

WEEKLY REPORTING OF OTC CONTRACTS: MONTHLY ANALYSIS- REVISION 1 (MARCH 2011)

[An analysis of all weekly reports (reporting period 28th Feb – 27th March) received from licensed-traders for the month of March 2011]

Re-prepared on 23rd June 2011

Centre for Monitoring Indian Economy &
Market Monitoring Cell, CERC

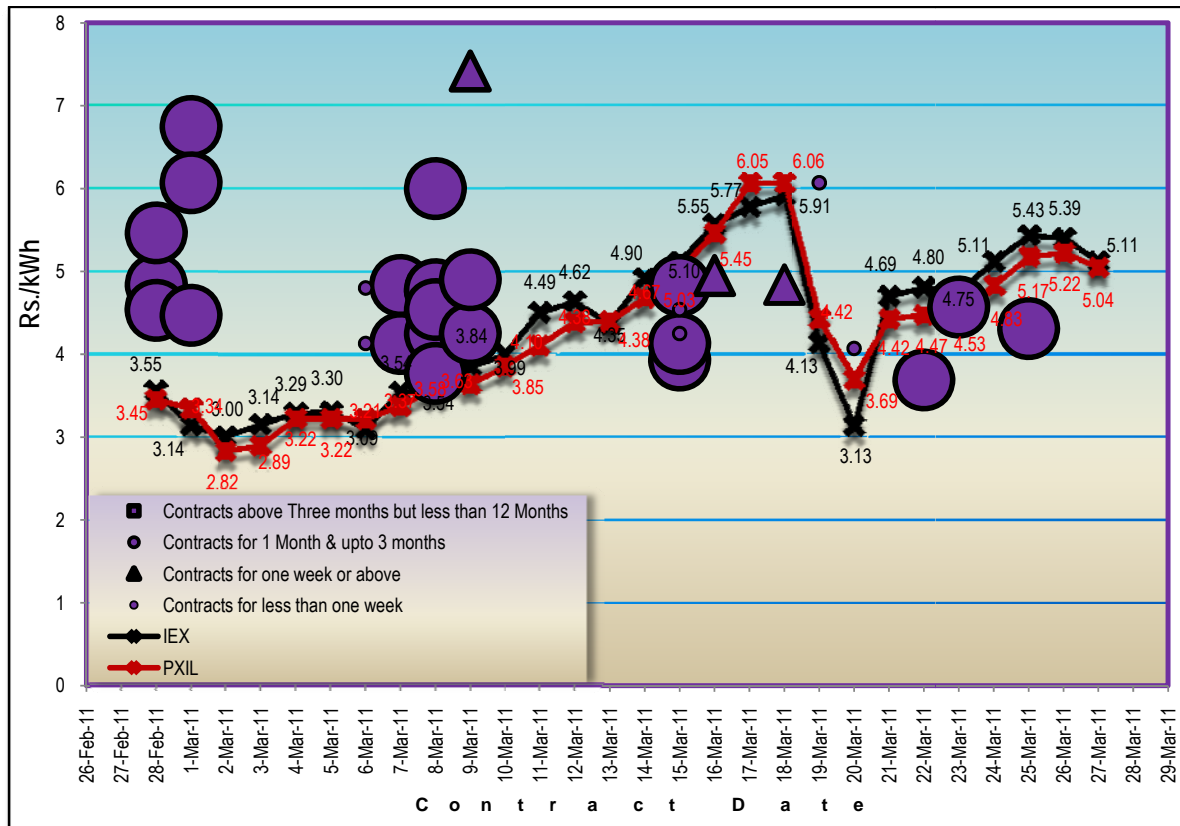
Snapshot for March 2011

- ✓ The reported short-term contract volume for the month of March was 1410.05 MUs whereas the same was 3156.57 MUs for the month of February. There is a 55% drop in reported contract-volume.
- ✓ 93% of total volume has been contracted at above price of Rs. 4/kWh.
- ✓ Total number of contracts (including swap & Banking) in March was only 58 by 4 traders whereas in February it was 102 by 7 traders.

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 for the period of 28th February 2011 to 27th March 2011. As is seen from the scatter diagram, the contracts are well spread throughout the month and in a range of Rs. 3.69/kWh to Rs. 7.42/kWh. The contracts reported were mostly for one-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 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		
28 th February – 6 th March	6.75	4.13	4.81	449.97
7 th - 13 th March	7.42	3.77	4.53	508.37
14 th -20 th March	6.07	3.93	4.49	309.78
21 st - 27 th March	4.57	3.69	5.10	141.93
Total	-			1410.05

