power Exchanges (Rs.3.24/KWh in IEX and Rs.3.30/KWh in PXIL) and the price of electricity transacted through UI (Rs.3.00/KWh in NEW Grid and Rs.5.21/KWh in SR Grid).
- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.1707 shows moderate 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 (1.06 times) and less demand in PXIL (0.68 times) when compared with the supply offered through the exchanges.
- Top 5 regional entities selling electricity are Gujarat, Chattisgarh, Jindal Power Ltd, Delhi and Damodar vally Corporation and top 5 regional entities purchasing electricity are Tamil Nadu, Rajasthan, Maharashtra Haryana and Himachal Pradesh.
- In the month of Feb 2010, congestion occurred in both the power exchanges. In IEX congestion occurred in the Northern Region, Southern Region and North-Eastern region whereas in PXIL it occurred in Northern and Southern Regions. In IEX congestion occurred about 52% of the hourly time blocks whereas in PXIL it occurred about 49% 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 11% of the actual cleared volume in IEX and about 34% of the actual cleared volume in PXIL.

Format-1

VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA) (MUs)						
Month: Feb 2010						
Date	**Bilateral**		**Power Exchange (Market 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-Feb-10	62.46	17.83	18.29	2.01	77.61	2167.52
2-Feb-10	66.18	19.36	21.23	3.77	77.65	2169.10
3-Feb-10	72.55	20.19	19.60	2.23	79.25	2169.18
4-Feb-10	75.83	18.39	18.09	2.96	78.93	2162.35
5-Feb-10	71.81	18.39	21.75	3.00	75.56	2194.98
6-Feb-10	71.66	18.39	20.98	3.32	81.90	2179.18
7-Feb-10	74.88	16.99	21.27	2.41	78.73	2147.62
8-Feb-10	74.61	18.39	24.57	3.32	85.09	2152.71
9-Feb-10	78.33	18.37	21.70	3.23	95.83	2092.79
10-Feb-10	75.52	18.37	15.00	2.69	86.60	2179.53
11-Feb-10	77.22	18.37	25.38	4.23	78.15	2169.01
12-Feb-10	79.30	18.37	26.79	4.87	70.21	2142.28
13-Feb-10	80.64	18.37	26.56	6.65	67.85	2132.60
14-Feb-10	81.34	16.97	19.13	4.30	70.77	2117.69
15-Feb-10	80.75	20.07	25.09	4.49	67.96	2178.50
16-Feb-10	83.26	19.16	19.79	4.32	74.33	2195.90
17-Feb-10	84.97	20.36	22.73	6.25	76.01	2209.84
18-Feb-10	78.60	19.76	25.03	5.59	83.58	2205.39
19-Feb-10	72.98	19.76	18.69	4.29	87.80	2209.67
20-Feb-10	79.62	19.76	31.43	5.40	84.02	2233.39
21-Feb-10	82.97	17.20	28.74	4.89	78.28	2192.76
22-Feb-10	83.53	16.84	26.66	6.31	84.61	2208.77
23-Feb-10	84.05	16.84	28.30	5.65	78.48	2236.87
24-Feb-10	86.18	16.84	21.37	3.64	80.24	2241.57
25-Feb-10	87.61	16.84	27.90	3.51	72.75	2117.18
26-Feb-10	87.57	16.84	29.76	1.83	69.62	2238.84
27-Feb-10	91.80	16.84	28.28	3.05	74.56	2231.66
28-Feb-10	91.82	14.48	22.36	2.27	98.34	2199.31
Total	**2218.05**	**508.38**	**656.48**	**110.49**	**2214.72**	**61076.19**

Source: NLDC

* Gross Electricity Gneration excluding electricity generation from renewables and captive power plants.

