

WEEKLY REPORTING OF OTC CONTRACTS: MONTHLY ANALYSIS (DECEMBER 2010)

[An analysis of all weekly reports (reporting period 29th Nov – 26th Dec) received from licensed-traders for the month of December 2010]

Prepared on 12th January 2011

Centre for Monitoring Indian
Economy & Market Monitoring
Cell, CERC

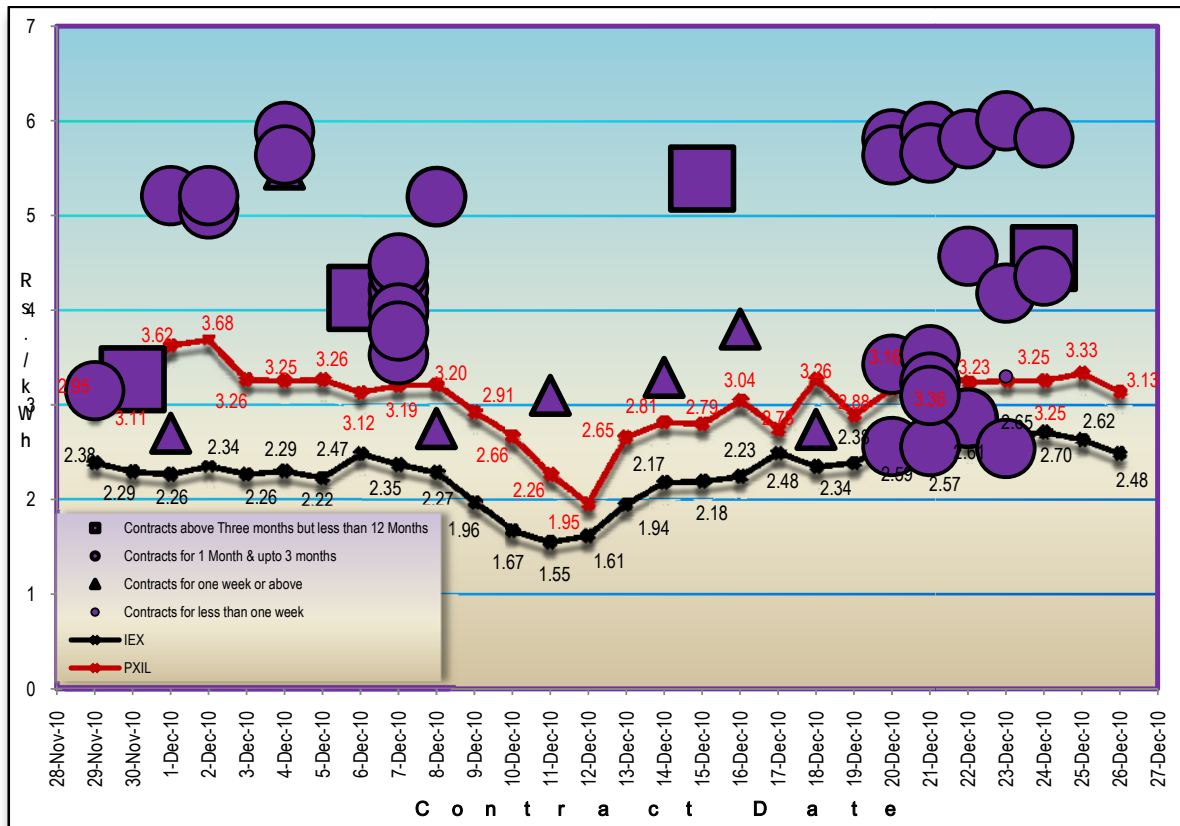
Snapshot for December 2010

- ✓ The reported short-term contract volume for the month of December was 1984.50 MUs whereas the same was 1053.93 MUs for the month of November. This is 88% increase in reported contract-volume.
- ✓ 76% of total volume has been contracted above price of Rs. 4/kWh.
- ✓ Total number of contracts (including swap & Banking) was 73 by 7 traders whereas in November it was 44 only by 8 traders.
- ✓ A long-term contract for purchase of power from a private generator & supply to a state Distribution company for a period of 25 years has been reported by a trader.
- ✓ A short-term contract with an open position on sale side has been reported by another trader.

