

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

I: Volume of Short-term Transactions of Electricity

During the Month of November 2010, total electricity generation excluding generation from renewable and captive power plants in India was 62583.80 MUs (Table-1).

Of the total electricity generation, 5640.41 MUs (9.01%) were transacted through short-term, comprising of 2744.97 MUs (4.39%) through Bilateral (through traders and term-ahead contracts on Power Exchanges and directly between distribution companies), followed by 1953.60 MUs (3.12%) through UI and 941.84 MUs (1.50%) through Power Exchanges (IEX and PXIL) (Table-1 & Chart-2).

Of the total short-term transactions, Bilateral constitute 48.67% (35.69% through traders and term-ahead contracts on Power Exchanges and 12.98% directly between distribution companies) followed by 34.64% through UI and 16.70% 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 30.11.2010, of which only 15 have engaged in trading during November 2010. Top 5 trading licenses had a share of 88 % 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 0.2129 for the month of November, which shows high concentration of market power (Table-2).

The volume of electricity transacted through IEX and PXIL was 865.62 MUs and 76.22 MUs respectively. The volume of total Buy bids and Sale bids was 953.56 MUs and 2277.85 MUs respectively in IEX and 136.73 MUs and 478.66 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 (0.42 times) and in PXIL (0.29 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 58.15 MU in IEX and 130.89 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.3.91/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.3.92/kWh, Rs.4.88/kWh and Rs.3.81/kWh respectively. Minimum and Maximum sale price was Rs.2.39/kWh and Rs.5.89/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.1.00/kWh, Rs.3.90/kWh and Rs.2.04/kWh respectively in IEX and Rs1.00/kWh, Rs.6.51/kWh and Rs.2.65/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.3.06/kWh in IEX and Rs.2.93/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.1.79/kWh in the NEW Grid and Rs.2.46/kWh in the SR Grid. Minimum and Maximum price of UI was Rs.0.00/kWh and Rs.8.26/kWh respectively in the New Grid and Rs.0.00/kWh and Rs.17.46/kWh respectively in the SR Grid (Table-6).

The price of electricity transacted through trading licensees, power exchanges and UI and its comparison is shown in Chart-5 & 6.

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

Of the total bilateral transactions, top 5 regional entities selling 59.16 % of the volume are Jindal Power Ltd, Punjab, Haryana, West Bengal and Lanko Kondapally Ltd. Top 5 regional entities purchasing 71.40% of the volume are Tamil Nadu, Rajasthan, Maharashtra, Karnataka and Madhya Pradesh. (Table-7 & 8)

Of the total Power Exchange transactions, top 5 regional entities selling 66% of the volume are Chattisgarh, Rajasthan, Delhi, Andhra Pradesh and West Bengal. Top 5 regional entities purchasing 93% of the volume are Punjab, Tamil Nadu, Maharashtra, Haryana and Rajasthan. (Table-9 & 10)

Of the total UI transactions, top 5 regional entities underdrawing 47% of the volume are Andhra Pradesh, Gujarat, Maharashtra, Rajasthan and Punjab. Top 5 regional entities overdrawing 55% of the volume are Haryana, Tamil Nadu, Uttar Pradesh, Madhya Pradesh and Rajasthan (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 Chattisgarh, Jindal Power Ltd, Andhra 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.

West Bengal and Lanko Amarkantak Ltd. Top 5 regional entities purchasing electricity are Tamil Nadu, Rajasthan, Maharashtra, Madhya Pradesh and Karnataka.

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 November 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 5.4% and 51.7% of the actual cleared volume in IEX and PXIL, respectively. Although the congestion occurred in power exchanges, in percentage of time terms it was around 47.50% in IEX and 55.83% in PXIL. The congestion occurred in most number of times during 18:00-24:00 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 9.01 %.
- Of the total short-term transactions of electricity, 48.67% transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies) followed by 34.64% through UI and 16.70% through Power Exchanges.
- Top 5 trading licenses are having share of 88% in the total volume traded by all the trading licensees.
- The price of electricity transacted through Trading Licensees was relatively high (Rs.3.91/kWh) when compared with the price of electricity transacted through Power Exchanges (Rs.2.04/kWh in IEX and 2.65/kWh in PXIL). The price of electricity transacted through UI was Rs.1.79/kWh in NEW Grid and Rs.2.46/kWh in SR Grid.
- The Herfindahl Hirschman Index computed for volume of electricity traded by trading licensees was 0.2129 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 (0.42 times) and in PXIL (0.29 times) when compared with the supply offered through these exchanges.
- Top 5 regional entities selling electricity are Chattisgarh, Jindal Power Ltd, Andhra Pradesh, West Bengal and Lanko Amarkantak Ltd. Top 5 regional entities purchasing electricity are Tamil Nadu, Rajasthan, Maharashtra, Madhya Pradesh and Karnataka.
- The volume of electricity that could not be cleared due to congestion was 5.4% and 51.7% of the actual cleared volume in IEX and PXIL, respectively. Although the congestion occurred in power exchanges, in percentage of time terms, it was significant i.e. 47.50% in IEX and 55.83% in PXIL.
- The congestion occurred in most number of times during 18:00-24:00 hours period of the day in both the exchanges.

VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA) (MUs)						
Month: November 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-Nov-10	65.97	24.90	34.62	2.73	60.22	2168.56
2-Nov-10	72.47	22.76	28.26	1.86	67.07	2177.45
3-Nov-10	67.19	23.48	27.44	1.78	73.32	2209.77
4-Nov-10	72.52	23.46	27.87	2.21	73.30	2209.55
5-Nov-10	73.06	24.23	23.29	2.40	90.55	2155.63
6-Nov-10	63.70	24.53	13.89	0.98	79.48	2104.54
7-Nov-10	63.22	24.53	18.89	0.36	70.93	1971.04
8-Nov-10	71.28	25.53	27.30	0.73	73.77	2027.98
9-Nov-10	75.18	25.51	24.80	1.24	65.87	2068.88
10-Nov-10	76.01	25.46	26.04	0.93	61.82	2128.55
11-Nov-10	74.09	24.99	24.13	1.30	61.80	2144.56
12-Nov-10	74.09	24.67	24.59	1.10	58.94	2129.32
13-Nov-10	68.94	24.34	23.47	0.80	61.70	2136.13
14-Nov-10	68.14	24.34	27.04	1.26	61.85	2155.84
15-Nov-10	68.10	24.76	32.59	2.32	60.47	2121.82
16-Nov-10	70.51	24.76	29.74	2.01	68.51	2118.46
17-Nov-10	72.67	24.04	33.97	3.36	68.09	2086.29
18-Nov-10	71.47	24.43	31.87	4.79	63.99	2048.30
19-Nov-10	71.16	24.37	33.60	4.30	58.69	2073.90
20-Nov-10	67.09	24.04	33.87	3.15	56.79	2069.67
21-Nov-10	62.59	24.04	32.00	3.14	60.81	2017.13
22-Nov-10	68.19	24.37	30.70	3.79	64.30	2014.58
23-Nov-10	68.18	24.69	29.47	5.45	60.93	2021.36
24-Nov-10	67.63	24.69	34.72	5.48	55.65	2021.36
25-Nov-10	60.33	24.69	35.15	4.93	60.12	2040.34
26-Nov-10	55.54	24.09	32.06	2.10	66.08	2053.00
27-Nov-10	55.46	24.09	31.10	3.61	66.56	2057.89
28-Nov-10	55.15	24.09	28.17	2.62	64.05	1974.52
29-Nov-10	56.64	24.09	32.94	2.30	57.47	2017.46
30-Nov-10	56.36	24.07	32.06	3.21	60.46	2059.92
Total	2012.95	732.02	865.62	76.22	1953.60	62583.80
<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: November 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-Nov-10	1.70	3.51	2.13	1.75	6.50	2.56	0.00	3.88	1.38	0.00	4.03	2.27
2-Nov-10	1.64	2.70	2.01	1.70	6.51	2.32	0.00	4.03	1.91	0.00	5.91	2.47
3-Nov-10	1.60	2.50	1.90	1.70	6.51	2.59	0.00	5.91	2.18	0.00	17.46	3.15
4-Nov-10	1.60	3.50	2.26	1.60	6.01	2.22	0.00	5.44	2.05	0.00	4.97	2.27
5-Nov-10	1.50	3.50	2.11	1.20	6.01	2.19	0.00	3.26	1.36	0.00	3.26	1.20
6-Nov-10	1.00	2.50	1.54	1.58	6.50	1.74	0.00	3.88	0.87	0.00	4.50	1.81
7-Nov-10	1.50	1.60	1.52	1.00	5.01	1.87	0.00	3.57	1.38	0.00	3.88	1.39
8-Nov-10	1.60	3.61	2.19	1.00	6.50	1.17	0.00	3.57	1.57	0.00	4.03	1.65
9-Nov-10	1.50	3.00	2.02	1.50	2.50	1.67	0.00	6.85	2.08	0.00	4.50	1.60
10-Nov-10	1.50	3.50	2.15	1.50	4.01	2.00	0.16	3.88	2.27	0.00	3.88	1.81
11-Nov-10	1.50	2.50	1.96	1.50	4.01	2.26	0.47	5.44	2.36	0.00	7.32	1.77
12-Nov-10	1.80	2.70	2.21	1.49	2.75	2.25	0.47	5.91	2.11	0.00	12.22	2.34
13-Nov-10	1.80	2.40	2.03	1.49	3.00	1.94	0.47	3.57	2.15	0.00	6.85	2.98
14-Nov-10	1.49	2.34	1.91	1.49	3.75	2.00	0.00	3.41	1.76	0.16	4.03	2.23
15-Nov-10	1.75	2.50	2.19	1.75	3.80	2.29	0.00	3.88	1.78	0.00	12.22	2.75
16-Nov-10	1.90	2.55	2.23	1.60	3.75	2.63	0.00	4.50	1.78	0.78	7.32	3.21
17-Nov-10	1.80	3.00	2.08	1.80	3.80	2.27	0.00	3.26	1.17	0.00	4.97	2.18
18-Nov-10	1.70	2.74	2.14	1.60	4.25	2.44	0.00	8.26	1.57	0.00	4.03	2.39
19-Nov-10	1.60	3.00	2.01	1.60	4.30	2.31	0.00	2.95	1.17	1.71	12.22	3.36
20-Nov-10	1.60	3.00	2.04	1.60	5.00	2.96	0.00	2.95	1.17	1.09	12.22	3.41
21-Nov-10	1.40	3.30	1.87	1.40	5.00	2.63	0.00	3.26	1.22	0.00	4.97	2.68
22-Nov-10	1.50	2.50	2.01	1.49	5.60	3.04	0.00	3.72	1.22	0.00	12.22	3.00
23-Nov-10	1.42	3.00	2.03	1.39	5.20	2.88	0.00	4.97	1.34	0.00	12.22	3.05
24-Nov-10	1.35	3.00	2.08	1.35	5.00	2.76	0.00	4.50	1.89	0.00	5.91	2.24
25-Nov-10	1.30	3.00	1.83	1.30	5.00	3.13	0.00	4.97	1.71	0.00	6.85	2.21
26-Nov-10	1.25	2.85	1.74	1.29	5.00	3.63	0.00	6.85	2.22	0.78	7.32	3.08
27-Nov-10	1.20	3.50	2.05	1.19	5.00	3.53	0.78	8.26	2.91	0.31	7.79	3.26
28-Nov-10	1.18	2.50	1.88	1.25	5.00	2.87	0.00	5.44	1.77	0.00	6.85	1.83
29-Nov-10	1.18	3.90	2.41	1.18	5.00	2.89	0.00	7.32	2.40	0.00	12.22	2.42
30-Nov-10	1.18	3.85	2.35	1.18	5.00	3.00	0.62	7.79	2.89	0.00	17.46	3.82
	1.00#	3.90#	2.04	1.00#	6.51#	2.65	0.00#	8.26#	1.79	0.00#	17.46#	2.46

