

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

**I: Volume of Short-term Transactions of Electricity**

During the Month of June 2010, total electricity generation excluding generation from renewable and captive power plants in India was 65211.13 MUs (Table-1).

Of the total electricity generation, 7295.64 MUs (11.19%) were transacted through short-term, comprising of 3954.99 MUs (6.06%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2450.00 MUs (3.76%) through UI and 890.64 MUs (1.37%) through Power Exchanges (IEX and PXIL) (Table-1 & Chart-2).

Of the total short-term transactions, Bilateral constitute 54.21% (37.60% through traders and term-ahead contracts on Power Exchanges and 16.61% direct between distribution companies) followed by 33.58% through UI and 12.21% 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 37 trading licensees as on 30.6.2010, of which only 16 have engaged in trading during June 2010. Top 5 trading licenses had a share of 87.00% 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 0.2013 shows high concentration/market power (Table-2).

The volume of electricity transacted through IEX and PXIL was 748.39 MUs and 142.25 MUs respectively. The volume of total Buy bids and Sale bids was 1184.87 MUs and 1265.84 MUs respectively in IEX and 269.07 MUs and 234.78 MUs respectively in PXIL. The gap between the volume of buy bids and sale bids placed through power exchanges shows that there was less demand in IEX (0.94 times) and more demand in PXIL (1.15 times) when compared with the supply offered through these exchanges.

The volume of electricity transacted in the term-ahead contracts of power exchanges was 105.60 MU in IEX and 25.20 MU in PXIL (Table-5A and Table-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.5.59/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.5.57/kwh, Rs.5.84/kwh and Rs.5.67/kWh respectively. Minimum and Maximum sale price was Rs.3.23/kwh and Rs.7.28/kwh 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.1.88/kwh, Rs.5.25/kwh and Rs.3.50/kwh respectively in IEX and Rs.1.88/kwh, Rs.5.20/kwh and Rs.3.47/kwh respectively in PXIL (Table-5).

The weighted average price of electricity transacted in the term-ahead contracts of IEX was Rs.5.48/kWh for Intra-Day Contracts, Rs.3.39/kWh for Day Ahead Contingency Contracts and Rs.3.61/kWh for Weekly Contracts (Table-5A). The weighted average price of

electricity transacted in the term-ahead contracts of PXIL was Rs.3.71/kWh for Weekly Contracts.

**(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.3.61/kWh in the NEW Grid and Rs.4.67/kWh in the SR Grid. Minimum and Maximum price of UI was Rs.0.00/kWh and Rs.17.46/kWh respectively in the New Grid and Rs.0.00/kWh and Rs.17.46/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 Entity<sup>1</sup>-Wise):**

Of the total bilateral transactions, top 5 regional entities selling 55.46% of the volume are Himachal Pradesh, Jindal Power Ltd, Chattisgarh, Jammu & Kashmir and Madhya Pradesh and top 5 regional entities purchasing 78.33% of the volume are Delhi, Punjab, Haryana, Uttar Pradesh and Maharashtra (Table-7 & 8).

Of the total Power Exchange transactions, top 5 regional entities selling 86.29% of the volume are Gujarat, Delhi, Chattisgarh, Orissa and West Bengal and top 5 regional entities purchasing 75.93% of the volume are Tamil Nadu, Rajasthan, Maharashtra, Uttar Pradesh and Andhra Pradesh (Table-9 & 10).

Of the total UI transactions, top 5 regional entities underdrawing 56.64% of the volume are Delhi, Chattisgarh, Gujarat, Damodar Valley Corporation and Andhra Pradesh and top 5 regional entities overdrawing 52.65% of the volume are Maharashtra, Rajasthan, Haryana, Punjab and Uttar Pradesh (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 Chattisgarh, Gujarat, Himachal Pradesh, Jindal Power Ltd and Jammu & Kashmir and top 5 regional entities purchasing electricity are Punjab, Haryana, Maharashtra, Uttar Pradesh and Rajasthan.

### **IV: Congestion<sup>2</sup> on Inter-state Transmission for Day-Ahead Market on Power Exchanges:**

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<sup>1</sup> 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”<sup>3</sup>.

In the month of June 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 3% of the actual cleared volume in IEX and about 2% of the actual cleared volume in PXIL.

In IEX congestion occurred in Southern Region and Northern Region whereas in PXIL congestion occurred in Northern Region. In IEX congestion occurred about 15.83% of the hourly time blocks, whereas in PXIL it occurred about 15.69% of the hourly time blocks. Congestion occurred in most number of times during 0.00-6.00 hours of the day in both the exchanges.

#### **V: Inferences:**

- The percentage of short-term transactions of electricity to total electricity generation was 11.19%.
- Of the total short-term transactions of electricity, 54.21% transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by

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<sup>2</sup> “Congestion” means a situation where the demand for transmission capacity exceeds the available transfer capability

<sup>3</sup> “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 33.58% through UI and 12.21% through Power Exchanges.

- Top 5 trading licenses are having share of 87.00% in the total volume traded by all the trading licensees.
- The price of electricity transacted through Trading Licensees was relatively high (Rs.5.59/KWh) when compared with the price of electricity transacted through Power Exchanges (Rs.3.50/kWh in IEX and Rs.3.47/kWh in PXIL) and the price of electricity transacted through UI (Rs.3.61/KWh in NEW Grid and Rs.4.67/KWh in SR Grid).
- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.2013 shows high concentration/market power.
- The gap between the volume of buy bids and sale bids placed through power exchanges shows that there was less demand in IEX (0.94 times) and more demand in PXIL (1.15 times) when compared with the supply offered through these exchanges.
- Top 5 regional entities selling electricity are Chattisgarh, Gujarat, Himachal Pradesh, Jindal Power Ltd and Jammu & Kashmir and top 5 regional entities purchasing electricity are Punjab, Haryana, Maharashtra, Uttar Pradesh and Rajasthan.
- In IEX congestion occurred in Southern Region and Northern Region whereas in PXIL congestion occurred in Northern Region. In IEX congestion occurred about 15.83% of the hourly time blocks, whereas in PXIL it occurred about 15.69% of the hourly time blocks. Congestion occurred in most number of times during 0.00-6.00 hours of the day in both the exchanges.
- Volume of electricity that could not be cleared due to congestion was about 3% of the actual cleared volume in IEX and about 2% of the actual cleared volume in PXIL.