I. Comparison Of prices of Short Term OTC contracts with Power Exchange Prices (on Contracted Date)

The scatter diagram shows a comparative analysis of price movement in both the OTC and Power Exchange markets during 29th November to 26th December 2010. As is seen from the scatter diagram, the contracts are well spread through the month in a range of Rs. 2.54/kWh to Rs. 6/ kWh. The contracts reported were mostly for one-month. There were five contracts reported for more than three-month period of power delivery.

Chart 1: Scatter Diagram depicting Price of Electricity for OTC contracts and in Power Exchanges



The following table shows the weighted average sale prices of all the contracts reported on a particular week and total contracted volume for the same. (Weights are being the respective contracted volume).

Table 1: Price and Volume of OTC Contracts

Weeks	Range of Sale Price (Rs./ kWh)		Weighted Average of Sale Price (Rs./ kWh)	Total Volume (MU)
	Max	Min		
29 th November-5 th December	5.89	2.70	3.98	209.37
6 th -12 th December	5.20	2.75	4.16	1002.00
13 th -19 th December	5.39	2.74	5.06	99.50
20 th -26 th December	6.00	2.54	3.98	673.63
Total	-			1984.50

Source: Based on Electricity Traders' weekly reports

Table 2: Prices on Power Exchanges on OTC Contracts Dates

Contract Date (2010)	29 th Nov	30 th Nov	1 st Dec	2 nd Dec	4 th Dec	6 th Dec	7 th Dec	8 th Dec	11 th Dec	14 th Dec	15 th Dec	16 th Dec	18 th Dec	20 th Dec	21 st Dec	22 nd Dec	23 rd Dec	24 th Dec
IEX (Rs. / kWh)	2.38	2.29	2.26	2.34	2.29	2.47	2.35	2.27	2.19	2.17	2.18	2.23	2.34	2.59	2.57	2.61	2.65	2.70
PXIL (Rs. / kWh)	2.95	3.11	3.62	3.68	3.25	3.12	3.19	3.2	2.28	2.81	2.79	3.04	3.26	3.16	3.36	3.23	3.25	3.25
OTC Contracts (Rs./ kWh)	3.98 (29 th Nov – 5 th Dec)					4.16 (6 th – 12 th Dec)				5.06 (13 th – 19 th Dec)				3.98 (20 th – 26 th Dec)				

Source: Indian Energy Exchange & Power Exchange of India Ltd. Websites

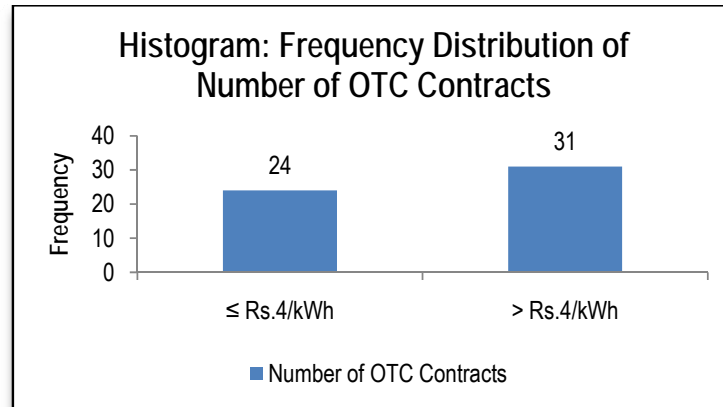
Observations

1. In month of December, the OTC sale prices were quite spread from the power exchange spot prices. The minimum price in the exchange during 29th November – 26th December was Rs. 2.17/kWh (IEX, 14th Dec 2010) while that of in the OTC market was Rs. 2.54/kWh. Maximum price at the exchange reached Rs. 3.68/kWh (PXIL, 4th Dec 2010) and in the OTC market it was Rs. 6.00/kWh.
2. In month of December, OTC contracts mostly are for a month or upto three months and the scheduling of these contracts is generally happening from five days to one month after contract date.