** The volume of bilateral through PXs represents the volume through term-ahead contracts.

Format-2

PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (Rs/KWh)												
Month: Feb 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-Feb-10	1.13	5.75	3.68	1.25	5.75	3.62	0.48	6.16	3.01	1.92	10.29	4.44
2-Feb-10	1.50	5.55	3.28	1.70	5.55	3.38	1.44	6.50	3.79	1.56	10.29	4.22
3-Feb-10	1.50	4.62	3.27	1.75	5.00	3.29	1.80	10.29	4.27	2.28	7.18	4.50
4-Feb-10	1.55	5.00	3.48	1.60	4.75	3.26	1.32	5.65	3.20	0.96	5.48	4.10
5-Feb-10	1.50	4.75	3.47	1.49	4.75	3.48	1.08	6.16	3.12	0.24	5.48	3.91
6-Feb-10	1.70	4.90	3.42	1.00	4.90	3.62	0.96	7.18	3.24	0.48	5.31	3.64
7-Feb-10	1.63	4.90	3.07	1.70	4.90	3.20	0.24	5.31	2.25	0.00	5.14	3.28
8-Feb-10	1.70	4.90	3.31	1.90	4.90	3.09	0.00	4.80	1.96	0.84	5.82	3.29
9-Feb-10	1.70	5.15	3.55	1.70	4.90	3.37	0.00	4.20	1.91	1.08	10.29	3.76
10-Feb-10	0.92	4.99	3.04	1.70	5.00	3.28	0.00	4.56	2.14	1.92	6.16	4.32
11-Feb-10	1.20	4.95	2.91	1.10	4.50	3.18	0.00	4.44	2.24	2.40	5.82	4.23
12-Feb-10	1.40	4.00	2.75	1.50	4.50	2.92	0.36	4.56	2.27	1.92	7.01	4.84
13-Feb-10	1.49	3.70	2.59	1.50	5.00	2.87	0.00	4.44	2.38	2.28	10.29	5.10
14-Feb-10	1.40	3.00	2.19	1.40	3.15	2.62	0.00	5.31	2.50	1.68	6.67	4.60
15-Feb-10	1.45	3.50	2.59	1.45	4.50	2.99	1.08	5.82	2.83	2.76	7.18	4.76
16-Feb-10	1.45	4.00	2.73	1.40	3.99	2.90	0.00	4.44	2.64	3.36	6.33	4.81
17-Feb-10	1.60	4.00	2.77	2.00	4.60	3.15	0.48	4.20	2.38	3.36	7.18	5.54
18-Feb-10	1.60	3.99	2.88	1.60	5.00	3.12	1.56	6.16	3.65	4.44	10.29	6.30
19-Feb-10	1.80	4.25	3.08	0.50	5.00	2.77	1.32	10.29	3.59	2.76	10.29	6.92
20-Feb-10	2.05	4.00	3.25	2.20	4.50	3.58	1.80	6.50	3.62	2.64	10.29	6.40
21-Feb-10	2.00	3.50	2.92	2.00	5.00	2.65	0.84	5.31	2.92	0.96	7.18	5.29
22-Feb-10	2.50	4.00	3.22	2.05	5.50	3.30	1.08	6.33	2.95	3.36	10.29	5.63
23-Feb-10	2.50	4.50	3.44	2.50	6.00	4.02	0.48	5.14	2.72	4.08	10.29	5.95
24-Feb-10	2.49	5.00	3.51	2.50	6.50	4.25	2.04	5.99	3.73	4.68	10.29	6.30
25-Feb-10	2.70	5.60	3.77	2.20	6.70	4.49	1.68	6.16	3.83	2.52	10.29	7.27
26-Feb-10	2.70	5.09	3.86	2.00	7.00	3.10	2.04	10.29	4.50	4.80	10.29	9.04
27-Feb-10	3.02	5.25	4.09	0.00	7.00	4.19	1.44	7.01	3.55	2.04	10.29	8.52
28-Feb-10	2.24	5.25	3.75	2.40	7.00	3.88	0.48	4.97	2.72	0.00	7.01	5.01
	0.92#	**5.75#**	**3.24**	**0.00#**	**7.00#**	**3.30**	**0.00#**	**10.29#**	**3.00**	**0.00#**	**10.29#**	**5.21**

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

Format-3

VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY*-WISE) (MUs)										
Month: Feb 2010										
Name of the State/UT/Other Regional Entity	**Through Bilateral**			**Through Power Exchange**			**Through UI with Regional Grid**			**Total Net****
	Sale	**Pur-chase**	**Net***	**Sale**	**Pur-chase**	**Net***	**Export (Under Drawl)**	**Import (Over Drawl)**	**Net***	
Punjab	283.04	29.45	-253.58	3.13	53.01	49.88	21.48	193.92	172.44	-31.26
Haryana	70.30	10.81	-59.49	0.47	25.43	24.96	6.97	353.57	346.60	312.07
Rajasthan	66.18	550.22	484.04	0.82	218.85	218.03	48.18	258.13	209.94	912.01
Delhi	185.47	284.71	99.24	196.79	1.02	-195.77	255.86	5.19	-250.67	-347.20
Uttar Pradesh	0.00	33.80	33.80	0.00	5.46	5.46	71.24	110.41	39.17	78.43
Uttarakhand	0.00	72.26	72.26	0.00	0.00	0.00	10.83	71.35	60.51	132.77
Himachal Pradesh	6.52	171.68	165.16	2.25	0.00	-2.25	23.56	28.34	4.79	167.70
J & K	34.74	136.28	101.53	0.00	0.00	0.00	35.93	47.45	11.52	113.05
UT Chandigarh	6.27	0.00	-6.27	0.00	0.00	0.00	1.21	21.01	19.80	13.53
MP	20.02	125.86	105.84	18.72	0.10	-18.62	85.34	68.80	-16.54	70.67
Maharashtra	20.30	181.21	160.90	3.65	64.29	60.64	24.88	219.28	194.40	415.94
Gujarat	353.48	0.00	-353.48	155.76	22.04	-133.72	242.67	12.68	-230.00	-717.19
Chattisgarh	378.81	0.00	-378.81	142.03	0.00	-142.03	193.72	3.83	-189.89	-710.73
Daman and Diu	0.00	0.00	0.00	0.00	0.00	0.00	47.88	0.01	-47.87	-47.87
Dadra & Nagar Haveli	0.00	0.00	0.00	0.00	0.00	0.00	35.21	0.89	-34.32	-34.32
Andhra Pradesh	75.24	36.15	-39.08	17.38	162.32	144.93	34.39	63.88	29.49	135.34
Karnataka	335.85	76.06	-259.79	23.84	13.46	-10.38	4.76	118.58	113.82	-156.35
Kerala	100.05	54.96	-45.08	0.00	58.61	58.61	6.72	30.97	24.25	37.77
Tamilnadu	0.00	768.01	768.01	0.00	124.64	124.64	36.05	108.55	72.50	965.15
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	18.49	0.63	-17.87	-17.87
West Bengal	116.47	31.27	-85.20	105.74	0.00	-105.74	30.05	92.79	62.74	-128.20
Orissa	35.61	2.63	-32.98	6.25	0.00	-6.25	46.43	46.63	0.20	-39.03
Bihar	0.00	0.00	0.00	0.00	0.00	0.00	78.81	3.44	-75.36	-75.36
Jharkhand	0.00	67.20	67.20	0.00	0.00	0.00	23.04	7.07	-15.97	51.23
Sikkim	9.84	1.34	-8.50	5.97	0.00	-5.97	5.42	4.55	-0.87	-15.34
DVC	109.56	0.00	-109.56	0.00	0.00	0.00	225.99	0.63	-225.36	-334.91
Arunachal Pradesh	0.00	0.00	0.00	0.00	4.28	4.28	0.39	6.15	5.76	10.03
Assam	4.72	6.83	2.10	0.00	0.00	0.00	25.72	6.74	-18.97	-16.87
Manipur	0.00	0.00	0.00	0.00	0.00	0.00	1.33	8.75	7.42	7.42
Meghalaya	0.00	15.75	15.75	0.00	12.63	12.63	1.05	17.41	16.36	44.74
Mizoram	0.00	0.00	0.00	0.00	0.35	0.35	0.56	6.40	5.84	6.19
Nagaland	0.00	0.00	0.00	0.00	0.00	0.00	0.32	8.66	8.34	8.34
Tripura	8.36	0.00	-8.36	7.14	0.49	-6.66	3.77	1.11	-2.66	-17.68
GOA	0.00	0.00	0.00	0.00	0.00	0.00	35.99	2.15	-33.84	-33.84
JINDAL POWER	361.71	0.00	-361.71	67.54	0.00	-67.54	32.78	8.18	-24.61	-453.85
LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	159.76	0.00	-159.76	-159.76
MUNDRA APL	27.46	0.00	-27.46	0.00	0.00	0.00	9.17	3.86	-5.31	-32.77
LANKO_KONDAPALLY	116.45	0.00	-116.45	9.48	0.00	-9.48	13.69	15.53	1.84	-124.09