<b>VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA) (MUs)</b>							<b>Total Electricity Generation (MUs) as given at CEA Website*</b>
<b>Month: June 2010</b>							
<b>Date</b>	<b>Bilateral</b>		<b>Power Exchange (Market Clearing Volume of day ahead market)</b>		<b>Unscheduled Interchange (Over Drawl+Under Generation)</b>		
	<b>Through Traders and PXs**</b>	<b>Direct</b>	<b>IEX</b>	<b>PXI</b>			
1-Jun-10	68.91	33.98	29.44	1.38	73.37	2219.81	
2-Jun-10	73.68	34.22	27.00	3.22	75.71	2219.68	
3-Jun-10	72.58	34.27	31.73	8.29	74.61	2221.01	
4-Jun-10	74.80	34.36	31.10	7.07	70.46	2180.16	
5-Jun-10	76.64	34.07	31.33	6.10	86.87	2199.58	
6-Jun-10	79.49	33.09	38.74	8.95	87.82	2090.85	
7-Jun-10	85.35	33.73	26.64	7.74	93.23	2052.33	
8-Jun-10	83.98	35.81	23.39	5.50	104.65	2113.21	
9-Jun-10	86.29	36.30	24.47	7.64	89.59	2141.05	
10-Jun-10	97.57	36.27	23.73	3.68	79.87	2166.92	
11-Jun-10	92.17	39.91	22.15	3.19	74.18	2165.38	
12-Jun-10	90.89	41.09	18.44	1.79	72.87	2172.74	
13-Jun-10	85.71	38.23	21.03	3.05	78.89	2085.11	
14-Jun-10	97.92	40.92	17.05	1.43	76.35	2146.36	
15-Jun-10	98.44	39.43	23.28	2.89	72.75	2142.21	
16-Jun-10	97.24	43.33	28.24	4.65	82.07	2165.60	
17-Jun-10	97.01	42.17	29.40	6.10	76.28	2129.12	
18-Jun-10	98.55	42.81	27.46	4.60	80.93	2175.88	
19-Jun-10	96.27	42.78	33.32	6.55	68.95	2196.16	
20-Jun-10	95.10	41.54	29.62	7.56	83.97	2171.87	
21-Jun-10	103.90	42.99	28.36	6.39	72.41	2222.33	
22-Jun-10	105.22	43.75	24.49	6.10	78.23	2233.94	
23-Jun-10	103.36	46.24	21.27	4.78	85.69	2205.49	
24-Jun-10	101.79	46.99	22.26	5.02	88.23	2148.00	
25-Jun-10	100.28	45.78	17.84	3.04	87.13	2163.29	
26-Jun-10	100.61	45.52	15.46	2.56	89.88	2185.87	
27-Jun-10	95.67	45.01	17.47	2.23	97.09	2171.66	
28-Jun-10	95.66	45.92	22.52	3.97	80.40	2219.54	
29-Jun-10	96.56	45.52	18.67	4.39	81.51	2246.87	
30-Jun-10	91.77	45.59	22.49	2.40	86.03	2259.11	
<b>Total</b>	<b>2743.38</b>	<b>1211.62</b>	<b>748.39</b>	<b>142.25</b>	<b>2450.00</b>	<b>65211.13</b>	

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: June 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-Jun-10	2.10	4.00	2.84	2.50	4.00	3.04	1.24	17.46	4.69	2.95	17.46	9.06
2-Jun-10	2.50	4.00	3.29	2.50	4.00	3.13	0.78	12.22	5.04	3.88	17.46	11.61
3-Jun-10	3.00	4.60	3.93	2.50	4.00	3.52	0.31	12.22	4.58	1.86	17.46	11.50
4-Jun-10	3.50	4.75	4.23	3.00	4.70	4.09	1.40	17.46	4.91	3.10	17.46	10.11
5-Jun-10	3.50	5.00	4.38	3.50	4.75	4.42	0.00	6.85	1.99	0.00	12.22	4.49
6-Jun-10	2.99	5.25	4.39	2.99	5.00	4.67	0.00	3.72	1.55	0.00	7.32	2.87
7-Jun-10	2.99	4.90	3.94	2.99	4.75	4.18	0.00	3.72	1.61	1.24	7.79	3.79
8-Jun-10	2.25	3.50	2.84	2.50	3.00	2.83	0.00	4.03	2.17	1.71	17.46	4.85
9-Jun-10	2.10	3.10	2.61	2.09	3.00	2.84	0.00	7.79	3.25	0.78	12.22	4.28
10-Jun-10	2.19	3.50	2.78	2.09	2.90	2.68	1.09	12.22	3.60	0.00	6.85	3.36
11-Jun-10	2.28	3.75	3.06	2.50	3.50	3.03	1.24	12.22	4.75	0.31	12.22	3.85
12-Jun-10	2.09	4.14	3.25	2.09	4.50	3.73	1.71	12.22	4.62	0.47	17.46	3.77
13-Jun-10	1.99	4.00	2.97	1.99	4.00	2.97	0.00	7.32	2.73	0.00	7.32	2.39
14-Jun-10	3.00	4.75	3.80	2.25	4.50	3.80	0.31	12.22	2.56	0.00	8.26	2.85
15-Jun-10	3.49	5.20	4.09	2.95	5.20	3.87	0.31	12.22	2.66	0.00	5.91	2.66
16-Jun-10	2.80	5.00	3.62	3.00	4.65	3.64	0.31	12.22	2.49	0.93	7.79	3.43
17-Jun-10	2.40	4.64	3.25	2.80	4.70	3.56	0.47	12.22	3.51	0.31	7.32	2.77
18-Jun-10	2.50	5.00	3.15	1.89	3.75	2.89	2.02	17.46	5.33	0.16	7.32	3.51
19-Jun-10	2.90	4.50	3.68	1.89	3.85	3.01	1.86	17.46	6.98	2.02	12.22	4.39
20-Jun-10	1.89	4.00	3.37	2.15	5.00	3.08	0.47	17.46	4.76	0.00	12.22	4.84
21-Jun-10	3.30	4.53	4.04	2.15	5.00	3.40	1.24	12.22	4.74	0.16	7.32	3.95
22-Jun-10	3.51	5.00	4.17	3.00	4.75	3.62	0.00	12.22	4.17	0.31	7.79	3.72
23-Jun-10	2.75	4.55	4.04	2.75	5.00	3.85	0.62	8.26	3.14	0.00	5.44	2.92
24-Jun-10	2.00	5.00	3.84	2.70	4.55	3.71	0.00	5.91	2.19	0.00	7.79	2.75
25-Jun-10	1.89	4.55	3.44	1.89	4.55	3.56	0.00	7.79	2.40	0.00	6.85	3.34
26-Jun-10	1.89	4.19	2.74	1.89	2.90	2.64	0.47	12.22	3.62	0.00	6.38	3.66
27-Jun-10	2.00	3.59	2.65	1.88	3.10	2.63	0.00	7.32	2.86	0.16	6.38	3.62
28-Jun-10	1.88	5.00	2.76	2.25	5.00	2.91	0.00	12.22	4.23	0.16	12.22	4.60
29-Jun-10	2.10	5.00	2.96	2.10	4.75	2.87	0.16	12.22	3.17	2.48	12.22	6.09
30-Jun-10	1.90	5.00	2.98	1.89	4.75	3.02	1.09	12.22	4.11	2.64	12.22	5.13
	1.88#	5.25#	3.50	1.88#	5.20#	3.47	0.00#	17.46#	3.61	0.00#	17.46#	4.67

