

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

I: Volume of Short-term Transactions of Electricity

During the Month of September 2010, total electricity generation excluding generation from renewable and captive power plants in India was 64315.24 MUs (Table-1).

Of the total electricity generation, 6885.46 MUs (10.71%) were transacted through short-term, comprising of 3337.11 MUs (5.19%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 2302.70 MUs (3.58%) through UI and 1245.65 MUs (1.94%) through Power Exchanges (IEX and PXIL) (Table-1 & Chart-2).

Of the total short-term transactions, Bilateral constitute 48.47% (36.79% through traders and term-ahead contracts on Power Exchanges and 11.68% directly between distribution companies) followed by 33.44% through UI and 18.09% through day ahead collective transactions on Power Exchanges (Table-1& Chart-1). Daily volume of short-term transactions is shown in Chart-3.

The percentage share of electricity traded by each trading licensee in the total volume of electricity traded by all trading licensees is provided in Table-2 & Chart-4. The trading

licensees are undertaking electricity transactions through bilateral and through power exchanges. Here the volume of electricity transacted by the trading licensees includes bilateral transactions and the transactions undertaken through power exchanges. There are 38 trading licensees as on 30.9.2010, of which only 16 have engaged in trading during September 2010. Top 5 trading licenses had a share of 90.4% 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 0.2197 for the month of September, which shows high concentration of market power (Table-2).

The volume of electricity transacted through IEX and PXIL was 1127.85 MUs and 117.80 MUs respectively. The volume of total Buy bids and Sale bids was 1285.55 MUs and 2472.35 MUs respectively in IEX and 206.10 MUs and 532.89 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 (0.52 times) and in PXIL (0.39 times) when compared with the supply offered through these exchanges.

The volume of electricity transacted in term-ahead market through weekly contracts of power exchanges was 108.44 MU in IEX and 132.00 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.4.73/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.4.71/kWh, Rs.2.20/kWh (the price during peak is relatively low when compared with the price during off peak mainly for the reason that the transactions undertaken by licensees during peak are very few and as well the transacted power is hydro based) and Rs.4.90/kWh respectively. Minimum and Maximum sale price was Rs.2.02/kWh and Rs.6.17/kWh respectively (Table-3 & 4).

(2) *Price of electricity transacted Through Power Exchange:* The Minimum, Maximum and Weighted Average Price have been computed for the volume transacted

through IEX and PXIL separately. The Minimum, Maximum and Weighted Average Price was Rs.0.50/kWh, Rs.6.75/kWh and Rs.2.53/kWh respectively in IEX and Rs.0.90/kWh, Rs.6.71/kWh and Rs.2.82/kWh respectively in PXIL (Table-5).

The weighted average price of electricity transacted in term-ahead market through the weekly contracts of power exchanges was Rs.3.32/kWh in IEX and Rs.3.37/kWh in PXIL (Table-5A & Table-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.2.02/kWh in the NEW Grid and Rs.3.38/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 and volume of electricity transacted through trading licensees, power exchanges and UI and its comparison is shown in Chart-3 & 5.

III: Volume of Short-term Transactions of Electricity (Regional Entity¹-Wise):

Of the total bilateral transactions, top 5 regional entities selling 53% of the volume are Himachal Pradesh, Madhya Pradesh, Jindal Power, Tamil Nadu and J&K and top 5 regional entities purchasing 74% of the volume are Punjab, Delhi, Uttar Pradesh and Tamil Nadu and Maharashtra (Table-7 & 8).

Of the total Power Exchange transactions, top 5 regional entities selling 61% of the volume are Delhi, Himachal Pradesh, Gujarat, Lanco Kondapally and Rajasthan and top 5 regional entities purchasing 82% of the volume are Tamil Nadu, Maharashtra, Punjab, Kerala and Uttar Pradesh (Table-9 & 10).

Of the total UI transactions, top 5 regional entities underdrawing 44% of the volume are Delhi, Orissa, West Bengal, Andhra Pradesh and DVC and top 5 regional entities overdrawing 52% of the volume are Uttar Pradesh, Tamil Nadu, Haryana, Rajasthan and Maharashtra (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 is shown in Table-13. Top 5 regional entities selling electricity are Himachal Pradesh,

¹ In case of a state, the entities which are “selling” also include generators connected to state grid and the entities which are “buying” also include open access consumers.

Gujarat, Madhya Pradesh, Jindal Power Ltd and Andhra Pradesh and top 5 regional entities purchasing electricity are Punjab, Tamil Nadu, Uttar Pradesh, Maharashtra and Haryana.

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

Power Exchanges use a price discovery mechanism in which the aggregate demand and supply are matched to arrive at an unconstrained market price and volume. This step assumes that there is no congestion in the inter-state transmission system between different regions. However, in reality, the system operator, NLDC in coordination with RLDCs, limits the flow due to congestion in the inter-state transmission system. In such a situation, Power Exchanges adopt a mechanism called “Market Splitting”³.

In the month of September 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.

During the month, the volume of electricity that could not be cleared due to congestion was about 0% of the actual cleared volume in IEX and about 2.7% of the actual cleared volume in PXIL. Although the congestion occurred in power exchanges, in percentage of time terms it was around 10.56% in IEX and 11.25% in PXIL. The congestion occurred in most number of times during 6:00-12:00 hours period of the day in both the exchanges.

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

³ “Market Splitting” is a mechanism adopted by Power Exchange where the market is split in the event of transmission congestion, into predetermined (by NLDC) bid areas or zones, which are cleared individually at their respective area prices such that the energy balance in every bid area is reached based upon the demand and supply in individual bid areas and using the available transmission corridor capacity between various bid areas simultaneously”

As a result of this market splitting the price of electricity in the importing region, where demand for electricity is more than supply, becomes relatively higher than the price of electricity in the exporting region.