Weekly reporting of OTC Contracts: Monthly Analysis

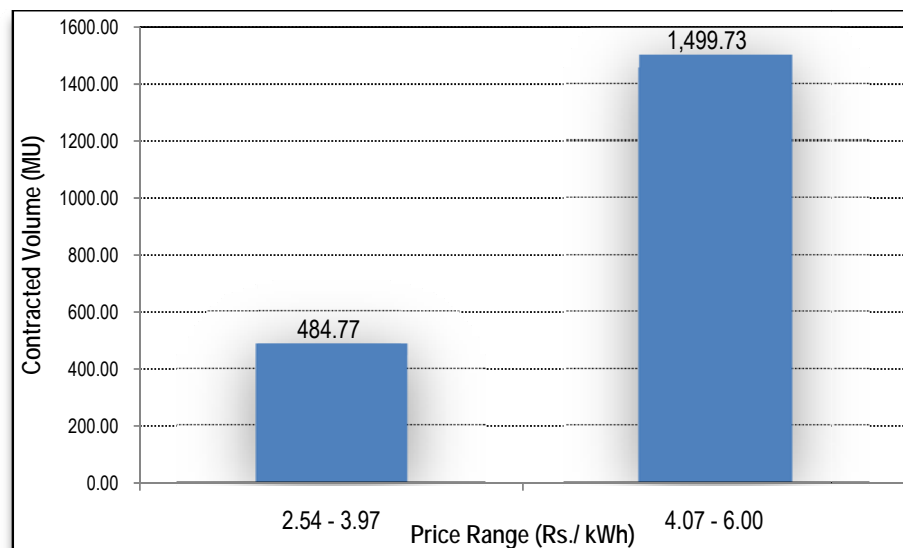
- In December, the number of contracts entered above Rs. 4/kWh were 31 out of total 55* contracts (total 73 contracts including swap & banking).

Chart 2: Histogram of Number of OTC Contracts



- In December, the cumulative volume traded above Rs. 4/kWh was 1499.73 MUs which is 76% of total OTC contracts for December 2010.

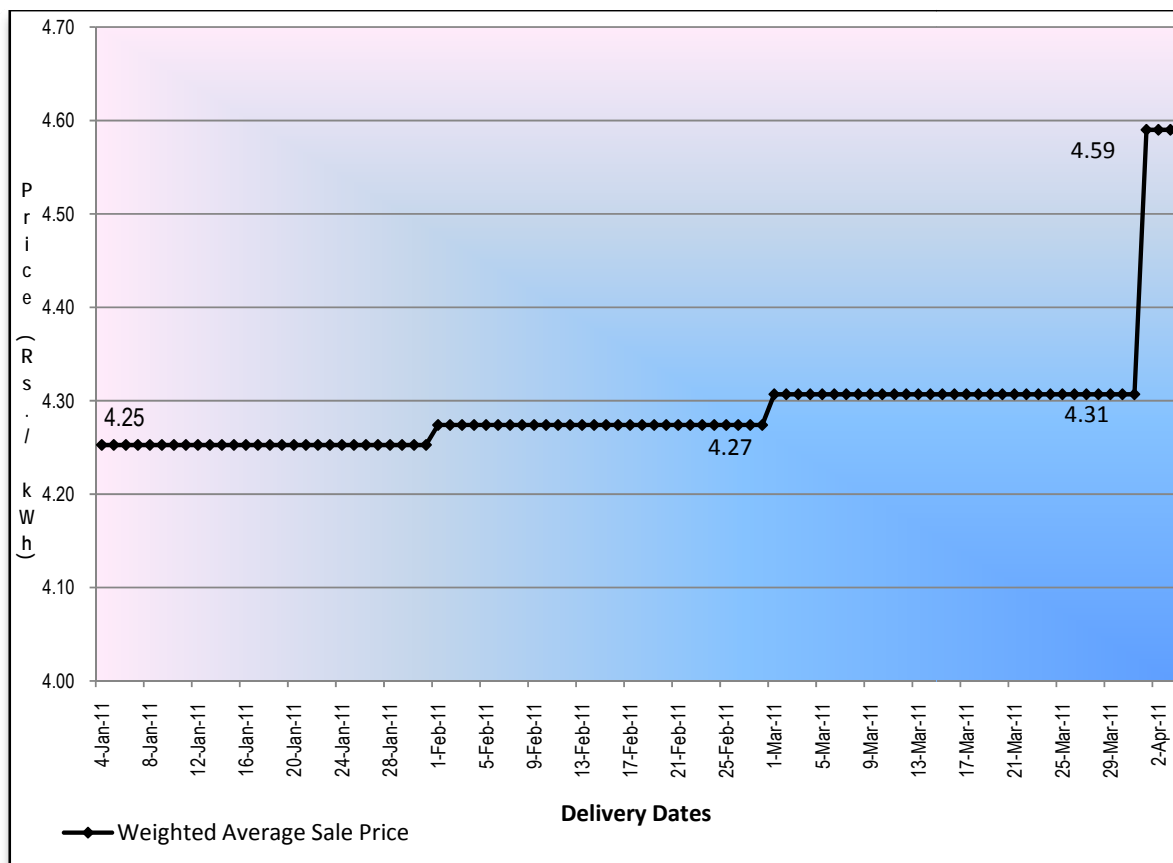
Chart 3: Cumulative Volume Traded below and above Rs. 4/kWh during December 2010