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: June 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	19.80	807.96	788.16	1.29	79.07	77.79	58.70	215.47	156.77	1022.72
Haryana	0.00	546.80	546.80	0.97	29.44	28.47	36.71	227.75	191.04	766.31
Rajasthan	64.80	185.22	120.42	14.32	125.53	111.21	65.40	297.26	231.86	463.49
Delhi	57.15	962.31	905.16	242.50	0.64	-241.86	314.36	1.64	-312.72	350.58
Uttar Pradesh	40.12	394.72	354.60	0.00	81.99	81.99	65.84	197.48	131.63	568.22
Uttarakhand	88.70	6.43	-82.27	0.00	0.00	0.00	20.21	45.52	25.30	-56.96
Himachal Pradesh	580.03	0.00	-580.03	1.09	0.00	-1.09	18.52	59.81	41.29	-539.83
J & K	333.72	0.00	-333.72	1.35	0.00	-1.35	43.70	23.13	-20.57	-355.64
UT Chandigarh	0.00	42.87	42.87	0.00	0.00	0.00	18.65	4.66	-13.99	28.88
MP	305.07	38.70	-266.37	13.45	9.20	-4.25	34.85	191.45	156.60	-114.01
Maharashtra	32.67	386.07	353.40	3.22	108.14	104.92	49.88	329.42	279.54	737.86
Gujarat	101.61	0.00	-101.61	271.61	16.09	-255.53	253.96	34.72	-219.23	-576.37
Chattisgarh	335.64	164.07	-171.57	179.92	0.00	-179.92	259.68	3.39	-256.29	-607.77
Daman and Diu	0.00	0.00	0.00	0.00	0.00	0.00	10.81	2.13	-8.69	-8.69
Dadra & Nagar Haveli	0.00	0.00	0.00	0.00	3.33	3.33	7.32	12.64	5.32	8.64
Andhra Pradesh	50.90	39.72	-11.18	28.48	79.39	50.91	104.66	46.51	-58.15	-18.42
Karnataka	114.26	0.13	-114.13	0.00	0.00	0.00	20.25	105.59	85.33	-28.80
Kerala	94.83	0.58	-94.25	0.50	31.21	30.71	4.67	75.15	70.49	6.95
Tamilnadu	296.22	244.76	-51.46	0.00	281.24	281.24	53.43	150.26	96.83	326.61
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	13.55	0.66	-12.88	-12.88
West Bengal	111.54	58.10	-53.45	34.76	35.63	0.87	56.57	90.47	33.90	-18.67
Orissa	219.42	0.00	-219.42	39.78	0.00	-39.78	59.41	38.56	-20.85	-280.05
Bihar	0.00	0.00	0.00	0.00	0.00	0.00	11.45	59.75	48.30	48.30
Jharkhand	0.00	72.00	72.00	0.00	0.00	0.00	3.46	86.76	83.31	155.31
Sikkim	42.25	2.47	-39.78	17.31	0.00	-17.31	3.91	9.65	5.74	-51.34
DVC	152.93	0.00	-152.93	0.00	0.00	0.00	181.34	3.43	-177.91	-330.84
Arunachal Pradesh	10.31	0.00	-10.31	1.05	0.08	-0.97	10.48	2.36	-8.12	-19.40
Assam	27.04	1.91	-25.12	6.49	8.06	1.56	23.59	11.03	-12.56	-36.12
Manipur	0.00	0.00	0.00	0.00	0.00	0.00	9.93	1.70	-8.23	-8.23
Meghalaya	0.70	0.11	-0.59	2.64	1.61	-1.02	8.29	4.00	-4.28	-5.90
Mizoram	0.00	0.00	0.00	0.00	0.00	0.00	5.83	1.03	-4.80	-4.80
Nagaland	12.35	0.00	-12.35	0.00	0.00	0.00	1.52	10.14	8.62	-3.73
Tripura	0.12	0.05	-0.07	10.81	0.01	-10.80	12.43	1.02	-11.41	-22.28
GOA	0.00	0.00	0.00	0.00	0.00	0.00	21.25	14.36	-6.89	-6.89
JINDAL POWER	502.44	0.00	-502.44	9.34	0.00	-9.34	2.05	21.76	19.71	-492.07
LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	55.78	3.80	-51.98	-51.98
MUNDRA APL	19.20	0.00	-19.20	0.00	0.00	0.00	31.89	3.52	-28.36	-47.56
LANKO_KONDAPALLY	94.95	0.00	-94.95	9.78	0.00	-9.78	12.35	19.25	6.90	-97.83