V: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 10.71 %.
- Of the total short-term transactions of electricity, 48.47% transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies) followed by 33.44% through UI and 18.09% through Power Exchanges.
- Top 5 trading licenses are having share of 90.4% in the total volume traded by all the trading licensees.
- The price of electricity transacted through Trading Licensees was relatively high (Rs.4.73/kWh) when compared with the price of electricity transacted through Power Exchange (Rs 2.53/kWh in IEX and 2.82/kWh in PXIL). The price of electricity transacted through UI was Rs.2.02/kWh in NEW Grid and Rs.3.38/kWh in SR Grid.
- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.2197 shows high concentration of 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 (0.52 times) and in PXIL (0.39 times) when compared with the supply offered through these exchanges.
- Top 5 regional entities selling electricity are Himachal Pradesh, Gujarat, Madhya Pradesh, Jindal Power Ltd and Andhra Pradesh and top 5 regional entities purchasing electricity are Punjab, Tamil Nadu, Uttar Pradesh, Maharashtra and Haryana.
- The volume of electricity that could not be cleared due to congestion was about 0% of the actual cleared volume in IEX and about 2.7% of the actual cleared volume in PXIL. Congestion occurred in most number of times during 6:00-12:00 hours period of the day in both the exchanges.

VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA) (MUs)						Total Electricity Generation (MUs) as given at CEA Website*
Month: September 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-Sep-10	81.80	26.90	30.57	2.72	92.53	2197.89
2-Sep-10	85.18	26.52	30.88	3.23	88.92	2202.26
3-Sep-10	92.21	28.25	37.28	5.67	75.71	2196.06
4-Sep-10	96.55	28.25	29.47	3.21	74.34	2161.87
5-Sep-10	96.69	27.53	25.08	1.75	73.07	2081.78
6-Sep-10	93.15	29.22	28.83	3.53	62.38	2125.23
7-Sep-10	95.95	29.12	31.29	2.36	70.63	2116.14
8-Sep-10	95.66	29.12	30.31	2.92	75.75	2087.00
9-Sep-10	95.47	29.48	33.59	3.06	78.70	2125.24
10-Sep-10	91.18	28.26	33.71	2.57	79.61	2090.57
11-Sep-10	88.83	27.87	29.04	2.42	86.07	2055.16
12-Sep-10	82.93	27.37	29.16	2.43	87.69	1969.82
13-Sep-10	84.02	29.48	40.04	4.85	75.26	2052.23
14-Sep-10	82.90	27.08	29.61	1.59	77.40	2086.23
15-Sep-10	86.45	27.08	26.23	1.43	74.36	2092.72
16-Sep-10	87.70	26.79	26.50	1.38	73.85	2108.94
17-Sep-10	87.52	24.39	27.51	1.65	80.15	2089.96
18-Sep-10	86.64	24.39	26.67	2.20	84.76	2083.47
19-Sep-10	85.30	25.23	25.43	0.73	82.63	2055.03
20-Sep-10	74.26	26.34	29.62	1.61	88.24	2107.66
21-Sep-10	77.87	25.38	41.79	2.65	85.58	2168.96
22-Sep-10	70.87	24.27	52.06	7.17	80.07	2175.89
23-Sep-10	73.93	26.03	57.31	7.21	68.58	2171.16
24-Sep-10	73.16	24.83	59.97	9.27	75.31	2139.09
25-Sep-10	70.63	25.31	59.02	10.52	66.99	2159.53
26-Sep-10	70.66	24.17	46.50	7.95	73.82	2180.27
27-Sep-10	84.51	25.97	53.85	10.27	60.72	2253.97
28-Sep-10	83.98	25.79	56.52	4.65	65.25	2304.46
29-Sep-10	78.22	26.94	51.58	4.05	71.26	2324.63
30-Sep-10	78.80	26.80	48.41	2.82	73.05	2352.02
Total	2533.02	804.10	1127.85	117.80	2302.70	64315.24
<i>Source: NLDC</i>						
<i>* Gross Electricity Generation excluding electricity generation from renewable and captive power plants.</i>						
<i>** The volume of bilateral through PXs represents the volume through term-ahead contracts.</i>						

PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (Rs/KWh)												
Month: September 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-Sep-10	1.70	5.50	2.71	2.00	4.90	3.07	0.00	4.03	2.09	0.00	8.26	3.15
2-Sep-10	1.66	5.50	2.64	2.00	5.25	3.32	0.00	5.91	1.86	0.00	5.91	2.58
3-Sep-10	1.70	5.50	2.62	2.00	5.25	2.93	0.00	6.38	2.02	0.62	5.91	2.83
4-Sep-10	1.50	5.10	2.43	2.00	5.50	3.16	0.16	4.97	2.35	0.16	4.97	2.43
5-Sep-10	1.44	4.00	2.13	2.00	4.25	3.15	0.00	8.26	1.83	0.00	5.44	2.14
6-Sep-10	1.50	3.85	2.19	2.00	3.85	2.57	0.93	17.46	3.99	0.31	5.44	2.62
7-Sep-10	1.99	4.00	2.41	1.97	4.00	2.78	0.00	7.79	1.84	0.00	4.50	2.23
8-Sep-10	2.00	4.00	2.49	1.97	4.00	2.72	0.00	12.22	2.39	0.00	7.32	2.70
9-Sep-10	1.89	4.10	2.44	2.00	4.10	2.61	0.31	17.46	2.69	0.93	8.26	2.90
10-Sep-10	1.67	4.50	2.42	1.96	4.00	2.79	0.00	3.88	1.44	0.00	5.44	2.49
11-Sep-10	1.00	4.00	2.03	1.97	4.50	2.91	0.00	3.57	0.88	0.00	7.32	2.45
12-Sep-10	1.00	3.50	1.60	1.99	3.50	2.64	0.00	5.91	0.99	0.00	4.97	2.03
13-Sep-10	0.90	4.50	1.79	1.90	3.50	2.38	0.00	12.22	2.08	0.00	5.44	2.04
14-Sep-10	0.90	5.51	1.93	1.50	5.51	2.72	0.00	12.22	1.83	0.00	4.97	2.34
15-Sep-10	1.00	4.50	1.74	1.25	4.00	2.53	0.00	12.22	1.47	0.31	5.44	2.44
16-Sep-10	0.90	4.75	1.63	1.40	4.50	2.80	0.00	12.22	1.51	0.00	7.79	2.57
17-Sep-10	0.80	5.50	1.74	1.00	4.50	2.56	0.00	3.10	0.60	0.00	3.88	1.97
18-Sep-10	0.90	4.51	1.61	0.95	4.50	2.55	0.00	6.85	1.60	0.31	4.50	2.34
19-Sep-10	0.50	3.75	1.38	1.30	2.50	2.37	0.00	3.57	1.57	0.00	4.50	2.44
20-Sep-10	1.25	4.60	2.21	0.90	4.50	2.70	0.00	17.46	3.01	0.78	17.46	5.49
21-Sep-10	1.99	4.80	2.45	1.25	4.75	2.62	0.16	12.22	2.58	1.71	17.46	6.47
22-Sep-10	2.00	5.00	2.67	2.00	4.90	2.50	0.00	3.10	1.12	1.24	12.22	5.24
23-Sep-10	1.90	5.10	2.72	1.90	5.05	2.62	0.00	12.22	2.02	1.55	17.46	6.53
24-Sep-10	1.80	5.50	2.85	2.00	5.25	2.77	0.62	12.22	2.67	0.31	7.79	3.67
25-Sep-10	1.99	5.65	2.96	1.85	5.40	2.93	0.16	7.32	2.26	0.47	6.85	3.11
26-Sep-10	1.80	5.10	2.60	1.85	5.50	2.75	0.00	4.50	1.61	0.00	8.26	3.25
27-Sep-10	1.97	5.75	3.07	1.80	5.50	2.74	0.78	6.85	2.54	0.31	12.22	3.83
28-Sep-10	1.98	5.80	3.27	1.70	5.75	3.25	0.93	7.79	2.65	1.40	12.22	4.38
29-Sep-10	2.30	6.25	3.45	1.82	6.00	3.45	0.78	3.57	2.08	2.17	17.46	6.15
30-Sep-10	2.25	6.75	3.47	2.00	6.71	3.57	0.93	17.46	2.89	2.48	17.46	6.52
	0.50#	6.75#	2.53	0.90#	6.71#	2.82	0.00#	17.46#	2.02	0.00#	17.46#	3.38

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: September 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	0.00	739.75	739.75	78.75	227.33	148.58	57.52	137.12	79.60	967.94
Haryana	0.00	164.68	164.68	34.10	61.88	27.78	27.18	166.50	139.33	331.79
Rajasthan	11.20	16.07	4.87	95.71	58.90	-36.81	48.81	157.32	108.51	76.58
Delhi	61.40	711.13	649.73	188.98	0.02	-188.96	217.90	10.31	-207.59	253.18
Uttar Pradesh	16.59	358.62	342.03	0.00	79.06	79.06	39.80	249.24	209.44	630.53
Uttarakhand	60.48	0.00	-60.48	7.90	0.00	-7.90	85.47	46.04	-39.43	-107.81
Himachal Pradesh	523.47	0.32	-523.15	181.77	0.00	-181.77	45.48	27.61	-17.87	-722.79
J & K	206.40	0.00	-206.40	0.92	0.00	-0.92	84.40	12.91	-71.49	-278.81
UT Chandigarh	0.00	24.55	24.55	0.00	0.00	0.00	15.77	2.07	-13.70	10.85
Madhya Pradesh	387.85	24.75	-363.10	6.40	17.54	11.14	130.41	40.52	-89.89	-441.84
Maharashtra	50.48	312.98	262.50	1.98	250.94	248.96	63.07	151.32	88.24	599.70
Gujarat	201.31	0.00	-201.31	159.27	16.92	-142.36	158.41	34.62	-123.79	-467.45
Chattisgarh	190.65	0.00	-190.65	63.63	0.00	-63.63	80.97	34.17	-46.79	-301.08
Daman and Diu	0.00	0.00	0.00	0.00	0.07	0.07	4.71	6.72	2.01	2.08
Dadra & Nagar Haveli	0.00	0.00	0.00	0.00	9.17	9.17	3.96	22.14	18.19	27.36
Andhra Pradesh	112.77	40.08	-72.68	75.97	4.56	-71.41	192.84	4.05	-188.78	-332.87
Karnataka	51.54	307.28	255.74	25.39	17.63	-7.77	34.22	96.99	62.77	310.75
Kerala	53.60	0.00	-53.60	0.00	87.56	87.56	1.08	107.17	106.09	140.05
Tamilnadu	232.64	342.46	109.83	0.00	378.84	378.84	23.70	198.55	174.85	663.52
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	10.67	2.23	-8.44	-8.44
West Bengal	149.96	214.94	64.98	64.64	28.26	-36.38	201.89	10.08	-191.81	-163.22
Orissa	100.39	0.00	-100.39	2.56	0.00	-2.56	214.39	8.81	-205.58	-308.53
Bihar	0.00	0.00	0.00	0.00	0.00	0.00	15.55	29.99	14.44	14.44
Jharkhand	13.28	72.00	58.72	0.00	0.00	0.00	1.59	117.02	115.43	174.14
Sikkim	29.24	7.49	-21.75	16.40	0.00	-16.40	1.86	30.19	28.33	-9.83
DVC	92.98	0.00	-92.98	0.00	0.00	0.00	163.64	2.99	-160.65	-253.63
Arunachal Pradesh	9.40	0.00	-9.40	1.75	0.00	-1.75	16.98	1.08	-15.90	-27.05
Assam	5.80	0.00	-5.80	3.23	0.00	-3.23	57.09	6.10	-50.99	-60.02
Manipur	0.00	0.00	0.00	0.00	0.00	0.00	23.33	0.03	-23.30	-23.30
Meghalaya	16.80	0.00	-16.80	2.84	0.00	-2.84	6.15	4.54	-1.61	-21.25
Mizoram	0.00	0.00	0.00	11.52	0.00	-11.52	3.74	0.92	-2.82	-14.33
Nagaland	7.92	0.00	-7.92	0.00	0.00	0.00	9.14	2.34	-6.79	-14.71
Tripura	17.76	0.00	-17.76	15.49	2.94	-12.55	6.37	3.32	-3.04	-33.35
GOA	0.00	0.00	0.00	0.00	4.05	4.05	46.25	1.54	-44.71	-40.66
JINDAL POWER	336.75	0.00	-336.75	77.71	0.00	-77.71	3.34	32.07	28.73	-385.74
LANKO_AMK	180.90	0.00	-167.80	0.00	0.00	0.00	132.38	1.56	-130.82	-298.62
LANKO_KONDAPALLY	72.33	0.00	-72.33	132.75	0.00	-132.75	9.88	12.62	2.74	-202.34