Source: NLDC

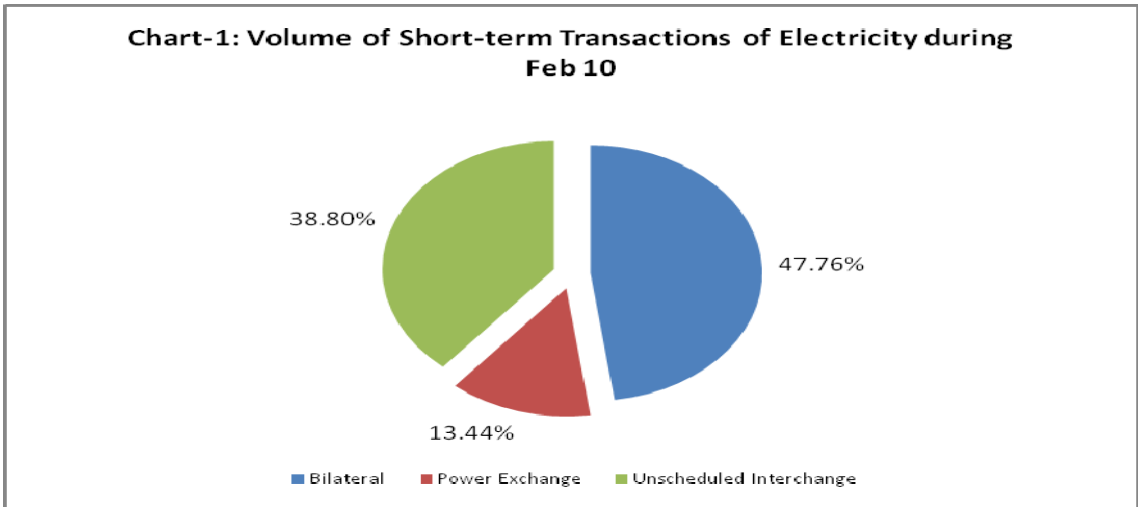
* in case of a state, the entities which are "selling" also include generators connected to state grid and the entities which are "buying" also include open access consumers.