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), JUNE 2010				
Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	3954.99	54.21%	6.06%
	(i) Through Traders and PXs	2743.38	37.60%	4.21%
	(ii) Direct	1211.62	16.61%	1.86%
2	Through Power Exchanges	890.64	12.21%	1.37%
	IEX	748.39	10.26%	1.15%
	PXIL	142.25	1.95%	0.22%
3	Through UI	2450.00	33.58%	3.76%
	<b>Total</b>	<b>7295.64</b>	<b>100.00%</b>	<b>11.19%</b>
	<b>Total Generation</b>	<b>65211.13</b>		

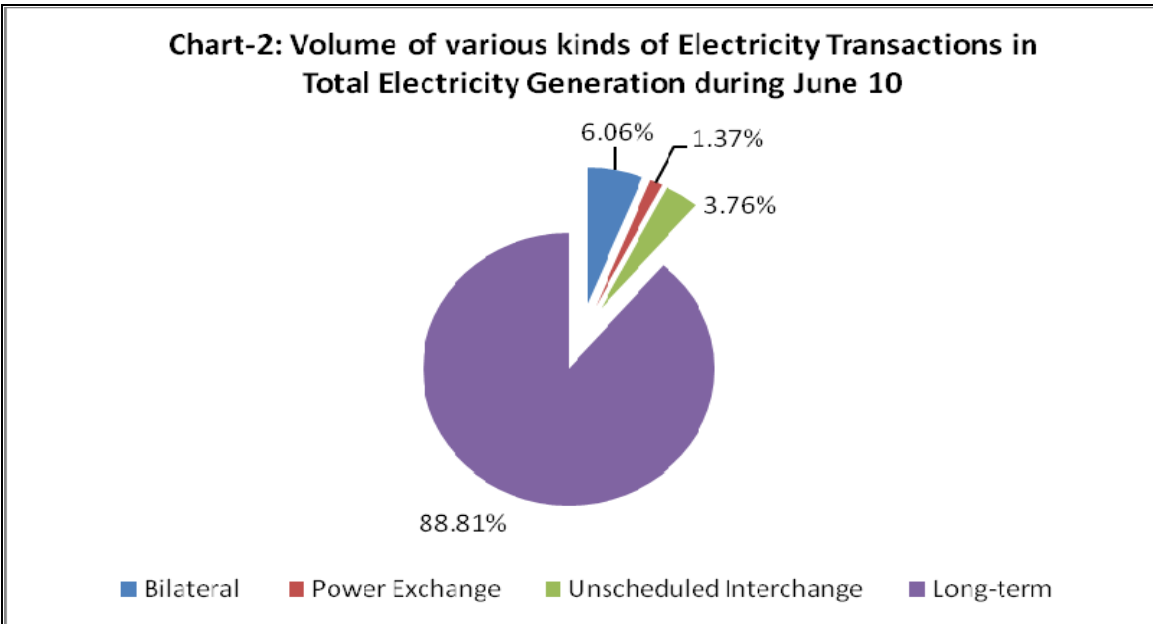
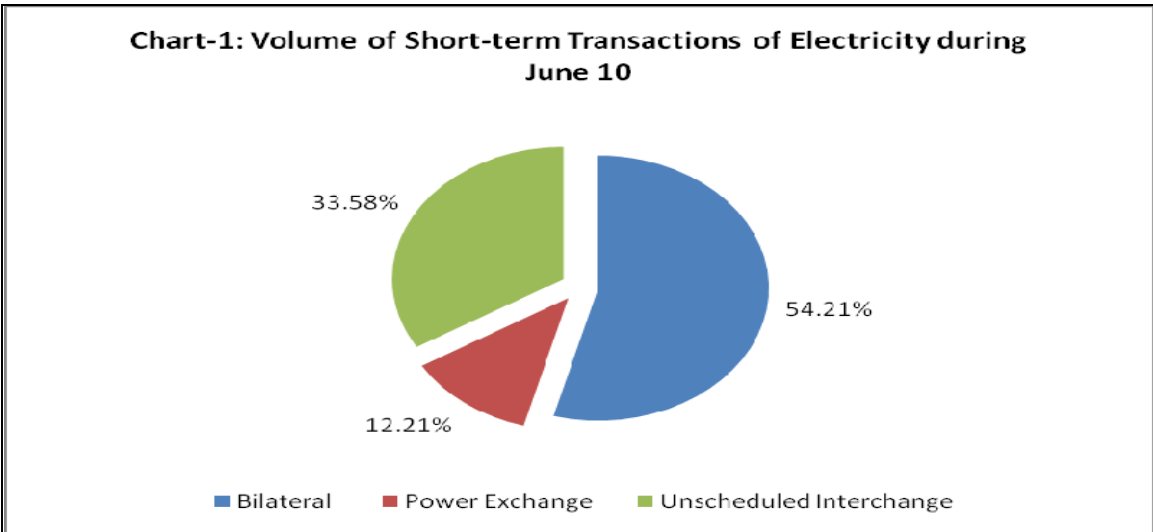
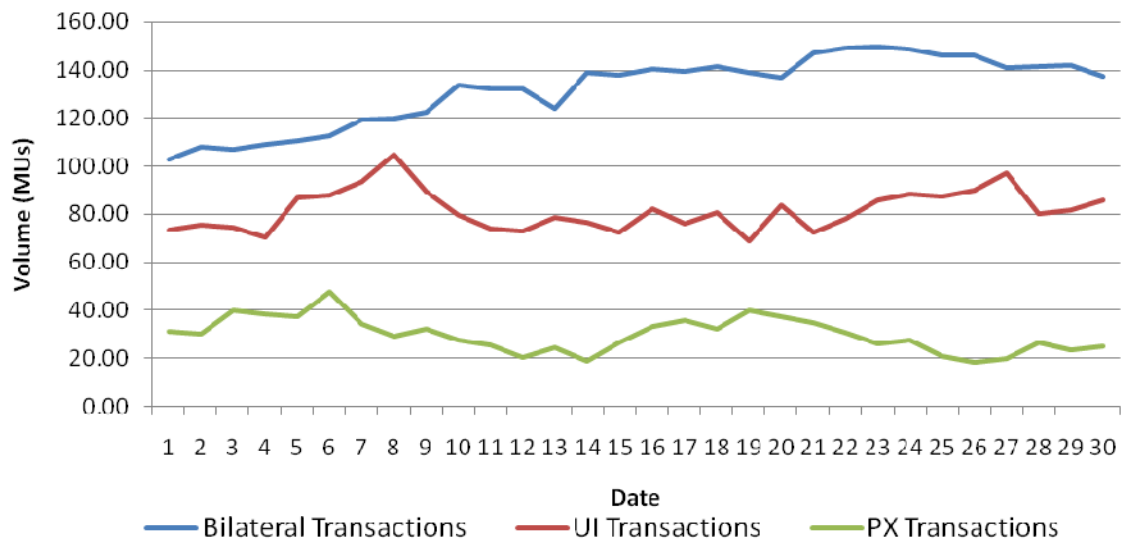