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), SEPTEMBER 2010				
Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	3337.11	48.47%	5.19%
	(i) Through Traders and PXs	2533.02	36.79%	3.94%
	(ii) Direct	804.10	11.68%	1.25%
2	Through Power Exchanges	1245.65	18.09%	1.94%
	IEX	1127.85	16.38%	1.75%
	PXIL	117.80	1.71%	0.18%
3	Through UI	2302.70	33.44%	3.58%
	Total	6885.46	100.00%	10.71%
	Total Generation	64315.24	—	—

Source: NLDC

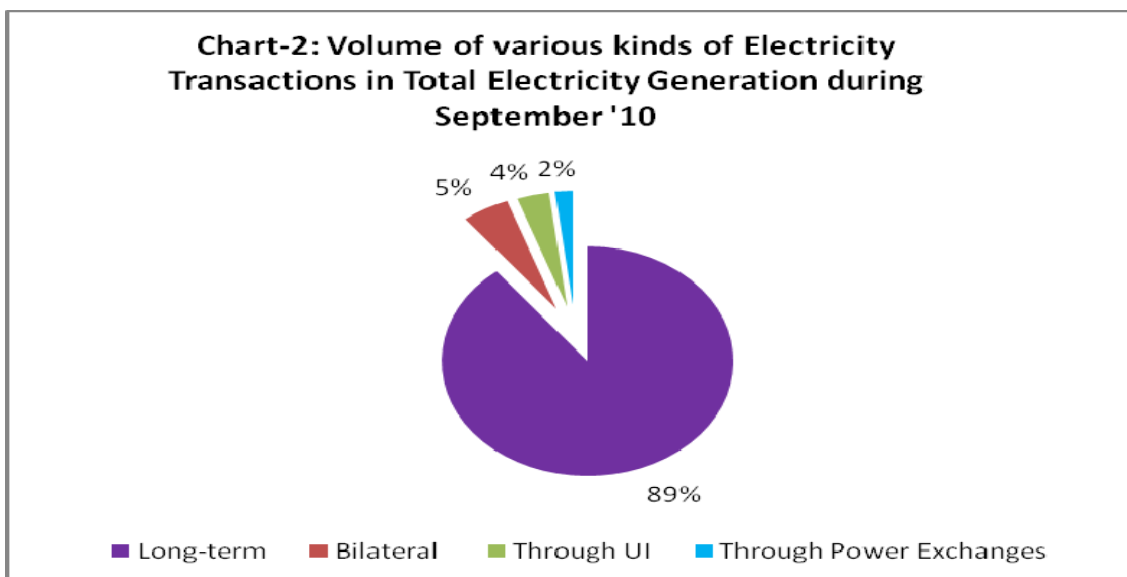
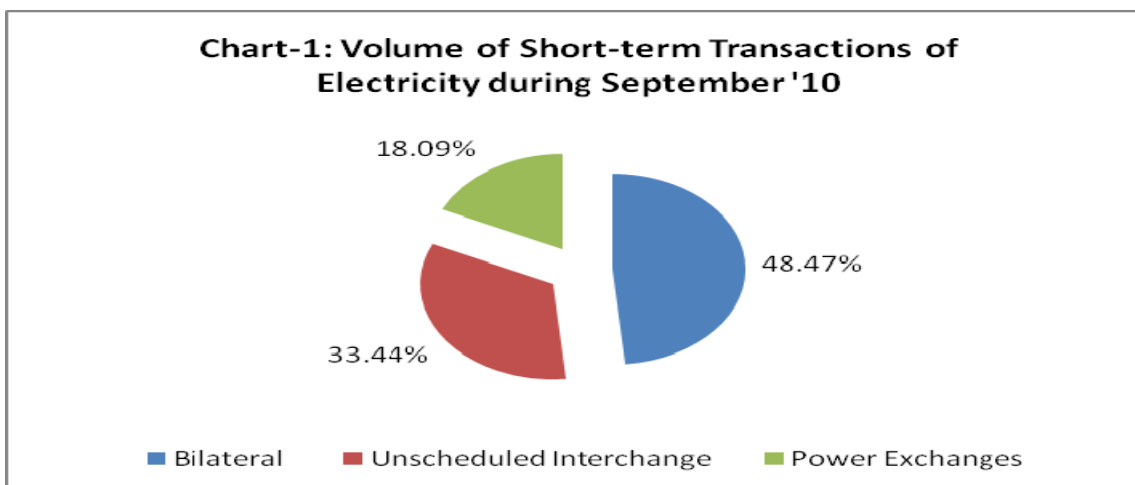