* Excluding swap /banking contracts since they do not have any sale price.

II. Three-Month Forward Curve of Electricity Prices in OTC Market

Chart 4: Forward Curve for OTC Market, 4th January- 3rd April 2011



A forward curve reflects present expectation of spot prices for a future period. Accordingly a forward curve has been drawn based on prices of contracts executed for supply of power from 4th January 2011 to 3rd April 2011, i.e. 90 days ahead period of power supply.

Observations

1. The forward curve for the next three month period i.e. from 4th January to 3rd April 2011 is upward sloping. During the month of January 2011, the OTC sale price is Rs. 4.25/kWh which increases to Rs. 4.27/ kWh in February and remains at that level till 28th February. From 1st March 2011, it further increases to Rs. 4.31/kWh and remains at this level during the month. Thereafter, the future price again increases to Rs. 4.59/kWh in April. The forward curve made in December is based on total 43 sale prices reported by traders.

- The nature of the forward curves drawn in November and December is different. It may be noted that the prices for January and February period in the two forward curves are different. This is due to some new contracts which have been reported during the concerned period reduced the average sale prices from Rs. 4.38/kWh earlier to Rs. 4.25/kWh this time for the month of January and from Rs. 4.35/kWh to Rs. 4.27/kWh for the month of February.

Chart 4: Forward Curve in December for OTC Market, January 2010- April 2011

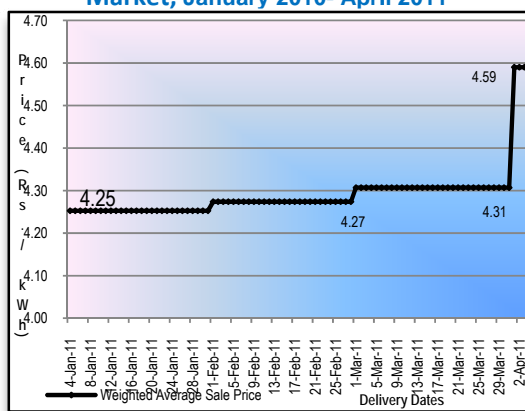
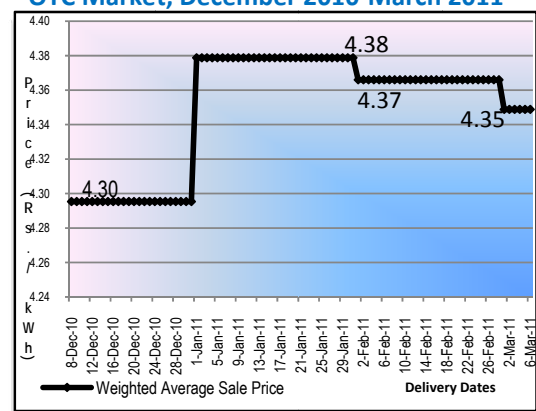