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: November 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	415.88	37.04	-378.84	0.41	340.91	340.50	114.55	29.00	-85.54	-123.88
Haryana	267.90	18.42	-249.48	0.01	71.50	71.50	22.40	271.85	249.45	71.46
Rajasthan	0.00	483.86	483.86	107.94	42.90	-65.04	119.24	124.77	5.52	424.34
Delhi	121.93	0.00	-121.93	87.35	0.00	-87.35	51.69	51.98	0.30	-208.98
Uttar Pradesh	37.92	121.34	83.42	0.00	3.92	3.92	103.59	172.00	68.41	155.76
Uttarakhand	0.00	62.25	62.25	1.88	0.00	-1.88	11.95	53.93	41.98	102.34
Himachal Pradesh	26.33	130.20	103.87	37.40	0.00	-37.40	41.89	16.34	-25.55	40.92
J & K	55.46	222.00	166.54	2.11	0.00	-2.11	43.26	19.58	-23.68	140.75
UT Chandigarh	7.20	9.00	1.80	0.00	0.00	0.00	6.61	2.57	-4.03	-2.23
MP	4.68	242.25	237.57	4.73	13.06	8.34	106.34	130.01	23.67	269.57
Maharashtra	0.00	329.54	329.54	11.76	166.95	155.19	153.59	43.60	-109.99	374.75
Gujarat	35.50	0.00	-35.50	33.17	9.40	-23.77	161.53	39.62	-121.92	-181.19
Chattisgarh	178.45	0.00	-178.45	263.39	0.00	-263.39	103.91	33.75	-70.16	-512.00
Daman and Diu	0.00	0.00	0.00	0.00	0.00	0.00	20.41	6.48	-13.94	-13.94
Dadra & Nagar Haveli	0.00	0.00	0.00	0.00	0.00	0.00	12.61	27.97	15.36	15.36
Andhra Pradesh	144.30	0.00	-144.30	83.95	0.00	-83.95	244.02	3.73	-240.29	-468.55
Karnataka	78.58	252.57	173.99	74.72	0.00	-74.72	38.39	108.05	69.67	168.93
Kerala	53.60	109.65	56.05	3.22	24.48	21.26	3.96	54.98	51.02	128.33
Tamilnadu	16.57	651.80	635.23	0.00	258.26	258.26	17.18	198.46	181.28	1074.77
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	27.78	0.89	-26.89	-26.89
West Bengal	253.91	0.00	-253.91	81.84	8.21	-73.63	27.88	27.88	0.00	-327.55
Orissa	28.21	0.00	-28.21	11.12	0.00	-11.12	27.61	27.61	0.00	-39.33
Bihar	0.00	0.00	0.00	0.00	0.00	0.00	43.13	43.13	0.00	0.00
Jharkhand	0.00	72.00	72.00	0.00	0.00	0.00	19.43	19.43	0.00	72.00
Sikkim	0.00	2.93	2.93	41.05	0.00	-41.05	5.14	5.14	0.00	-38.12
DVC	72.00	0.00	-72.00	3.98	0.00	-3.98	5.88	5.88	0.00	-75.98
Arunachal Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	4.60	7.35	2.75	2.75
Assam	0.00	0.00	0.00	1.21	0.48	-0.73	27.62	10.67	-16.95	-17.68
Manipur	0.00	0.00	0.00	0.00	0.00	0.00	7.26	4.03	-3.23	-3.23
Meghalaya	0.00	0.00	0.00	2.89	0.00	-2.89	3.79	16.86	13.06	10.17
Mizoram	0.00	0.00	0.00	4.35	0.00	-4.35	0.73	5.53	4.80	0.45
Nagaland	12.35	0.00	-12.35	0.00	0.00	0.00	0.76	13.77	13.00	0.65
Tripura	21.30	0.13	-21.17	11.14	1.75	-9.38	2.73	4.14	1.41	-29.14
GOA	0.00	0.00	0.00	0.00	0.00	0.00	30.93	7.39	-23.55	-23.55
JINDAL POWER	439.89	0.00	-439.89	51.27	0.00	-51.27	2.90	13.65	10.75	-480.42
LANCO_AMK	193.90	0.00	-193.90	0.00	0.00	0.00	83.89	0.18	-83.71	-277.60
MUNDRA APL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LANCO_KONDAPALLY	199.18	0.00	-199.18	20.96	0.00	-20.96	4.00	22.10	18.10	-202.04
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), NOV 2010				
Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	2744.97	48.67%	4.39%
	(i) Through Traders and PXs	2012.95	35.69%	3.22%
	(ii) Direct	732.02	12.98%	1.17%
2	Through Power Exchanges	941.84	16.70%	1.50%
	IEX	865.62	15.35%	1.38%
	PXIL	76.22	1.35%	0.12%
3	Through UI	1953.60	34.64%	3.12%
	Total	5640.41	100.00%	9.01%
	Total Generation	62583.80	–	–