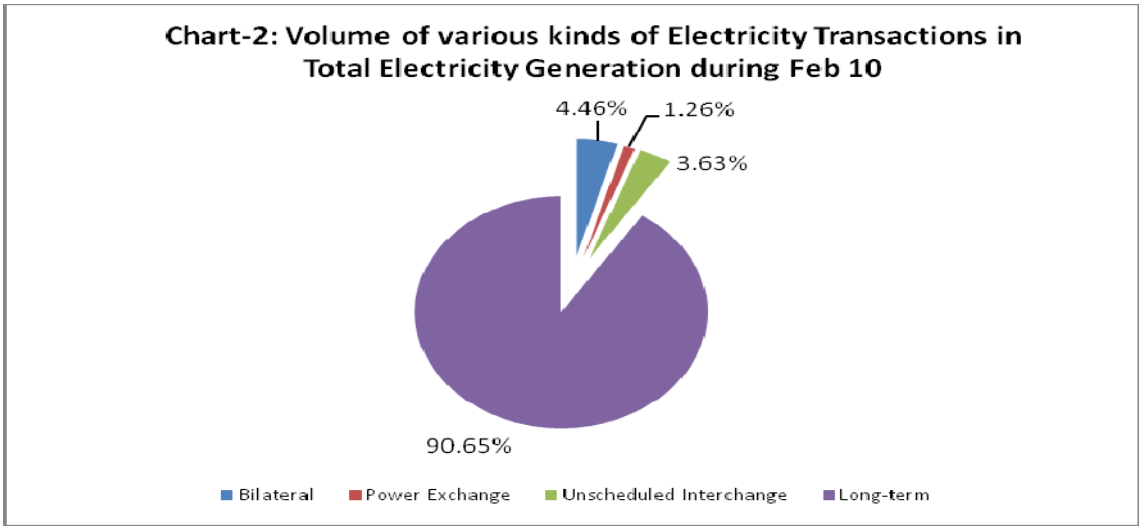
** (-) indicates sale and (+) indicates purchase

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

Table-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA) DURING FEB 2010				
Sr.No	**Short-term transactions**	**Volume (MUs)**	**% to Volume of short-term transactions**	**% to Total Generation**
1	Bilateral	2726.43	47.76%	4.46%
	(i) Through Traders and PXs	2218.05	38.86%	3.63%
	(ii) Direct	*508.38*	8.91%	0.83%
2	Through Power Exchanges	766.97	13.44%	1.26%
	IEX	*656.48*	11.50%	1.07%
	PXIL	*110.49*	1.94%	0.18%
3	Through UI	*2214.72*	38.80%	3.63%
	Total	**5708.12**	**100.00%**	**9.35%**
	Total Generation	***61076.19***		

Source: NLDC





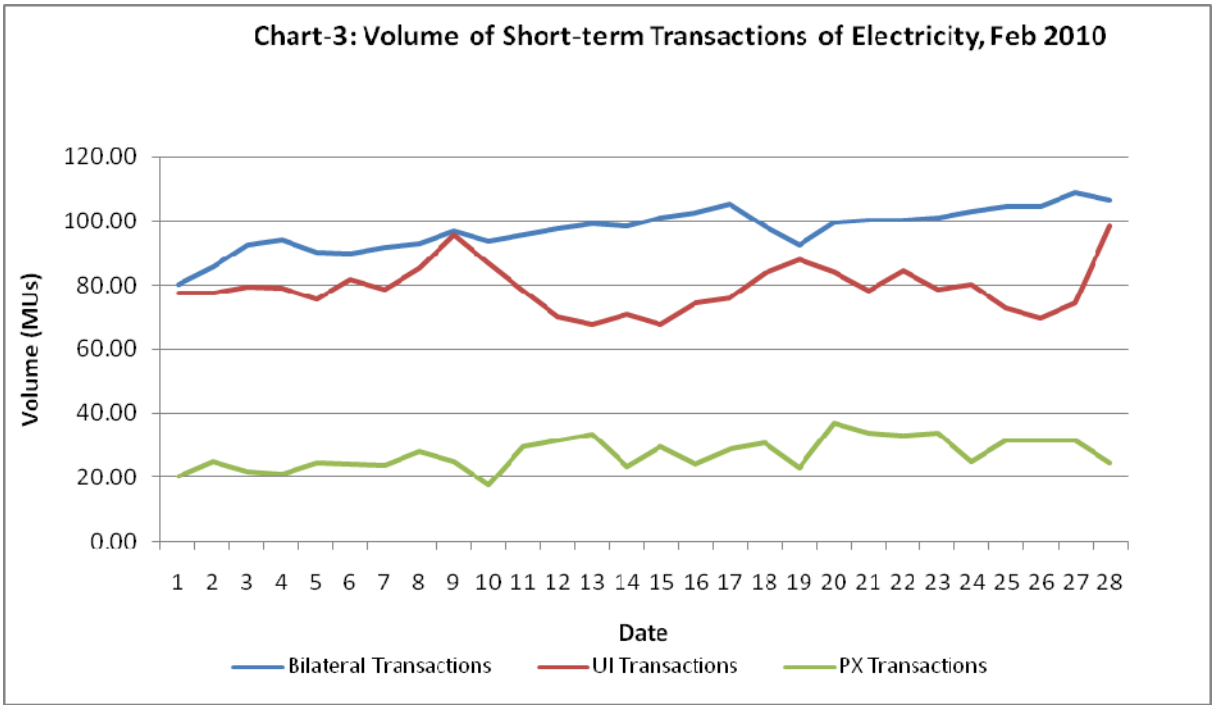


Chart-3: Volume of Short-term Transactions of Electricity, Feb 2010
Volume (MUs)
120.00
100.00
80.00
60.00
40.00
20.00
0.00
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Date
Bilateral Transactions
UI Transactions
PX Transactions