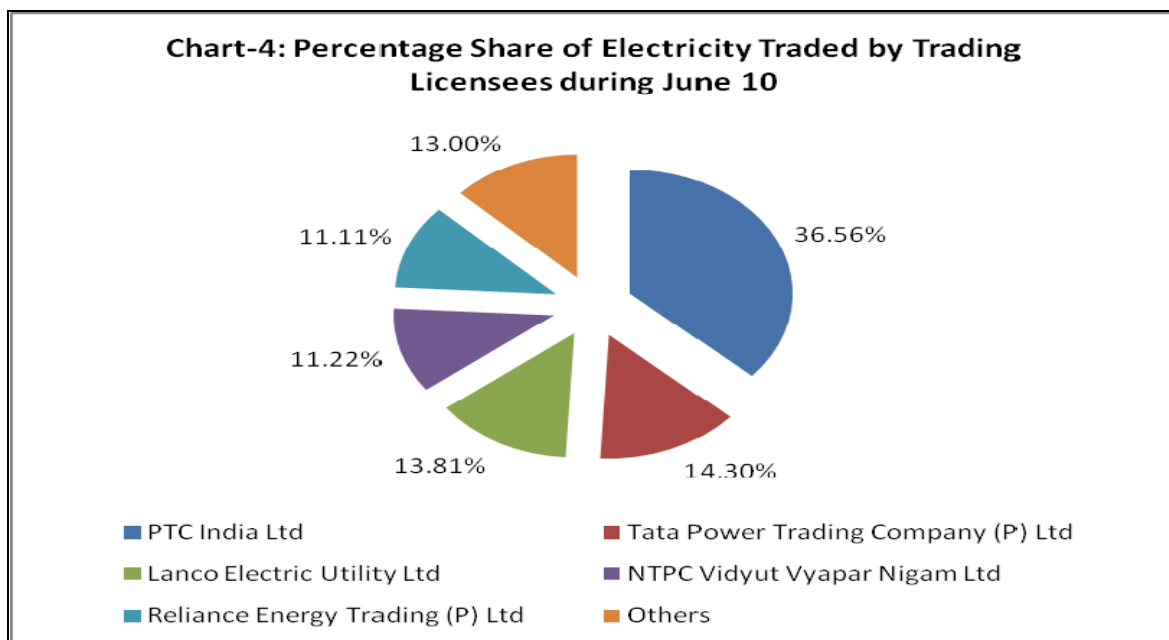
Chart-3: Volume of Short-term Transactions of Electricity, June 2010



<b>Table-2: Percentage Share of Electricity Traded by Trading Licensees during June 2010</b>			
<b>Sr.No</b>	<b>Name of the Trading Licensee</b>	<b>% Share in total Volume traded by Licensees</b>	<b>Herfindahl-Hirschman Index</b>
1	PTC India Ltd	36.56%	0.1337
2	Tata Power Trading Company (P) Ltd	14.30%	0.0204
3	Lanco Electric Utility Ltd	13.81%	0.0191
4	NTPC Vidyut Vyapar Nigam Ltd	11.22%	0.0126
5	Reliance Energy Trading (P) Ltd	11.11%	0.0123
6	JSW Power Trading Company Ltd	3.54%	0.0013
7	GMR Energy Trading Ltd	3.05%	0.0009
8	Knowledge Infrastructure Systems (P) Ltd	2.59%	0.0007
9	Instinct Advertisement & Marketing Ltd	1.33%	0.0002
10	Shree Cement Ltd.	0.77%	0.0001
11	Indrajit Power Technology Pvt Ltd	0.58%	0.0000
12	Adani Enterprises Ltd	0.57%	0.0000
13	Pune Power Development (P) Ltd	0.23%	0.0000
14	Godawari Power & Ispat Ltd	0.17%	0.0000
15	Essar Electric Power Development Corp. Ltd.	0.15%	0.0000
16	RPG Power Trading Company Ltd	0.02%	0.0000
	<b>Total</b>	<b>100.00%</b>	<b>0.2013</b>
	<b>Top 5 trading licensees</b>	<b>87.00%</b>	

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



<b>Table-3: PRICE OF POWER TRANSACTED THROUGH TRADERS</b>		
<b>Sr.No</b>	<b>Period of Trade</b>	<b>Weighted Average Sale Price (Rs)</b>
1	RTC	5.57
2	PEAK	5.84
3	OFF PEAK	5.67