Source: NLDC

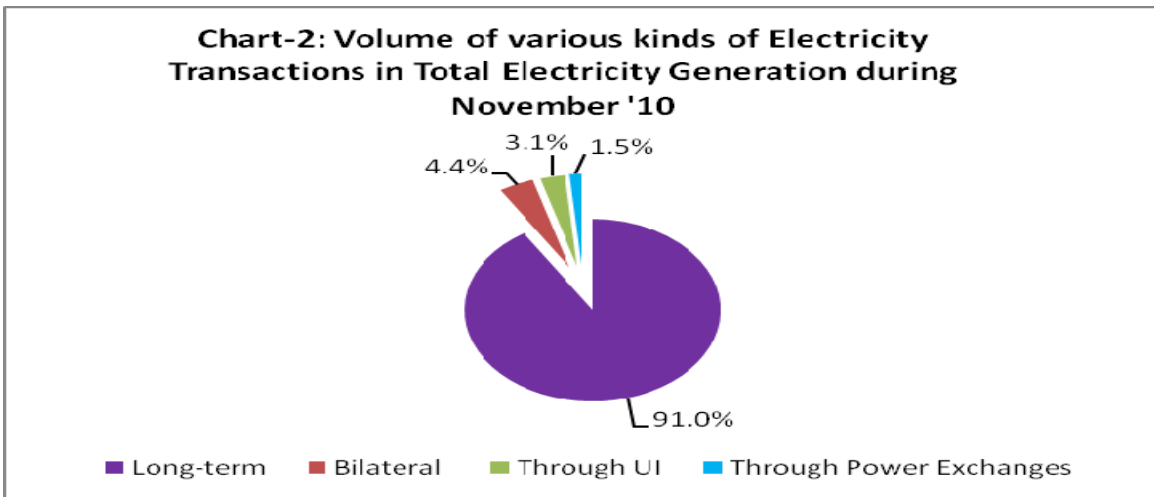
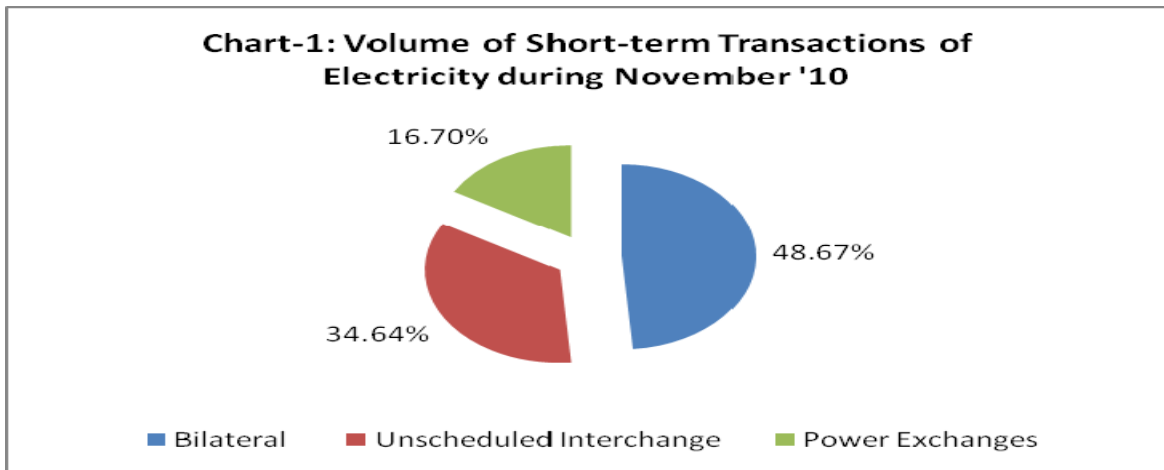