Chart-3: Volume of Short-term Transactions of Electricity, September 2010

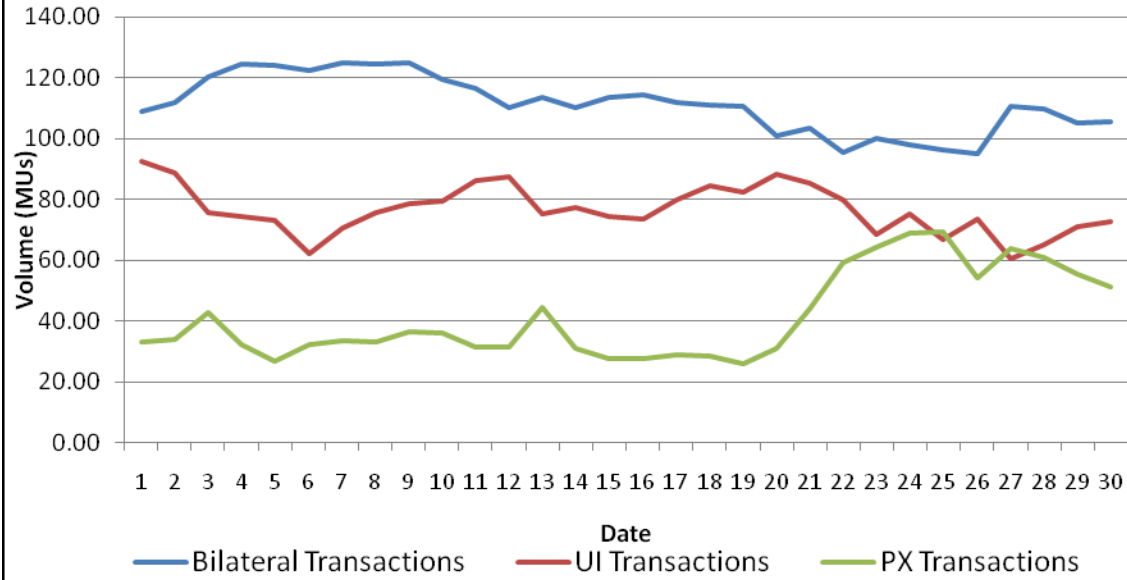


Table-2: Percentage Share of Electricity Traded by Trading Licensees during September 2010			
Sr.No	Name of the Trading Licensee	% Share in total Volume traded by Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd	37.65%	0.1418
2	Lanco Electric Utility Ltd	18.82%	0.0354
3	NTPC Vidyut Vyapar Nigam Ltd	14.54%	0.0212
4	Reliance Energy Trading (P) Ltd	12.11%	0.0147
5	Tata Power Trading Company (P) Ltd	7.27%	0.0053
6	Knowledge Infrastructure Systems (P) Ltd	2.21%	0.0005
7	Instinct Advertisement & Marketing Ltd	1.70%	0.0003
8	JSW Power Trading Company Ltd	1.46%	0.0002
9	Shree Cement Ltd.	1.22%	0.0001
10	Adani Enterprises Ltd	1.18%	0.0001
11	GMR Energy Trading Ltd	0.86%	0.0001
12	Pune Power Development (P) Ltd	0.47%	0.0000
13	Mittal Power Processor Ltd.	0.30%	0.0000
14	RPG Power Trading Company Ltd.	0.08%	0.0000
15	Godawari Power & Ispat Ltd.	0.06%	0.0000
16	Essar Electric Power Development Corp. Ltd.	0.05%	0.0000
	Total	100.00%	0.2197
	Top 5 trading licensees	90.4%	