Source: Information submitted by trading licensees

<b>Table-4: PRICE OF POWER TRANSACTED THROUGH TRADERS</b>		
<b>Sr.No</b>		<b>Sale Price (Rs/KWh)</b>
1	Minimum	3.23
2	Maximum	7.28
3	Weighted Average	5.59

Source: Information submitted by trading licensees

<b>Table-5: PRICE OF POWER TRANSACTED THROUGH POWER EXCHANGE (Rs/KWh)</b>			
<b>Sr.No</b>	<b>MCP</b>	<b>IEX</b>	<b>PXIL</b>
1	Minimum	1.88	1.88
2	Maximum	5.25	5.20
3	Weighted Average	3.50	3.47

Source: Information submitted by IEX and PXIL

<b>Table-5A: Term ahead market of IEX</b>			
<b>Sr.No</b>	<b>Term ahead contracts</b>	<b>Actual Scheduled Volume (MUs)</b>	<b>Weighted Average Price (Rs/kwh)</b>
1	Intra-Day Contracts	0.92	5.48
2	Day-Ahead Contingency Contracts	1.76	3.39
3	Weekly Contracts	105.60	3.61
	<b>Total</b>	<b>108.27</b>	

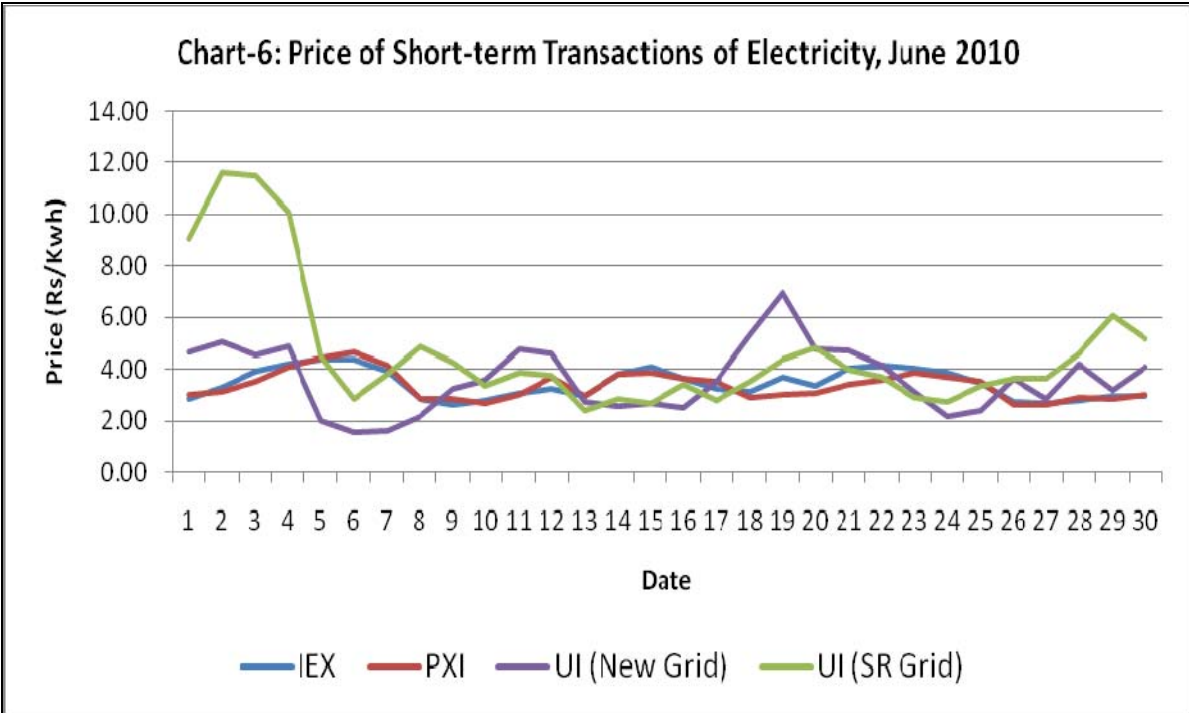
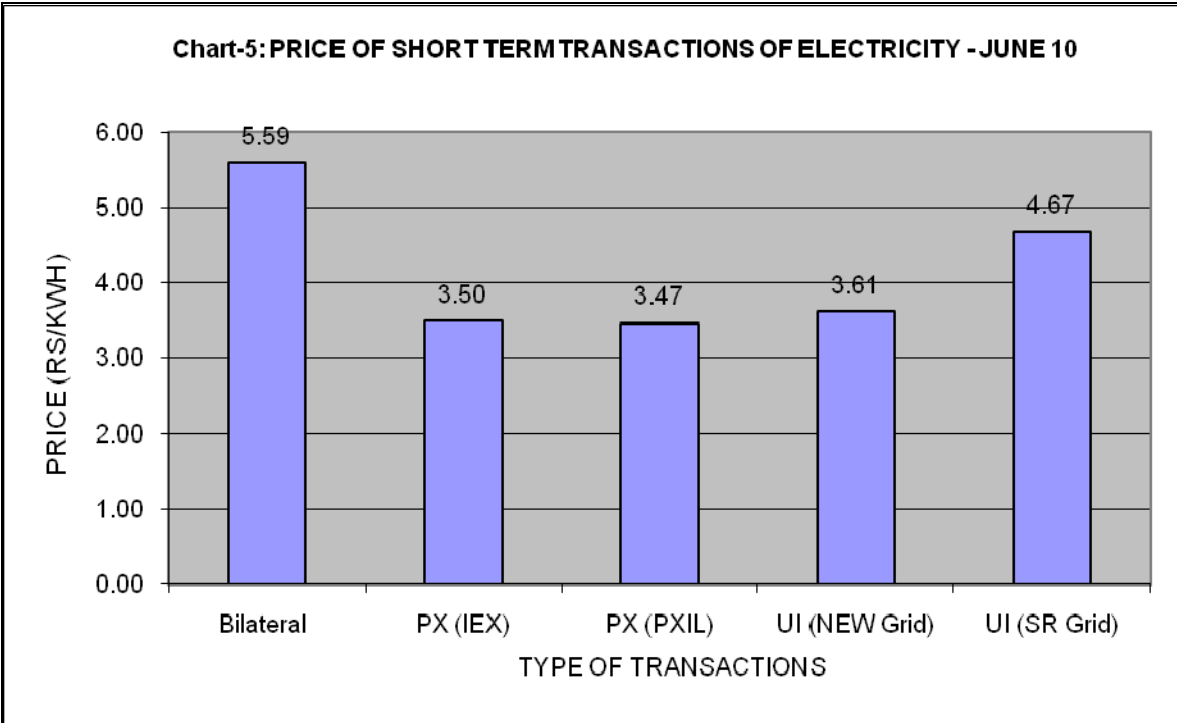
Source: IEX