Chart-3: Volume of Short-term Transactions of Electricity, November 2010

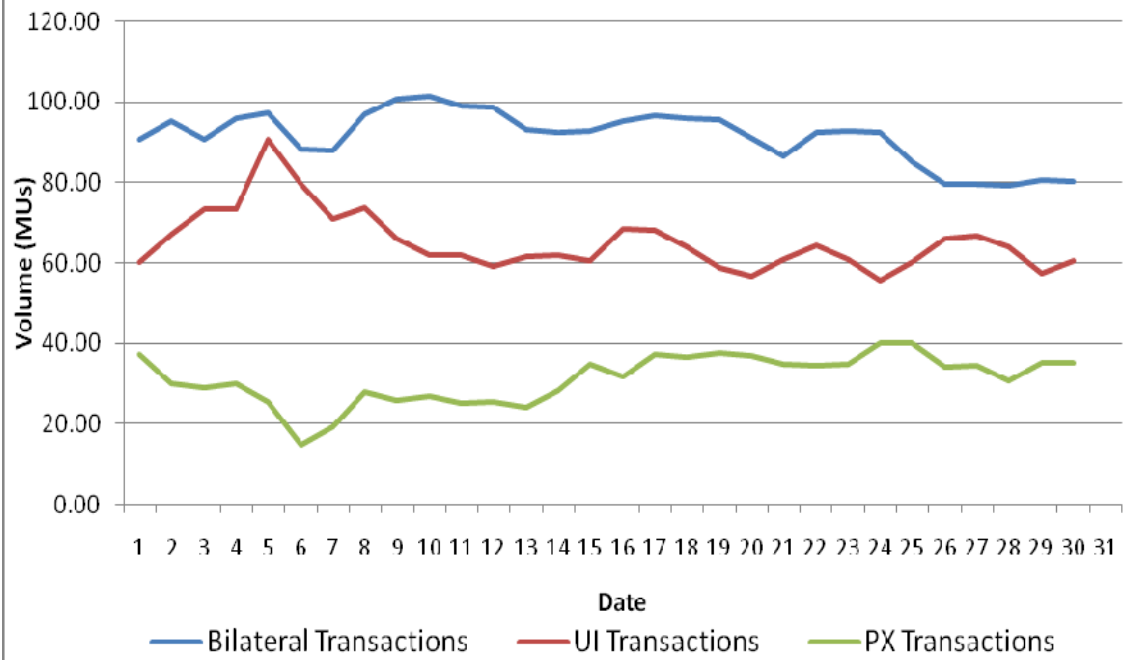


Table-2: Percentage Share of Electricity Traded by Trading Licensees, Nov 2010			
Sr.No	Name of the Trading Licensee	% Share in total Volume traded by Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd	36.01%	0.1297
2	NTPC Vidyut Vyapar Nigam Ltd	21.64%	0.0468
3	Reliance Energy Trading (P) Ltd	12.60%	0.0159
4	Lanco Power Trading Ltd	11.82%	0.0140
5	Tata Power Trading Company (P) Ltd	6.18%	0.0038
6	Instinct Advertisement & Marketing Ltd	3.12%	0.0010
7	JSW Power Trading Company Ltd	2.78%	0.0008
8	GMR Energy Trading Ltd	2.23%	0.0005
9	Shree Cement Ltd.	2.10%	0.0004
10	Pune Power Development (P) Ltd	0.64%	0.0000
11	Mittal Power Processor Ltd.	0.30%	0.0000
12	Jindal Power Trading Corporation Ltd.	0.29%	0.0000
13	Knowledge Infrastructure Systems (P) Ltd	0.14%	0.0000
14	RPG Power Trading Company Ltd.	0.13%	0.0000
15	Godawari Power & Ispat Ltd.	0.02%	0.0000
	Total	100.00%	0.2129
	Top 5 trading licensees	88%	