Source: Based on Electricity Traders' weekly reports

Table 2: Prices on Power Exchanges on OTC Contracts Dates

Contract Date (2010)	28 th Feb	1 st Mar	6 th Mar	7 th Mar	8 th Mar	9 th Mar	15 th Mar	16 th Mar	18 th Mar	19 th Mar	20 th Mar	22 nd Mar	23 rd Mar	25 th Mar
IEX (Rs. / kWh)	3.55	3.14	3.09	3.54	3.54	3.84	5.10	5.55	5.91	4.13	3.13	4.80	4.75	5.43
PXIL (Rs. / kWh)	3.45	3.34	3.21	3.37	3.58	3.63	5.03	5.45	6.06	4.42	3.69	4.47	4.53	5.17
OTC Contracts (Rs./ kWh)	Rs. 4.81/ kWh (28 th Feb – 6 th Mar)			Rs. 4.53/ kWh (7 th – 13 th Mar)			Rs. 4.49/ kWh (14 th – 20 th Mar)				Rs. 5.10/ kWh (21 st – 27 th Mar)			

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

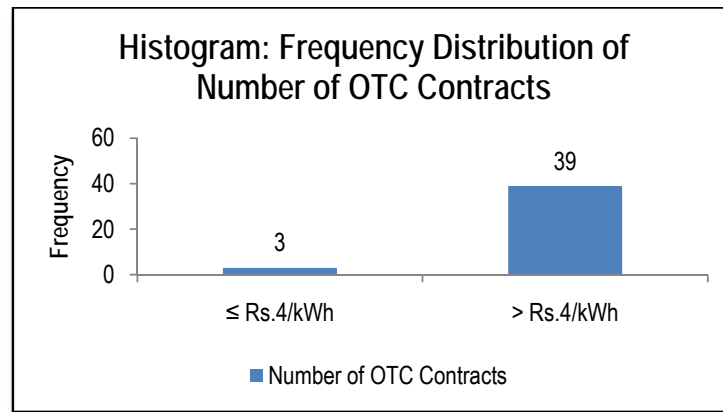
Observations

1. OTC contract prices were mostly above the power exchanges' spot prices. The minimum price in the exchange during 28th February – 27th March was Rs. 2.82/kWh (PXIL, 2nd Mar. 2011) while that in the OTC market was Rs. 3.69/kWh. Maximum price at the exchange reached Rs. 6.06/kWh (PXIL, 18th Mar. 2011) and in the OTC market it was Rs. 7.42/kWh.
2. In March, OTC contracts mostly are for a delivery period of a month. The scheduling of these contracts is generally happening from one month to three months after contract date.

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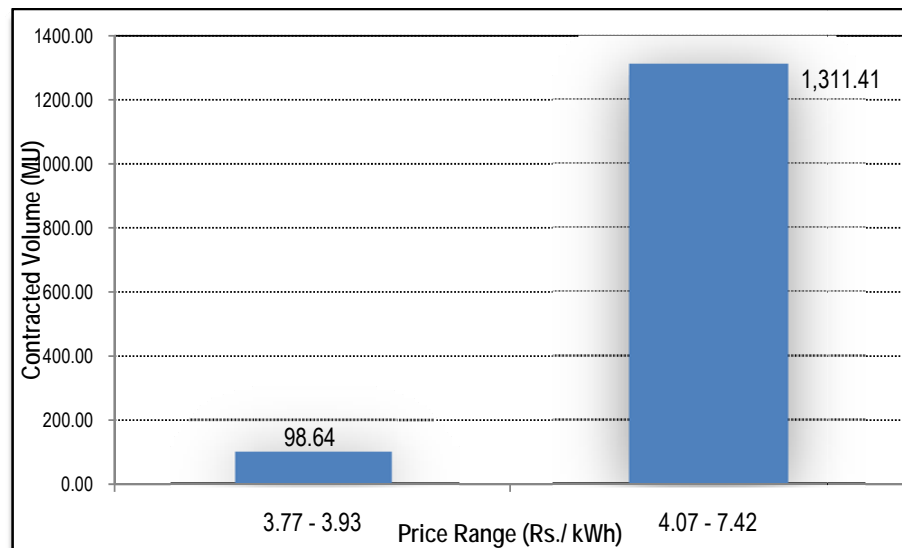
- In March, the number of contracts entered above Rs. 4/kWh were 39 out of total 42 contracts (total 58 contracts including swap & banking).

Chart 2: Histogram of Number of OTC Contracts



- In March, the cumulative volume traded above Rs. 4/kWh was 1311.41 MUs which is 93% of total OTC contracts for March 2011.