<b>Table-5B: Term ahead market of PXIL</b>			
<b>Sr.No</b>	<b>Term ahead contracts</b>	<b>Actual Scheduled Volume (MUs)</b>	<b>Weighted Average Price (Rs/kwh)</b>
1	Weekly Contracts	25.20	3.71

Source: PXIL

<b>Table-6: PRICE OF POWER TRANSACTED THROUGH UI (Rs/KWh)</b>			
<b>Sr.No</b>		<b>NEW Grid</b>	<b>SR Grid</b>
1	Minimum	0.00	0.00
2	Maximum	17.46	17.46
3	Average	3.61	4.67

Source: NLDC



<b>Table-7: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Sale (MUs)</b>	<b>% of Volume</b>
Himachal Pradesh	580.03	15.64%
JINDAL POWER	502.44	13.55%
Chattisgarh	335.64	9.05%
J & K	333.72	9.00%
MP	305.07	8.23%
Tamilnadu	296.22	7.99%
Orissa	219.42	5.92%
DVC	152.93	4.12%
Karnataka	114.26	3.08%
West Bengal	111.54	3.01%
Gujarat	101.61	2.74%
LANKO_KONDAPALLY	94.95	2.56%
Kerala	94.83	2.56%
Uttarakhand	88.70	2.39%
Rajasthan	64.80	1.75%
Delhi	57.15	1.54%
Andhra Pradesh	50.90	1.37%
Sikkim	42.25	1.14%
Uttar Pradesh	40.12	1.08%
Maharashtra	32.67	0.88%
Assam	27.04	0.73%
Punjab	19.80	0.53%
MUNDRA APL	19.20	0.52%
Nagaland	12.35	0.33%
Arunachal Pradesh	10.31	0.28%
Meghalaya	0.70	0.02%
Tripura	0.12	0.00%
<b>Total</b>	<b>3708.74</b>	<b>100.00%</b>
<b>Volume of sale by top 5 States</b>	<b>2056.90</b>	<b>55.46%</b>

<b>Table-8: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Purchase (MUs)</b>	<b>% of Volume</b>
Delhi	962.31	24.33%
Punjab	807.96	20.43%
Haryana	546.80	13.83%
Uttar Pradesh	394.72	9.98%
Maharashtra	386.07	9.76%
Tamilnadu	244.76	6.19%
Rajasthan	185.22	4.68%
Chattisgarh	164.07	4.15%
Jharkhand	72.00	1.82%
West Bengal	58.10	1.47%
UT Chandigarh	42.87	1.08%
Andhra Pradesh	39.72	1.00%
MP	38.70	0.98%
Uttarakhand	6.43	0.16%
Sikkim	2.47	0.06%
Assam	1.91	0.05%
Kerala	0.58	0.01%
Karnataka	0.13	0.00%
Meghalaya	0.11	0.00%
Tripura	0.05	0.00%
<b>Total</b>	<b>3954.99</b>	<b>100.00%</b>
<b>Volume of purchase by top 5 States</b>	<b>3097.87</b>	<b>78.33%</b>

<b>Table-9: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGE</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Sale (MUs)</b>	<b>% of Volume</b>
Gujarat	271.61	30.50%
Delhi	242.50	27.23%
Chattisgarh	179.92	20.20%
Orissa	39.78	4.47%
West Bengal	34.76	3.90%
Andhra Pradesh	28.48	3.20%
Sikkim	17.31	1.94%
Rajasthan	14.32	1.61%
MP	13.45	1.51%
Tripura	10.81	1.21%
LANKO_KONDAPALLY	9.78	1.10%
JINDAL POWER	9.34	1.05%
Assam	6.49	0.73%
Maharashtra	3.22	0.36%
Meghalaya	2.64	0.30%
J & K	1.35	0.15%
Punjab	1.29	0.14%
Himachal Pradesh	1.09	0.12%
Arunachal Pradesh	1.05	0.12%
Haryana	0.97	0.11%
Kerala	0.50	0.06%
<b>Total</b>	<b>890.64</b>	<b>100.00%</b>
<b>Volume of sale by top 5 States</b>	<b>768.57</b>	<b>86.29%</b>

<b>Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGE</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Purchase (MUs)</b>	<b>% of Volume</b>
Tamilnadu	281.24	31.58%
Rajasthan	125.53	14.09%
Maharashtra	108.14	12.14%
Uttar Pradesh	81.99	9.21%
Andhra Pradesh	79.39	8.91%
Punjab	79.07	8.88%
West Bengal	35.63	4.00%
Kerala	31.21	3.50%
Haryana	29.44	3.31%
Gujarat	16.09	1.81%
MP	9.20	1.03%
Assam	8.06	0.90%
Dadra & Nagar Haveli	3.33	0.37%
Meghalaya	1.61	0.18%
Delhi	0.64	0.07%
Arunachal Pradesh	0.08	0.01%
Tripura	0.01	0.00%
<b>Total</b>	<b>890.64</b>	<b>100.00%</b>
<b>Volume of purchase by top 5 States</b>	<b>676.28</b>	<b>75.93%</b>