Table-2: Percentage Share of Electricity Traded by Trading Licensees during Feb 2010			
Sr.No	**Name of the Trading Licensee**	**% Share in total Volume traded by Licensees**	**Herfindahl-Hirschman Index**
1	NTPC Vidyut Vyapar Nigam Ltd	24.37%	0.0594
2	PTC India Ltd	22.03%	0.0485
3	JSW Power Trading Company Ltd	15.27%	0.0233
4	Reliance Energy Trading (P) Ltd	13.45%	0.0181
5	Tata Power Trading Company (P) Ltd	13.02%	0.0169
6	Lanco Electric Utility Ltd	6.10%	0.0037
7	RPG Power Trading Company Ltd	1.62%	0.0003
8	Adani Enterprises Ltd	1.53%	0.0002
9	Pune Power Development (P) Ltd	1.08%	0.0001
10	Instinct Advertisement & Marketing Ltd	1.00%	0.0001
11	Knowledge Infrastructure Systems (P) Ltd	0.41%	0.0000
12	GMR Energy Trading Ltd	0.12%	0.0000
	Total	100.00%	**0.1707**
	Top 5 trading licensees	88.13%	
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			

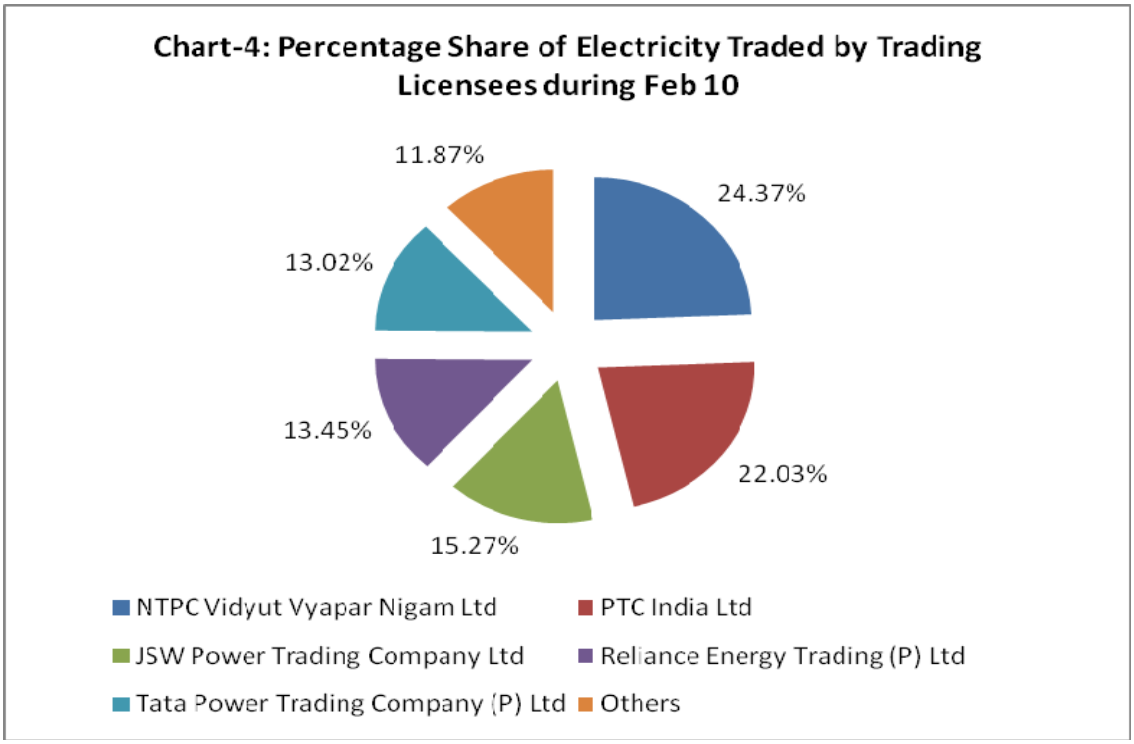


Table-3: PRICE OF POWER TRANSACTED THROUGH TRADERS		
Sr.No	**Period of Trade**	**Weighted Average Sale Price (Rs)**
1	RTC	4.95
2	PEAK	5.72
3	OFF PEAK	5.22
	Total	**5.05**

Source: Information submitted by trading licensees

Table-4: PRICE OF POWER TRANSACTED THROUGH TRADERS		
Sr.No		**Sale Price (Rs/KWh)**
1	Minimum	2.34
2	Maximum	9.04
3	Weighted Average	**5.05**

Source: Information submitted by trading licensees

Table-5: PRICE OF POWER TRANSACTED THROUGH POWER EXCHANGE (Rs/KWh)			
Sr.No	**MCP**	**IEX**	**PXIL**
1	Minimum	0.92	**0.00**
2	Maximum	5.75	7.00
3	Weighted Average	3.24	3.30

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	Weekly Contracts	10.96	4.20

Source: IEX

Table-6: PRICE OF POWER TRANSACTED THROUGH UI (Rs/KWh)			
Sr.No		**NEW Grid**	**SR Grid**
1	Minimum	0.00	0.00
2	Maximum	10.29	10.29
3	Average	3.00	5.21