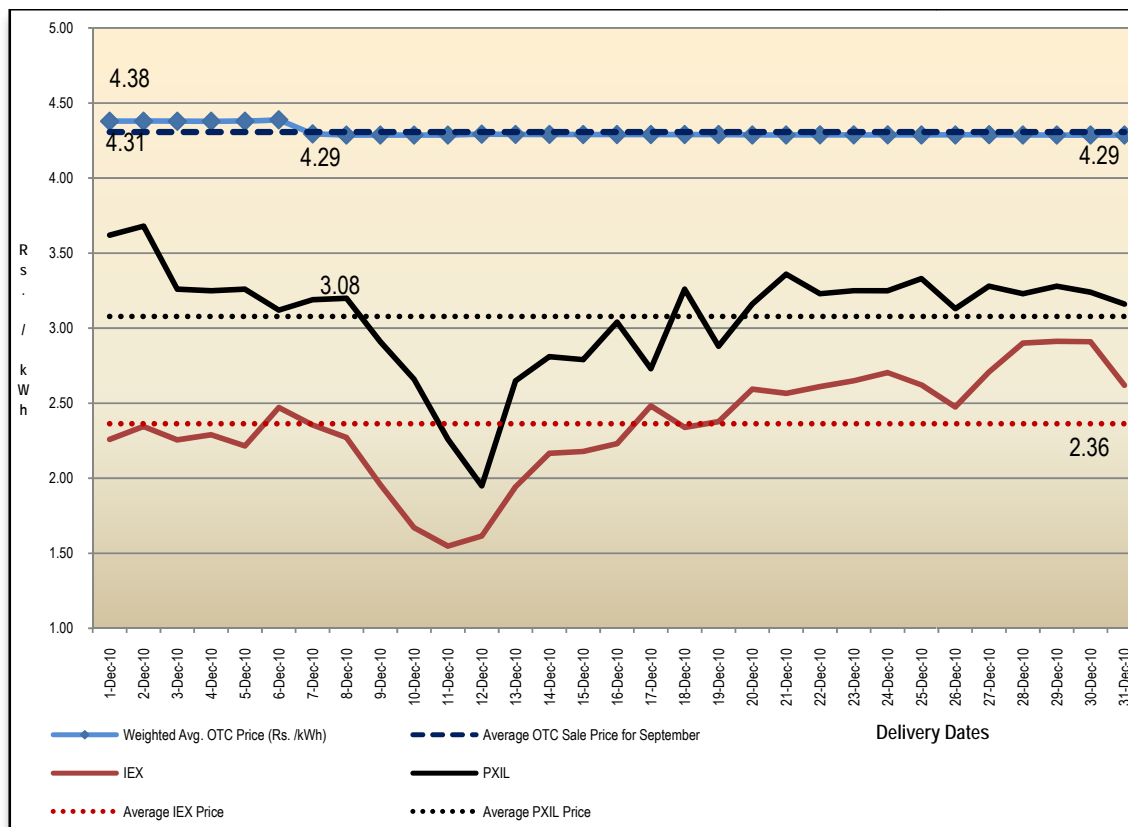
Chart 4.1: Forward Curve in November for OTC Market, December 2010-March 2011



III. Post-facto Comparison of Prices in OTC Contracts and Power Exchanges (on Power Delivery Dates)

There is a visible difference between OTC and power exchange prices. OTC prices remained at a level higher than the power exchange prices by around Rs. 1.95/kWh. During the month of December, the average OTC price was at Rs. 4.31/ kWh and the same was at Rs. 3.08/ kWh in IEX and Rs. 2.36/kWh in PXIL.

Chart 5: OTC and Power Exchange Price Comparison during December 2010



Overall Comparative View between November and December 2010

1. Following table shows the number of contracts reported during November and December categorized according to the period of power supply.

Table 3: Number of Contracts Reported in October and December 2010^ψ

	November-10	December-10
One month or above	34	50
One week or above	6	15

^ψ Including swap/banking contracts between different DISCOMS

Less than a week	4	8
Total	44	73

From the above table it is clear that the total number of contracts in December was much higher than in November. The number of contracts undertaken for one month or above was higher in December (50) compared to that of in November (34). The contracts undertaken for one week or above and less than a week in November are almost half the contracts that of in December.