<b>Table-11: VOLUME OF ELECTRICITY EXPORT THROUGH UI</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Export (MUs)</b>	<b>% of Volume</b>
Delhi	314.36	15.98%
Chattisgarh	259.68	13.20%
Gujarat	253.96	12.91%
DVC	181.34	9.22%
Andhra Pradesh	104.66	5.32%
Uttar Pradesh	65.84	3.35%
Rajasthan	65.40	3.33%
Orissa	59.41	3.02%
Punjab	58.70	2.98%
West Bengal	56.57	2.88%
LANKO_AMK	55.78	2.84%
Tamilnadu	53.43	2.72%
Maharashtra	49.88	2.54%
J & K	43.70	2.22%
Haryana	36.71	1.87%
MP	34.85	1.77%
MUNDRA APL	31.89	1.62%
Assam	23.59	1.20%
GOA	21.25	1.08%
Karnataka	20.25	1.03%
Uttarakhand	20.21	1.03%
UT Chandigarh	18.65	0.95%
Himachal Pradesh	18.52	0.94%
Pondicherry	13.55	0.69%
Tripura	12.43	0.63%
LANKO_KONDAPALLY	12.35	0.63%
Bihar	11.45	0.58%
Daman and Diu	10.81	0.55%
Arunachal Pradesh	10.48	0.53%
Manipur	9.93	0.50%
Meghalaya	8.29	0.42%
Dadra & Nagar Haveli	7.32	0.37%
Mizoram	5.83	0.30%
Kerala	4.67	0.24%
Sikkim	3.91	0.20%
Jharkhand	3.46	0.18%
JINDAL POWER	2.05	0.10%
Nagaland	1.52	0.08%
<b>Total</b>	<b>1966.67</b>	<b>100.00%</b>
<b>Volume of Export by top 5 States</b>	<b>1113.99</b>	<b>56.64%</b>

<b>Table-12: VOLUME OF ELECTRICITY IMPORT THROUGH UI</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Import (MUs)</b>	<b>% of Volume</b>
Maharashtra	329.42	13.68%
Rajasthan	297.26	12.35%
Haryana	227.75	9.46%
Punjab	215.47	8.95%
Uttar Pradesh	197.48	8.20%
MP	191.45	7.95%
Tamilnadu	150.26	6.24%
Karnataka	105.59	4.39%
West Bengal	90.47	3.76%
Jharkhand	86.76	3.60%
Kerala	75.15	3.12%
Himachal Pradesh	59.81	2.48%
Bihar	59.75	2.48%
Andhra Pradesh	46.51	1.93%
Uttarakhand	45.52	1.89%
Orissa	38.56	1.60%
Gujarat	34.72	1.44%
J & K	23.13	0.96%
JINDAL POWER	21.76	0.90%
LANKO_KONDAPALLY	19.25	0.80%
GOA	14.36	0.60%
Dadra & Nagar Haveli	12.64	0.53%
Assam	11.03	0.46%
Nagaland	10.14	0.42%
Sikkim	9.65	0.40%
UT Chandigarh	4.66	0.19%
Meghalaya	4.00	0.17%
LANKO_AMK	3.80	0.16%
MUNDRA APL	3.52	0.15%
DVC	3.43	0.14%
Chattisgarh	3.39	0.14%
Arunachal Pradesh	2.36	0.10%
Daman and Diu	2.13	0.09%
Manipur	1.70	0.07%
Delhi	1.64	0.07%
Mizoram	1.03	0.04%
Tripura	1.02	0.04%
Pondicherry	0.66	0.03%
<b>Total</b>	<b>2407.23</b>	<b>100.00%</b>
<b>Volume of Export by top 5 States</b>	<b>1267.37</b>	<b>52.65%</b>

<b>Table-13: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE)</b>		
<b>Sr.No</b>	<b>Name of the State/UT/Other Regional Entity</b>	<b>Total volume of net short-term transactions of electricity*</b>
1	Punjab	1022.72
2	Haryana	766.31
3	Maharashtra	737.86
4	Uttar Pradesh	568.22
5	Rajasthan	463.49
6	Delhi	350.58
7	Tamilnadu	326.61
8	Jharkhand	155.31
9	Bihar	48.30
10	UT Chandigarh	28.88
11	Dadra & Nagar Haveli	8.64
12	Kerala	6.95
13	Nagaland	-3.73
14	Mizoram	-4.80
15	Meghalaya	-5.90
16	GOA	-6.89
17	Manipur	-8.23
18	Daman and Diu	-8.69
19	Pondicherry	-12.88
20	Andhra Pradesh	-18.42
21	West Bengal	-18.67
22	Arunachal Pradesh	-19.40
23	Tripura	-22.28
24	Karnataka	-28.80
25	Assam	-36.12
26	MUNDRA APL	-47.56
27	Sikkim	-51.34
28	LANKO_AMK	-51.98
29	Uttarakhand	-56.96
30	LANKO_KONDAPALLY	-97.83
31	MP	-114.01
32	Orissa	-280.05
33	DVC	-330.84
34	J & K	-355.64
35	JINDAL POWER	-492.07
36	Himachal Pradesh	-539.83
37	Gujarat	-576.37
38	Chattisgarh	-607.77
* 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		

<b>Table-14: Details of Congestion in Power Exchanges for June 2010</b>			
	<b>Details of Congestion</b>	<b>IEX</b>	<b>PXIL</b>
A	Unconstrained Cleared Volume* (MU)	769.07	144.43
B	Actual Cleared Volume and hence scheduled (MU)	748.39	142.25
C	Volume of electricity that could not be cleared as hence not scheduled because of congestion (MU) (A-B)	20.68	2.18
D	Volume of electricity that could not be cleared as % to Actual Cleared Volume	3%	2%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	15.83%	15.69%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	54%	55%
	6.00 - 12.00 hours	30%	30%
	12.00 - 18.00 hours	10%	10%
	18.00 - 24.00 hours	6%	5%

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