Source: NLDC

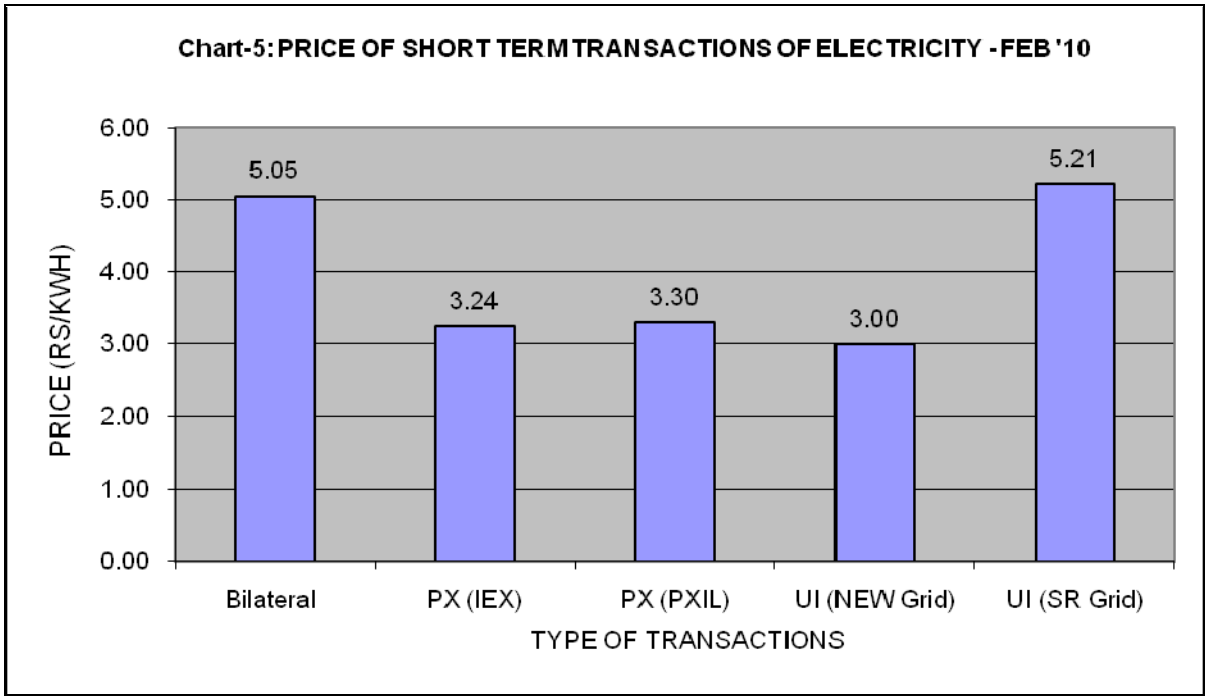


Chart-5: PRICE OF SHORT TERM TRANSACTIONS OF ELECTRICITY - FEB '10
PRICE (RS/KWH)
6.00
5.00
4.00
3.00
2.00
1.00
0.00
5.05
3.24
3.30
3.00
5.21
Bilateral
PX (IEX)
PX (PXIL)
UI (NEW Grid)
UI (SR Grid)
TYPE OF TRANSACTIONS