2. A comparative table to represent maximum and minimum prices at both the exchanges vis-à-vis OTC contracts prices.

Table 3: Maximum and Minimum Prices-A Comparative View Rs/ kWh (Dates)

	November 2010		December 2010	
	Maximum	Minimum	Maximum	Minimum
IEX	2.38 (29 th)	1.40 (6 th)	2.91 (29 th)**	1.55 (11 th)
PXIL	3.65 (26 th)	1.21 (8 th)	3.68 (2 nd)	1.95 (12 th)
OTC Contracts	5.89 (12 th)*	2.30 (11 th)	6.00 (23 rd)	2.54 (23 rd)

*Rs. 5.89/kWh for another day (16th Nov)

** Rs. 2.91/ kWh for another day (30th Dec)

Overall inferences

1. From Chart-1 (Contracted date price analysis), it is observed that the OTC contracts made during 29th November- 26th December period, the OTC sale prices were higher than the power exchange spot prices.
2. From Chart-5 (post facto power delivery date analysis), it is seen that the average OTC sale price were at a level higher by around Rs.1.95/ kWh than the power exchange average price. This means that convergence of forward price with spot prices did not happen. The OTC should remain higher only to the extent that it depicts a premium attributable to the inherent nature of OTC contracts. OTC contracts are for a month and customized contracts whereas power exchange prices are spot standardized contracts.
3. The Forward curve for 90 days ahead period is showing an upward trend.

Annexure-I

Table 4: List of Trading-Licensees who have undertaken Contracts in December 2010*

	Name of Licensee	29 th Nov - 5 th December	6 th -12 th December	13 th -19 th December	20 th - 26 th December
1	PTC India Ltd.	NIL	Y (2)	Y (2)	Y (1)
2	NTPC Vidyut Vyapar Nigam Ltd.	Y (5)	Y(3)	Y (7)	Y (24)
3	GMR Energy Trading Limited	NIL	NIL	NIL	Y (1)
4	RPG Power Trading Company Limited	NR	Y(1)	Y(1)	Y(2)
6	Tata Power Trading Company Pvt. Ltd.	Y (7)	Y (1)	NIL	Y (7)
7	JSW Power Trading Company Ltd.	Y (1)	Y (2)	Y (1)	NIL
8	Lanco Electricity Utility Limited	Y (2)	NIL	NIL	Y (4)
Total No. of Contracts		15	8	11	39
Total for month for all traders		73			

Note 1: NR: Not Reported


NIL: No Contracts was made during the week

Y (): Contracts had been struck (Number of Contracts)

*Note 2: This table shows list of traders who have reported & undertaken atleast one contracts during the month. There could be some traders who have reported but did not undertake any contracts.


Annexure-II

I. The Scatter Diagram

 *Process of Formulation.* The scatter diagram represents the details of OTC contracts undertaken by traders during any particular time period (e.g. for last four weeks) for short-term (upto less than a year) transactions of electricity. Each data-point represents contract sale-price on a particular contract date.

The varied shapes are to depict contracts for different time-span, e.g. the squares are for contracts of more than three months but less than a year, largest circles are for contracts which have been made for one or upto three months ahead, the triangles are to represent contracts made for a week or more but for less than one month and smallest ones (like dots) are for one day or more but less than a week period of contracts. In this diagram, no distinction has been made among the traders. The black and red markers connected with lines show the spot prices at the two power exchanges, viz. the Indian Energy Exchange (IEX) and the Power Exchange of India Ltd. (PXIL) on the respective contract dates.

II. The Forward Curve

 *Process of Formulation*

The forward curve has been made based on OTC sale prices reported every week by the traders. For a contract of a full month, the average monthly contract price is considered discretely as the price for each day. Finally, the average daily price for the forward curve is the weighted average daily price for all contracts existing in these days. (Weights being the respective contracted daily volume).

III. The Post-Facto Graph

 *Process of Formulation*

Weekly reporting of OTC Contracts: Monthly Analysis

The post facto graph shows the average OTC price vis-à-vis power exchanges prices for the last month's (i.e. December 2010) power deliveries. The process of calculating the data points is same as in the forwards curve.