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

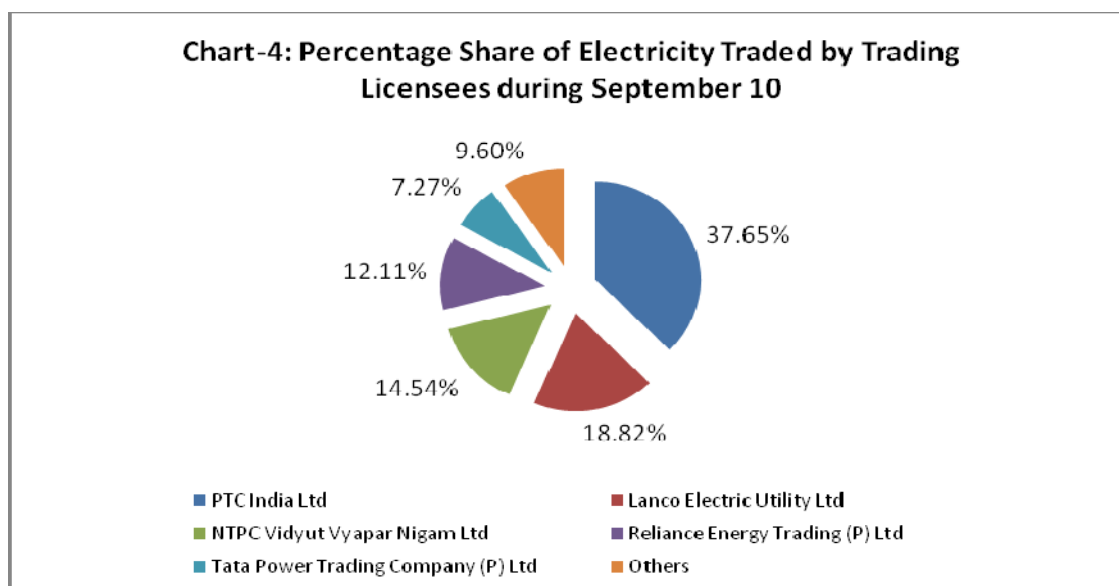


Table-3: PRICE OF POWER TRANSACTED THROUGH TRADERS		
Sr.No	Period of Trade	Weighted Average Sale Price (Rs)
1	RTC	4.71
2	PEAK	2.20
3	OFF PEAK	4.90

Source: Information submitted by trading licensees

Table-4: PRICE OF POWER TRANSACTED THROUGH TRADERS		
Sr.No		Sale Price (Rs/KWh)
1	Minimum	2.02
2	Maximum	6.17
3	Weighted Average	4.73

Source: Information submitted by trading licensees

Table-5: PRICE OF POWER TRANSACTED THROUGH POWER EXCHANGE (Rs/KWh)			
Sr.No	MCP	IEX	PXIL
1	Minimum	0.50	0.90
2	Maximum	6.75	6.71
3	Weighted Average	2.53	2.82

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	0.04	3.50
2	Day-Ahead Contingency Contracts	0.20	1.00
3	Weekly Contracts	108.44	3.32
	Total	108.68	–

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	2.2	3.25
2	Weekly Contracts	132.00	3.37
	Total	134.20	

Source: PXIL

Table-6: PRICE OF POWER TRANSACTED THROUGH UI (Rs/KWh)			
Sr.No		NEW Grid	SR Grid
1	Minimum	0.00	0.00
2	Maximum	17.46	17.46
3	Average	2.02	3.38

Source: NLDC

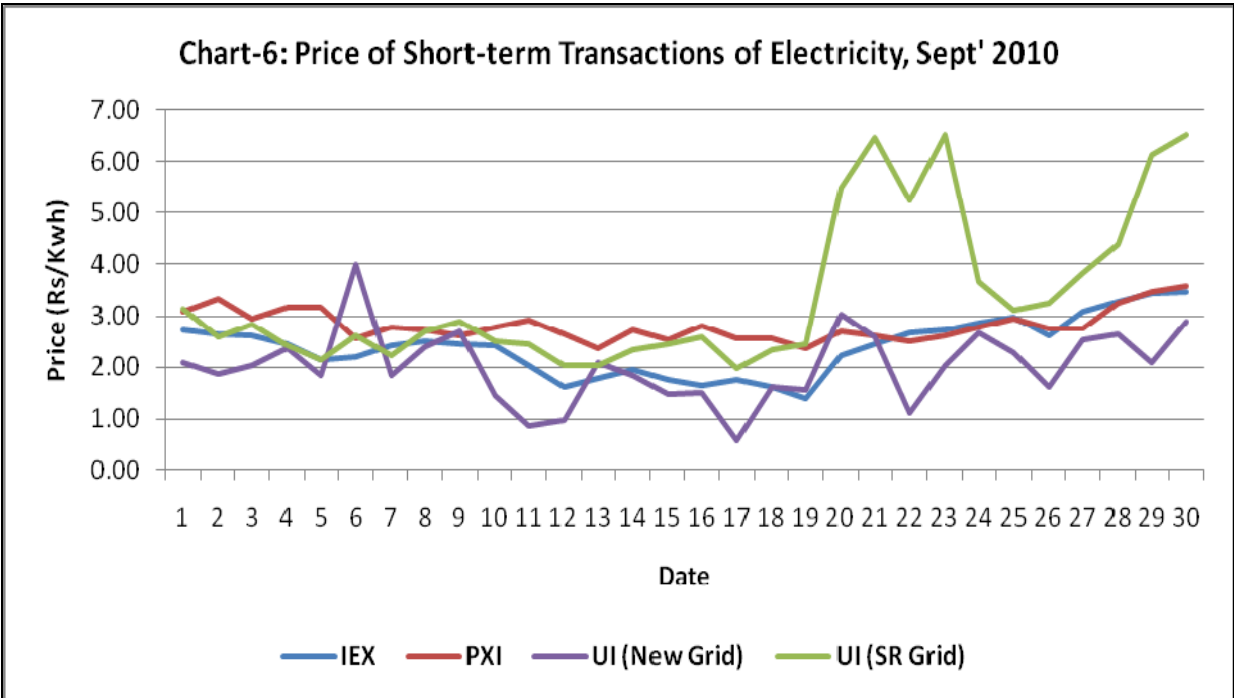
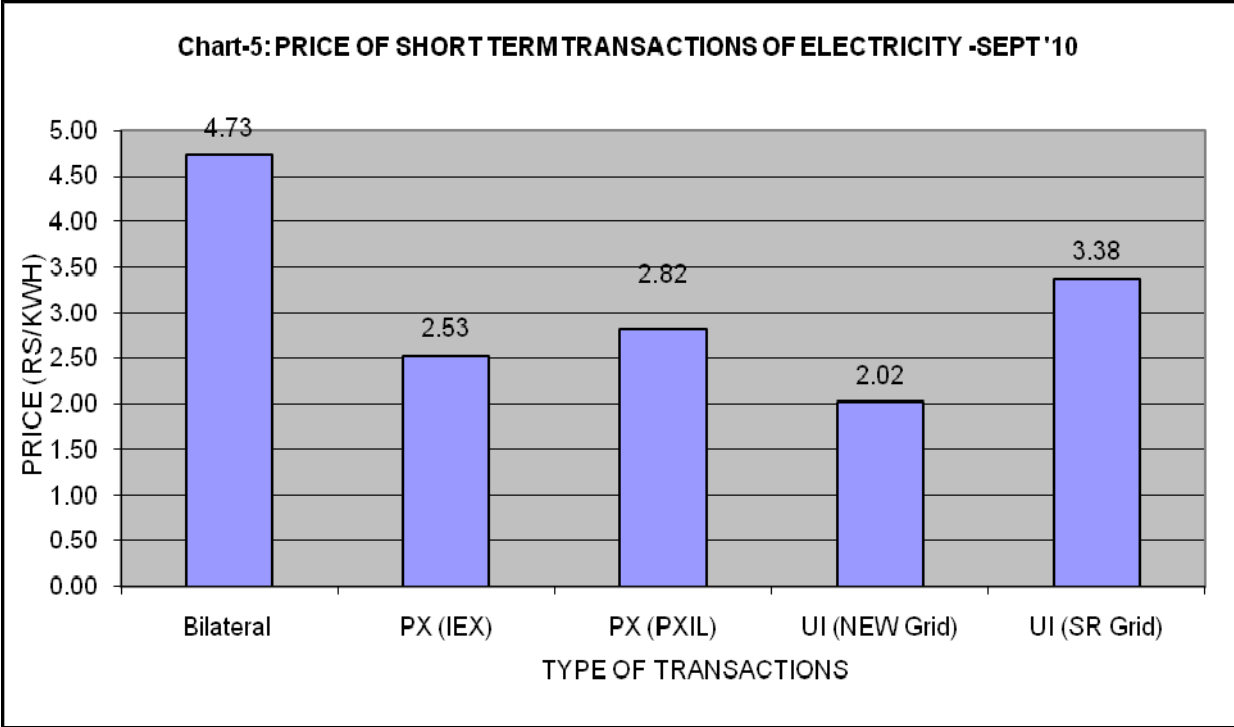