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

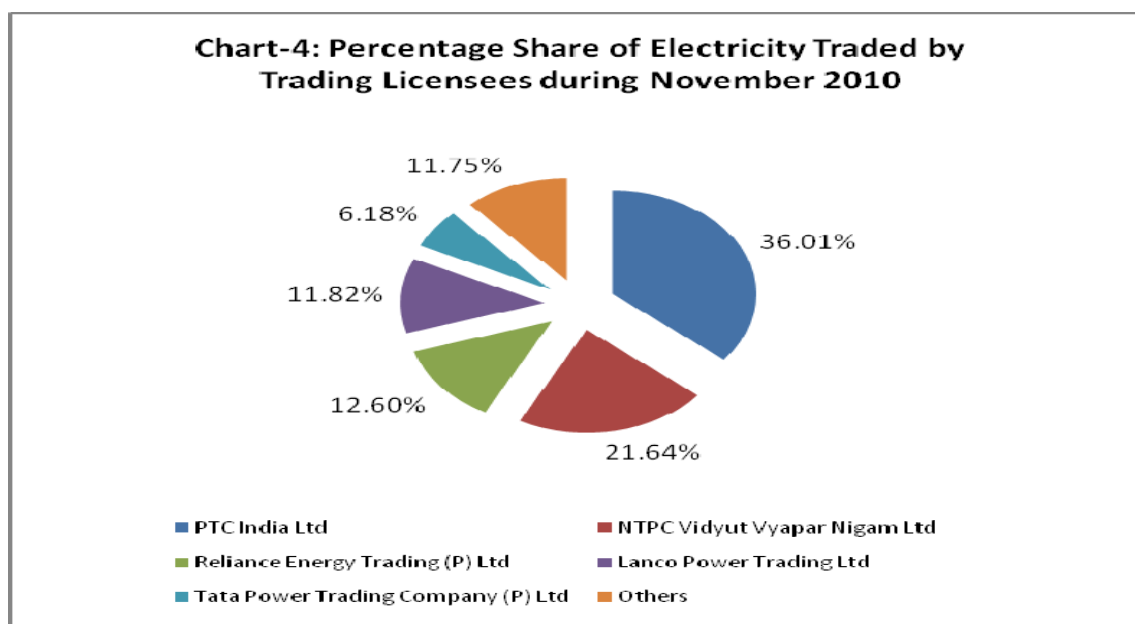


Table-3: PRICE OF POWER TRANSACTED THROUGH TRADERS		
Sr.No	Period of Trade	Weighted Average Sale Price (Rs)
1	RTC	3.92
2	PEAK	4.88
3	OFF PEAK	3.81

Source: Information submitted by trading licensees

Table-4: PRICE OF POWER TRANSACTED THROUGH TRADERS		
Sr.No		Sale Price (Rs/KWh)
1	Minimum	2.39
2	Maximum	5.89
3	Weighted Average	3.91

Source: Information submitted by trading licensees

Table-5: PRICE OF POWER TRANSACTED THROUGH POWER EXCHANGE (Rs/KWh)			
Sr.No	MCP	IEX	PXIL
1	Minimum	1.00	1.00
2	Maximum	3.90	6.51
3	Weighted Average	2.04	2.65

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	58.15	3.06
	Total	58.15	3.06

Source: IEX

Table-5B: Term ahead market of PXIL			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (Rs/kwh)
1	Weekly Contracts	130.89	2.93
	Total	130.89	2.93

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	8.26	17.46
3	Average	1.79	2.46