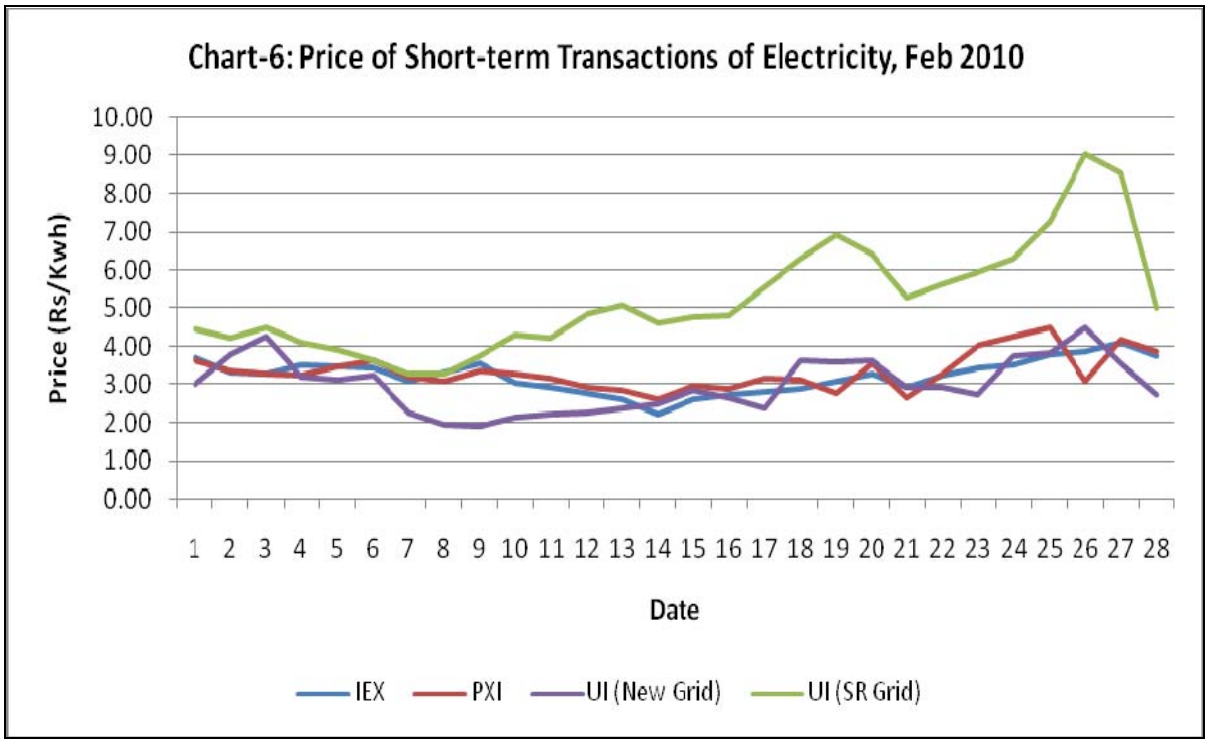


Chart-6: Price of Short-term Transactions of Electricity, Feb 2010
Price (Rs/Kwh)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Date
IEX
PXI
UI (New Grid)
UI (SR Grid)

Table-7: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL		
Name of the State/UT/Other Regional Entity	**Volume of Sale (MUs)**	**% of Volume**
Chattisgarh	378.81	13.89%
JINDAL POWER	361.71	13.27%
Gujarat	353.48	12.96%
Karnataka	335.85	12.32%
Punjab	283.04	10.38%
Delhi	185.47	6.80%
West Bengal	116.47	4.27%
LANKO_KONDAPALLY	116.45	4.27%
DVC	109.56	4.02%
Kerala	100.05	3.67%
Andhra Pradesh	75.24	2.76%
Haryana	70.30	2.58%
Rajasthan	66.18	2.43%
Orissa	35.61	1.31%
J & K	34.74	1.27%
MUNDRA APL	27.46	1.01%
Maharashtra	20.30	0.74%
MP	20.02	0.73%
Sikkim	9.84	0.36%
Tripura	8.36	0.31%
Himachal Pradesh	6.52	0.24%
UT Chandigarh	6.27	0.23%
Assam	4.72	0.17%
Total	**2726.43**	**100.00%**
Volume of sale by top 5 States	**1712.88**	**62.82%**

Table-8: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL		
Name of the State/UT/Other Regional Entity	**Volume of Purchase (MUs)**	**% of Volume**
Tamilnadu	768.01	28.91%
Rajasthan	550.22	20.71%
Delhi	284.71	10.72%
Maharashtra	181.21	6.82%
Himachal Pradesh	171.68	6.46%
J & K	136.28	5.13%
MP	125.86	4.74%
Karnataka	76.06	2.86%
Uttarakhand	72.26	2.72%
Jharkhand	67.20	2.53%
Kerala	54.96	2.07%
Andhra Pradesh	36.15	1.36%
Uttar Pradesh	33.80	1.27%
West Bengal	31.27	1.18%
Punjab	29.45	1.11%
Meghalaya	15.75	0.59%
Haryana	10.81	0.41%
Assam	6.83	0.26%
Orissa	2.63	0.10%
Sikkim	1.34	0.05%
Total	**2656.47**	**100.00%**
Volume of purchase by top 5 States	**1955.82**	**73.62%**

Table-9: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGE		
Name of the State/UT/Other Regional Entity	**Volume of Sale (MUs)**	**% of Volume**
Delhi	196.79	25.66%
Gujarat	155.76	20.31%
Chattisgarh	142.03	18.52%
West Bengal	105.74	13.79%
JINDAL POWER	67.54	8.81%
Karnataka	23.84	3.11%
MP	18.72	2.44%
Andhra Pradesh	17.38	2.27%
LANKO_KONDAPALLY	9.48	1.24%
Tripura	7.14	0.93%
Orissa	6.25	0.81%
Sikkim	5.97	0.78%
Maharashtra	3.65	0.48%
Punjab	3.13	0.41%
Himachal Pradesh	2.25	0.29%
Rajasthan	0.82	0.11%
Haryana	0.47	0.06%
Total	**766.97**	**100.00%**
Volume of sale by top 5 States	**667.86**	**87.08%**

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGE		
Name of the State/UT/Other Regional Entity	**Volume of Purchase (MUs)**	**% of Volume**
Rajasthan	218.85	28.53%
Andhra Pradesh	162.32	21.16%
Tamilnadu	124.64	16.25%
Maharashtra	64.29	8.38%
Kerala	58.61	7.64%
Punjab	53.01	6.91%
Haryana	25.43	3.32%
Gujarat	22.04	2.87%
Karnataka	13.46	1.76%
Meghalaya	12.63	1.65%
Uttar Pradesh	5.46	0.71%
Arunachal Pradesh	4.28	0.56%
Delhi	1.02	0.13%
Tripura	0.49	0.06%
Mizoram	0.35	0.04%
MP	0.10	0.01%
Total	**766.97**	**100.00%**
Volume of purchase by top 5 States	**628.70**	**81.97%**