Table-7: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Himachal Pradesh	523.47	16.39%
Madhya Pradesh	387.85	12.14%
JINDAL POWER	336.75	10.54%
Tamilnadu	232.64	7.28%
J & K	206.40	6.46%
Gujarat	201.31	6.30%
Chattisgarh	190.65	5.97%
LANKO_AMK	180.90	5.66%
West Bengal	149.96	4.70%
Andhra Pradesh	112.77	3.53%
Orissa	100.39	3.14%
DVC	92.98	2.91%
LANKO_KONDAPALLY	72.33	2.26%
Delhi	61.40	1.92%
Uttarakhand	60.48	1.89%
Kerala	53.60	1.68%
Karnataka	51.54	1.61%
Maharashtra	50.48	1.58%
Sikkim	29.24	0.92%
Tripura	17.76	0.56%
Meghalaya	16.80	0.53%
Uttar Pradesh	16.59	0.52%
Jharkhand	13.28	0.42%
Rajasthan	11.20	0.35%
Arunachal Pradesh	9.40	0.29%
Nagaland	7.92	0.25%
Assam	5.80	0.18%
Total	3193.88	100.00%
Volume of sale by top 5 States	1687.10	53%

Table-8: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Punjab	739.75	22.17%
Delhi	711.13	21.31%
Uttar Pradesh	358.62	10.75%
Tamilnadu	342.46	10.26%
Maharashtra	312.98	9.38%
Karnataka	307.28	9.21%
West Bengal	214.94	6.44%
Haryana	164.68	4.93%
Jharkhand	72.00	2.16%
Andhra Pradesh	40.08	1.20%
Madhya Pradesh	24.75	0.74%
UT Chandigarh	24.55	0.74%
Rajasthan	16.07	0.48%
Sikkim	7.49	0.22%
Himachal Pradesh	0.32	0.01%
Total	3337.11	100%
Volume of purchase by top 5 States	2464.94	74%

Table-9: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGE		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Delhi	188.98	15.12%
Himachal Pradesh	181.77	14.55%
Gujarat	159.27	12.75%
LANKO_KONDAPALLY	132.75	10.62%
Rajasthan	95.71	7.66%
Punjab	78.75	6.30%
JINDAL POWER	77.71	6.22%
Andhra Pradesh	75.97	6.08%
West Bengal	64.64	5.17%
Chattisgarh	63.63	5.09%
Haryana	34.10	2.73%
Karnataka	25.39	2.03%
Sikkim	16.40	1.31%
Tripura	15.49	1.24%
Mizoram	11.52	0.92%
Uttarakhand	7.90	0.63%
MP	6.40	0.51%
Assam	3.23	0.26%
Meghalaya	2.84	0.23%
Orissa	2.56	0.20%
Maharashtra	1.98	0.16%
Arunachal Pradesh	1.75	0.14%
J & K	0.92	0.07%
Total	1249.65	100.00%
Volume of purchase by top 5 States	758.48	61%

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGE		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Tamilnadu	378.84	30.41%
Maharashtra	250.94	20.14%
Punjab	227.33	18.25%
Kerala	87.56	7.03%
Uttar Pradesh	79.06	6.35%
Haryana	61.88	4.97%
Rajasthan	58.90	4.73%
West Bengal	28.26	2.27%
Karnataka	17.63	1.42%
MP	17.54	1.41%
Gujarat	16.92	1.36%
Dadra & Nagar Haveli	9.17	0.74%
Andhra Pradesh	4.56	0.37%
GOA TOTAL	4.05	0.33%
Tripura	2.94	0.24%
Daman and Diu	0.07	0.01%
Delhi	0.02	0.00%
Total	1245.65	100.00%
Volume of sale by top 5 States	1023.72	82%