Source: NLDC

Chart-5: PRICE OF SHORT TERM TRANSACTIONS OF ELECTRICITY, NOV 2010

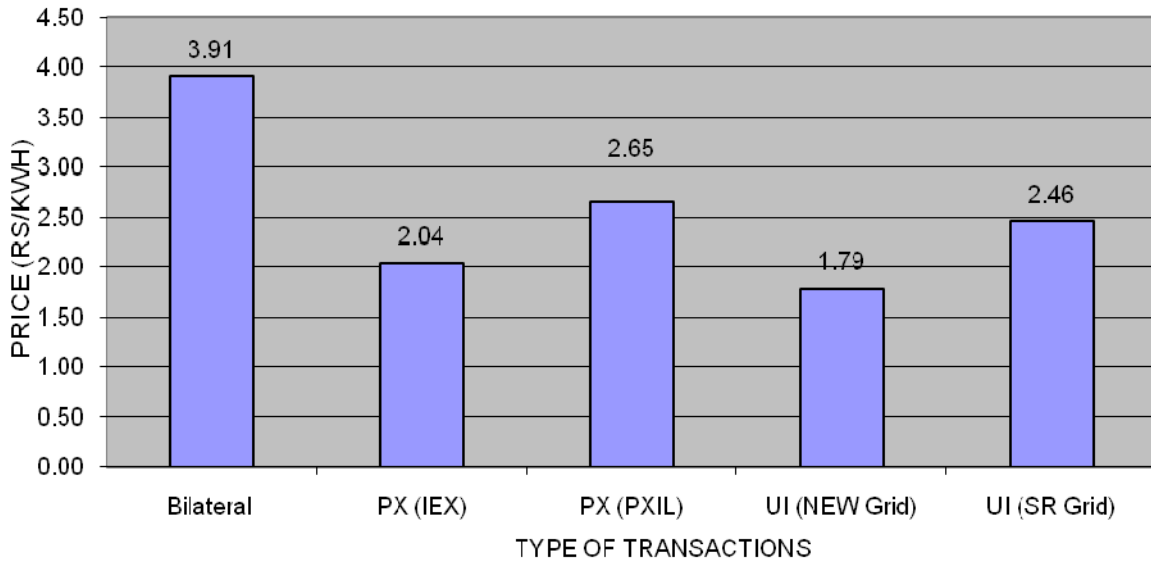


Chart-6: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY, NOV 2010

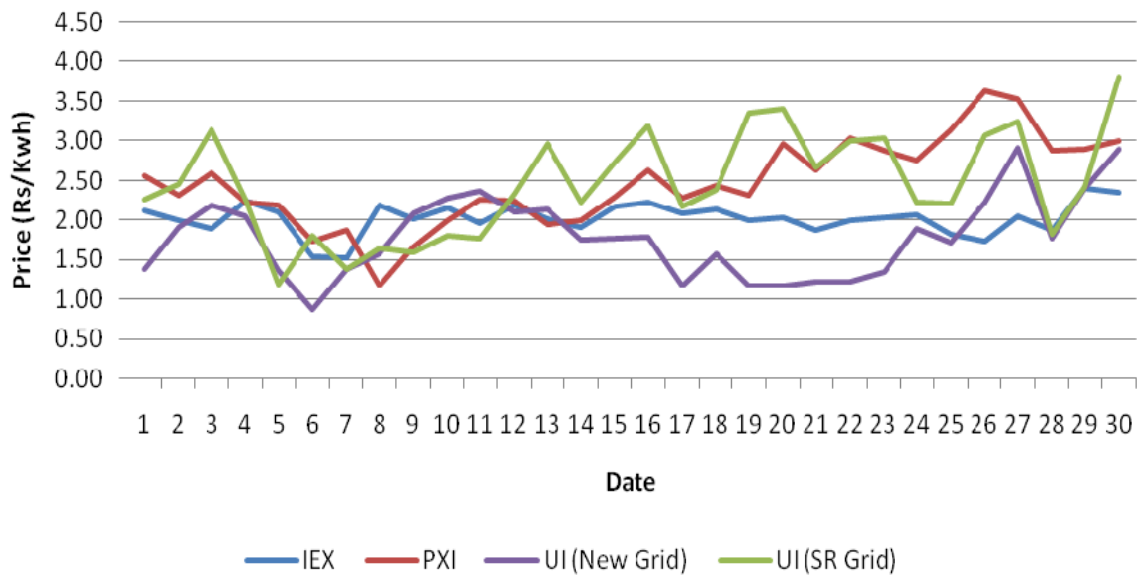


Table-7: VOLUME OF ELECTRICITY SALE THROUGH BILATERAL		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
JINDAL POWER	439.89	16.51%
Punjab	415.88	15.61%
Haryana	267.90	10.05%
West Bengal	253.91	9.53%
LANKO_KONDAPALLY	199.182	7.47%
LANKO_AMK	193.90	7.28%
Chattisgarh	178.45	6.70%
Andhra Pradesh	144.30	5.41%
Delhi	121.93	4.58%
Karnataka	78.58	2.95%
DVC	72.00	2.70%
J & K	55.46	2.08%
Kerala	53.60	2.01%
Uttar Pradesh	37.92	1.42%
Gujarat	35.50	1.33%
Orissa	28.21	1.06%
Himachal Pradesh	26.33	0.99%
Tripura	21.30	0.80%
Tamilnadu	16.57	0.62%
Nagaland	12.35	0.46%
UT Chandigarh	7.20	0.27%
MP	4.68	0.18%
Total	2665.05	100.00%
Volume of sale by top 5 States	1576.77	59.16%

Table-8: VOLUME OF ELECTRICITY PURCHASE THROUGH BILATERAL		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Tamilnadu	651.80	23.75%
Rajasthan	483.86	17.63%
Maharashtra	329.54	12.01%
Karnataka	252.57	9.20%
MP	242.245	8.83%
J & K	222.00	8.09%
Himachal Pradesh	130.20	4.74%
Uttar Pradesh	121.34	4.42%
Kerala	109.65	3.99%
Jharkhand	72.00	2.62%
Uttarakhand	62.25	2.27%
Punjab	37.0405	1.35%
Haryana	18.42	0.67%
UT Chandigarh	9.00	0.33%
Sikkim	2.93	0.11%
Tripura	0.13	0.00%
Total	2744.97	100%
Volume of purchase by top 5 States	1960.01	71.40%

Table-9: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGE		
Name of the State/UT/Other Regional Entity	Volume of Sale (MUs)	% of Volume
Chattisgarh	263.39	27.97%
Rajasthan	107.94	11.46%
Delhi	87.35	9.27%
Andhra Pradesh	83.95	8.91%
West Bengal	81.84	8.69%
Karnataka	74.72	7.93%
JINDAL POWER	51.27	5.44%
Sikkim	41.05	4.36%
Himachal Pradesh	37.40	3.97%
Gujarat	33.17	3.52%
LANKO_KONDAPALLY	20.96	2.23%
Maharashtra	11.76	1.25%
Tripura	11.14	1.18%
Orissa	11.12	1.18%
MP	4.73	0.50%
Mizoram	4.35	0.46%
DVC	3.98	0.42%
Kerala	3.22	0.34%
Meghalaya	2.89	0.31%
J & K	2.11	0.22%
Uttarakhand	1.88	0.20%
Assam	1.21	0.13%
Punjab	0.41	0.04%
Haryana	0.01	0.00%
Total	941.84	100.00%
Volume of purchase by top 5 States	624.47	66%

Table-10: VOLUME OF ELECTRICITY PURCHASE THROUGH POWER EXCHANGE		
Name of the State/UT/Other Regional Entity	Volume of Purchase (MUs)	% of Volume
Punjab	340.91	36.20%
Tamilnadu	258.26	27.42%
Maharashtra	166.95	17.73%
Haryana	71.50	7.59%
Rajasthan	42.90	4.56%
Kerala	24.48	2.60%
MP	13.06	1.39%
Gujarat	9.40	1.00%
West Bengal	8.21	0.87%
Uttar Pradesh	3.92	0.42%
Tripura	1.75	0.19%
Assam	0.48	0.05%
Total	941.84	100.00%
Volume of sale by top 5 States	880.53	93%