Table-11: VOLUME OF ELECTRICITY EXPORT THROUGH UI		
Name of the State/UT/Other Regional Entity	**Volume of Export (MUs)**	**% of Volume**
Delhi	255.86	13.47%
Gujarat	242.67	12.77%
DVC	225.99	11.90%
Chattisgarh	193.72	10.20%
LANKO_AMK	159.76	8.41%
MP	85.34	4.49%
Bihar	78.81	4.15%
Uttar Pradesh	71.24	3.75%
Rajasthan	48.18	2.54%
Daman and Diu	47.88	2.52%
Orissa	46.43	2.44%
Tamilnadu	36.05	1.90%
GOA	35.99	1.89%
J & K	35.93	1.89%
Dadra & Nagar Haveli	35.21	1.85%
Andhra Pradesh	34.39	1.81%
JINDAL POWER	32.78	1.73%
West Bengal	30.05	1.58%
Assam	25.72	1.35%
Maharashtra	24.88	1.31%
Himachal Pradesh	23.56	1.24%
Jharkhand	23.04	1.21%
Punjab	21.48	1.13%
Pondicherry	18.49	0.97%
LANKO_KONDAPALLY	13.69	0.72%
Uttarakhand	10.83	0.57%
MUNDRA APL	9.17	0.48%
Haryana	6.97	0.37%
Kerala	6.72	0.35%
Sikkim	5.42	0.29%
Karnataka	4.76	0.25%
Tripura	3.77	0.20%
Manipur	1.33	0.07%
UT Chandigarh	1.21	0.06%
Meghalaya	1.05	0.06%
Mizoram	0.56	0.03%
Arunachal Pradesh	0.39	0.02%
Nagaland	0.32	0.02%
Total	**1899.64**	**100.00%**
Volume of Export by top 5 States	**1078.00**	**56.75%**

Table-12: VOLUME OF ELECTRICITY IMPORT THROUGH UI		
Name of the State/UT/Other Regional Entity	**Volume of Import (MUs)**	**% of Volume**
Haryana	353.57	18.06%
Rajasthan	258.13	13.19%
Maharashtra	219.28	11.20%
Punjab	193.92	9.91%
Karnataka	118.58	6.06%
Uttar Pradesh	110.41	5.64%
Tamilnadu	108.55	5.55%
West Bengal	92.79	4.74%
Uttarakhand	71.35	3.64%
MP	68.80	3.51%
Andhra Pradesh	63.88	3.26%
J & K	47.45	2.42%
Orissa	46.63	2.38%
Kerala	30.97	1.58%
Himachal Pradesh	28.34	1.45%
UT Chandigarh	21.01	1.07%
Meghalaya	17.41	0.89%
LANKO_KONDAPALLY	15.53	0.79%
Gujarat	12.68	0.65%
Manipur	8.75	0.45%
Nagaland	8.66	0.44%
JINDAL POWER	8.18	0.42%
Jharkhand	7.07	0.36%
Assam	6.74	0.34%
Mizoram	6.40	0.33%
Arunachal Pradesh	6.15	0.31%
Delhi	5.19	0.27%
Sikkim	4.55	0.23%
MUNDRA APL	3.86	0.20%
Chattisgarh	3.83	0.20%
Bihar	3.44	0.18%
GOA	2.15	0.11%
Tripura	1.11	0.06%
Dadra & Nagar Haveli	0.89	0.05%
DVC	0.63	0.03%
Pondicherry	0.63	0.03%
Daman and Diu	0.01	0.00%
LANKO_AMK	0.00	0.00%
Total	**1957.51**	**100.00%**
Volume of Export by top 5 States	**1143.47**	**58.41%**

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	965.15
2	Rajasthan	912.01
3	Maharashtra	415.94
4	Haryana	312.07
5	Himachal Pradesh	167.70
6	Andhra Pradesh	135.34
7	Uttarakhand	132.77
8	J & K	113.05
9	Uttar Pradesh	78.43
10	MP	70.67
11	Jharkhand	51.23
12	Meghalaya	44.74
13	Kerala	37.77
14	UT Chandigarh	13.53
15	Arunachal Pradesh	10.03
16	Nagaland	8.34
17	Manipur	7.42
18	Mizoram	6.19
19	Sikkim	-15.34
20	Assam	-16.87
21	Tripura	-17.68
22	Pondicherry	-17.87
23	Punjab	-31.26
24	MUNDRA APL	-32.77
25	GOA	-33.84
26	Dadra & Nagar Haveli	-34.32
27	Orissa	-39.03
28	Daman and Diu	-47.87
29	Bihar	-75.36
30	LANKO_KONDAPALLY	-124.09
31	West Bengal	-128.20
32	Karnataka	-156.35
33	LANKO_AMK	-159.76
34	DVC	-334.91
35	Delhi	-347.20
36	JINDAL POWER	-453.85
37	Chattisgarh	-710.73
38	Gujarat	-717.19
* 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 Feb 2010			
	Details of Congestion	**IEX**	**PXIL**
A	Unconstrained Cleared Volume* (MU)	727.21	147.62
B	Actual Cleared Volume and hence scheduled (MU)	656.48	110.49
C	Volume of electricity that could not be cleared as hence not scheduled because of congestion (MU) (A-B)	70.73	37.13
D	Volume of electricity that could not be cleared as % to Actual Cleared Volume	11%	34%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	52%	49%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	22%	23%
	6.00 - 12.00 hours	35%	34%
	12.00 - 18.00 hours	25%	23%
	18.00 - 24.00 hours	18%	19%

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