Table-11: VOLUME OF ELECTRICITY EXPORT THROUGH UI		
Name of the State/UT/Other Regional Entity	Volume of Export (MUs)	% of Volume
Delhi	217.90	9.73%
Orissa	214.39	9.57%
West Bengal	201.89	9.01%
Andhra Pradesh	192.84	8.61%
DVC	163.64	7.31%
Gujarat	158.41	7.07%
LANKO_AMK	132.38	5.91%
MP	130.41	5.82%
Uttarakhand	85.47	3.82%
J & K	84.40	3.77%
Chattisgarh	80.97	3.61%
Maharashtra	63.07	2.82%
Punjab	57.52	2.57%
Assam	57.09	2.55%
Rajasthan	48.81	2.18%
GOA TOTAL	46.25	2.06%
Himachal Pradesh	45.48	2.03%
Uttar Pradesh	39.80	1.78%
Karnataka	34.22	1.53%
Haryana	27.18	1.21%
Tamilnadu	23.70	1.06%
Manipur	23.33	1.04%
Arunachal Pradesh	16.98	0.76%
UT Chandigarh	15.77	0.70%
Bihar	15.55	0.69%
Pondicherry	10.67	0.48%
LANKO_KONDAPALLY	9.88	0.44%
Nagaland	9.14	0.41%
Tripura	6.37	0.28%
Meghalaya	6.15	0.27%
Daman and Diu	4.71	0.21%
Dadra & Nagar Haveli	3.96	0.18%
Mizoram	3.74	0.17%
JINDAL POWER	3.34	0.15%
Sikkim	1.86	0.08%
Jharkhand	1.59	0.07%
Kerala	1.08	0.05%
Total	2239.93	100.00%
Volume of Export by top 5 States	990.66	44%

Table-12: VOLUME OF ELECTRICITY IMPORT THROUGH UI		
Name of the State/UT/Other Regional Entity	Volume of Import (MUs)	% of Volume
Uttar Pradesh	249.24	14.06%
Tamilnadu	198.55	11.20%
Haryana	166.50	9.39%
Rajasthan	157.32	8.87%
Maharashtra	151.32	8.54%
Punjab	137.12	7.73%
Jharkhand	117.02	6.60%
Kerala	107.17	6.05%
Karnataka	96.99	5.47%
Uttarakhand	46.04	2.60%
MP	40.52	2.29%
Gujarat	34.62	1.95%
Chattisgarh	34.17	1.93%
JINDAL POWER	32.07	1.81%
Sikkim	30.19	1.70%
Bihar	29.99	1.69%
Himachal Pradesh	27.61	1.56%
Dadra & Nagar Haveli	22.14	1.25%
J & K	12.91	0.73%
LANKO_KONDAPALLY	12.62	0.71%
Delhi	10.31	0.58%
West Bengal	10.08	0.57%
Orissa	8.81	0.50%
Daman and Diu	6.72	0.38%
Assam	6.10	0.34%
Meghalaya	4.54	0.26%
Andhra Pradesh	4.05	0.23%
Tripura	3.32	0.19%
DVC	2.99	0.17%
Nagaland	2.34	0.13%
Pondicherry	2.23	0.13%
UT Chandigarh	2.07	0.12%
LANKO_AMK	1.56	0.09%
GOA TOTAL	1.54	0.09%
Arunachal Pradesh	1.08	0.06%
Mizoram	0.92	0.05%
Manipur	0.03	0.00%
Total	1772.81	100.00%
Volume of Export by top 5 States	922.93	52%

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	Punjab	967.94
2	Tamilnadu	663.52
3	Uttar Pradesh	630.53
4	Maharashtra	599.70
5	Haryana	331.79
6	Karnataka	310.75
7	Delhi	253.18
8	Jharkhand	174.14
9	Kerala	140.05
10	Rajasthan	76.58
11	Dadra & Nagar Haveli	27.36
12	Bihar	14.44
13	UT Chandigarh	10.85
14	Daman and Diu	2.08
15	Pondicherry	-8.44
16	Sikkim	-9.83
17	Mizoram	-14.33
18	Nagaland	-14.71
19	Meghalaya	-21.25
20	Manipur	-23.30
21	Arunachal Pradesh	-27.05
22	Tripura	-33.35
23	GOA TOTAL	-40.66
24	Assam	-60.02
25	Uttarakhand	-107.81
26	West Bengal	-163.22
27	LANKO_KONDAPALLY	-202.34
28	DVC	-253.63
29	J & K	-278.81
30	LANKO_AMK	-298.62
31	Chattisgarh	-301.08
32	Orissa	-308.53
33	Andhra Pradesh	-332.87
34	JINDAL POWER	-385.74
35	MP	-441.84
36	Gujarat	-467.45
37	Himachal Pradesh	-722.79
* 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, SEPT' 2010			
Details of Congestion		IEX	PXIL
A	Unconstrained Cleared Volume* (MU)	995.57	120.99
B	Actual Cleared Volume and hence scheduled (MU)	995.57	117.80
C	Volume of electricity that could not be cleared as hence not scheduled because of congestion (MU) (A-B)	0.00	3.19
D	Volume of electricity that could not be cleared as % to Actual Cleared Volume	0.0%	2.7%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	10.56%	11.25%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	16%	15%
	6.00 - 12.00 hours	39%	40%
	12.00 - 18.00 hours	24%	23%
	18.00 - 24.00 hours	21%	22%

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