Table-11: VOLUME OF ELECTRICITY EXPORT THROUGH UI		
Name of the State/UT/Other Regional Entity	Volume of Export (MUs)	% of Volume
Andhra Pradesh	244.02	14.33%
Gujarat	161.53	9.48%
Maharashtra	153.59	9.02%
Rajasthan	119.24	7.00%
Punjab	114.55	6.73%
MP	106.34	6.24%
Chattisgarh	103.91	6.10%
Uttar Pradesh	103.59	6.08%
LANKO_AMK	83.89	4.93%
Delhi	51.69	3.03%
J & K	43.26	2.54%
Bihar	43.13	2.53%
Himachal Pradesh	41.89	2.46%
Karnataka	38.39	2.25%
GOA	30.93	1.82%
West Bengal	27.88	1.64%
Pondicherry	27.78	1.63%
Assam	27.62	1.62%
Orissa	27.61	1.62%
Haryana	22.40	1.32%
Daman and Diu	20.41	1.20%
Jharkhand	19.43	1.14%
Tamilnadu	17.18	1.01%
Dadra & Nagar Haveli	12.61	0.74%
Uttarakhand	11.95	0.70%
Manipur	7.26	0.43%
UT Chandigarh	6.61	0.39%
DVC	5.88	0.35%
Sikkim	5.14	0.30%
Arunachal Pradesh	4.60	0.27%
LANKO_KONDAPALLY	4.00	0.23%
Kerala	3.96	0.23%
Meghalaya	3.79	0.22%
JINDAL POWER	2.90	0.17%
Tripura	2.73	0.16%
Nagaland	0.76	0.04%
Mizoram	0.73	0.04%
Total	1703.19	100.00%
Volume of Export by top 5 States	792.93	47%

Table-12: VOLUME OF ELECTRICITY IMPORT THROUGH UI		
Name of the State/UT/Other Regional Entity	Volume of Import (MUs)	% of Volume
Haryana	271.85	16.74%
Tamilnadu	198.46	12.22%
Uttar Pradesh	172.00	10.59%
MP	130.01	8.00%
Rajasthan	124.77	7.68%
Karnataka	108.05	6.65%
Kerala	54.98	3.38%
Uttarakhand	53.93	3.32%
Delhi	51.98	3.20%
Maharashtra	43.60	2.68%
Bihar	43.13	2.66%
Gujarat	39.62	2.44%
Chattisgarh	33.75	2.08%
Punjab	29.00	1.79%
Dadra & Nagar Haveli	27.97	1.72%
West Bengal	27.88	1.72%
Orissa	27.61	1.70%
LANKO_KONDAPALLY	22.10	1.36%
J & K	19.58	1.21%
Jharkhand	19.43	1.20%
Meghalaya	16.86	1.04%
Himachal Pradesh	16.34	1.01%
Nagaland	13.77	0.85%
JINDAL POWER	13.65	0.84%
Assam	10.67	0.66%
GOA	7.39	0.45%
Arunachal Pradesh	7.35	0.45%
Daman and Diu	6.48	0.40%
DVC	5.88	0.36%
Mizoram	5.53	0.34%
Sikkim	5.14	0.32%
Tripura	4.14	0.26%
Manipur	4.03	0.25%
Andhra Pradesh	3.73	0.23%
UT Chandigarh	2.57	0.16%
Pondicherry	0.89	0.05%
LANKO_AMK	0.18	0.01%
Total	1624.31	100.00%
Volume of Export by top 5 States	897.08	55%

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	1074.77
2	Rajasthan	424.34
3	Maharashtra	374.75
4	MP	269.57
5	Karnataka	168.93
6	Uttar Pradesh	155.76
7	J & K	140.75
8	Kerala	128.33
9	Uttarakhand	102.34
11	Jharkhand	72.00
12	Haryana	71.46
13	Himachal Pradesh	40.92
14	Dadra & Nagar Haveli	15.36
16	Meghalaya	10.17
17	Arunachal Pradesh	2.75
19	Nagaland	0.65
20	Mizoram	0.45
21	Bihar	0.00
22	MUNDRA APL	0.00
23	UT Chandigarh	-2.23
26	Manipur	-3.23
27	Daman and Diu	-13.94
28	Assam	-17.68
29	GOA	-23.55
30	Pondicherry	-26.89
31	Tripura	-29.14
33	Sikkim	-38.12
34	Orissa	-39.33
35	DVC	-75.98
36	Punjab	-123.88
37	Gujarat	-181.19
38	LANKO_KONDAPALLY	-202.04
39	Delhi	-208.98
43	LANKO_AMK	-277.60
44	West Bengal	-327.55
45	Andhra Pradesh	-468.55
46	JINDAL POWER	-480.42
47	Chattisgarh	-512.00

* 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, Nov 2010			
Details of Congestion		IEX	PXIL
A	Unconstrained Cleared Volume* (MU)	912.49	115.62
B	Actual Cleared Volume and hence scheduled (MU)	865.62	76.22
C	Volume of electricity that could not be cleared as hence not scheduled because of congestion (MU) (A-B)	46.87	39.40
D	Volume of electricity that could not be cleared as % to Actual Cleared Volume	5.4%	51.7%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	47.50%	55.83%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	9%	8%
	6.00 - 12.00 hours	25%	25%
	12.00 - 18.00 hours	23%	26%
	18.00 - 24.00 hours	42%	40%

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