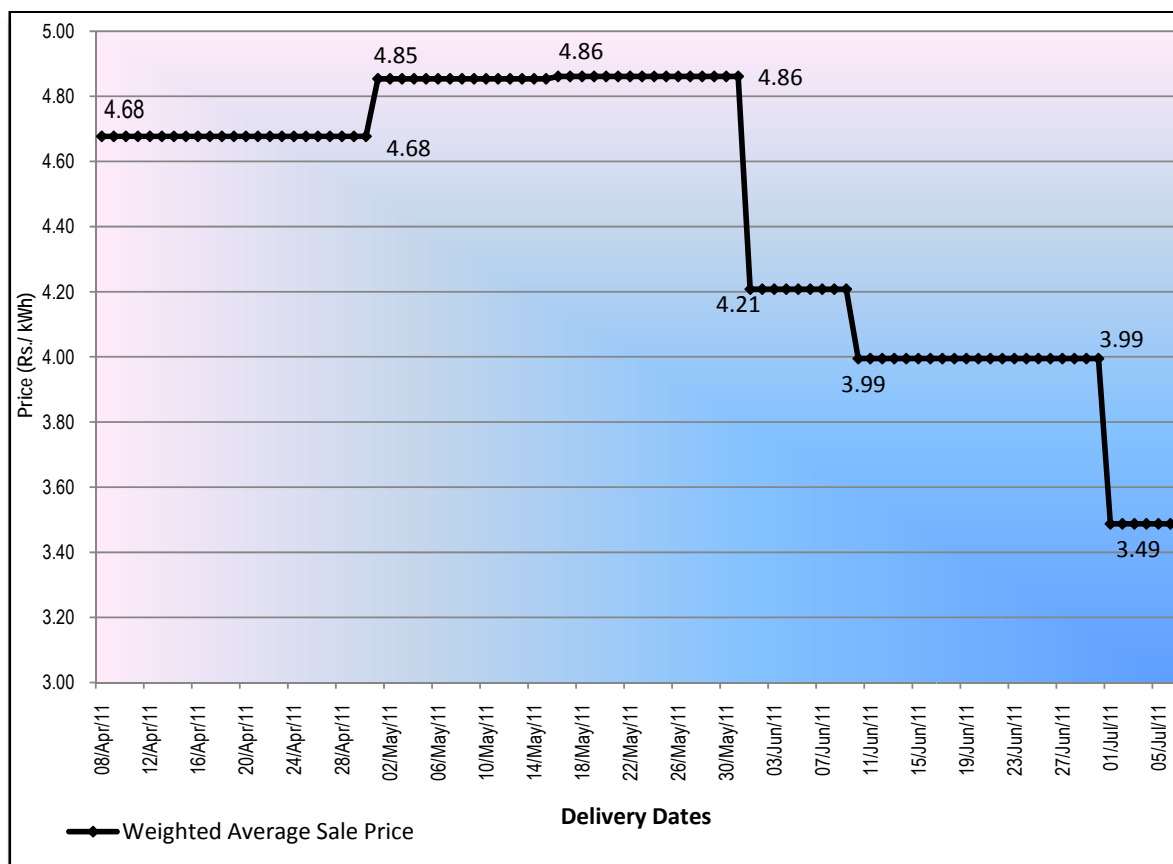
Chart 3: Cumulative Volume Traded below and above Rs. 4/kWh during March 2011



II. Three-Month Forward Curve of Power Prices

Chart 4: Forward Curve for 8th April - 6th July 2011

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A forward curve reflects present day's 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 8th April 2011 to 6th July 2011, i.e. 90 days ahead period of power supply.

Observations

1. The forward curve for the next three month period i.e. from 8th April 2011 to 6th July 2011 is downward sloping. For April delivery the power price is Rs.4.68/kWh which rises to Rs. 4.85/kWh on 1st May 2011. For June delivery, price drops to Rs.4.21/kWh and till 10th June. From 11th June, price further falls to Rs. 3.99/ kWh and remains at that level till 30th June. For power delivery in July, the price falls to Rs. 3.49/kWh. This forward curve (made in March) is based on 97 contract prices reported by traders.
2. It may be noted that, the nature of the forward curves drawn for February and March are similar. Both the curves show downward trend in power prices. Prices for power deliveries in the month of May are different in two graphs. This is due to new

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contracts reported during this period decreased the average sale prices from Rs. 4.91/kWh earlier to Rs. 4.85/kWh this time for the month of May deliveries.

Chart 4: Forward Curve in March for OTC Market, April - July 2011

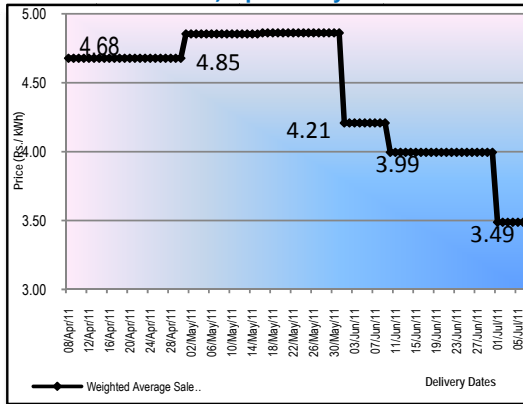
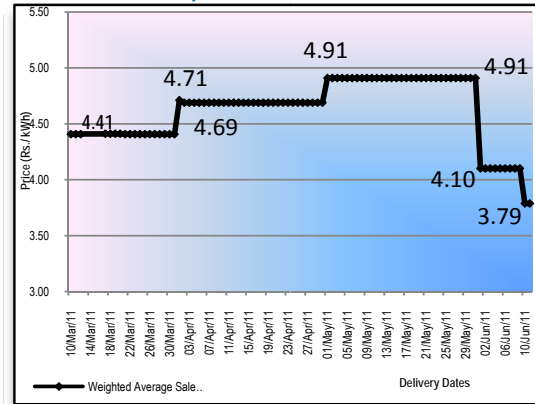


Chart 4.1: Forward Curve in February for OTC Market, March- June 2011

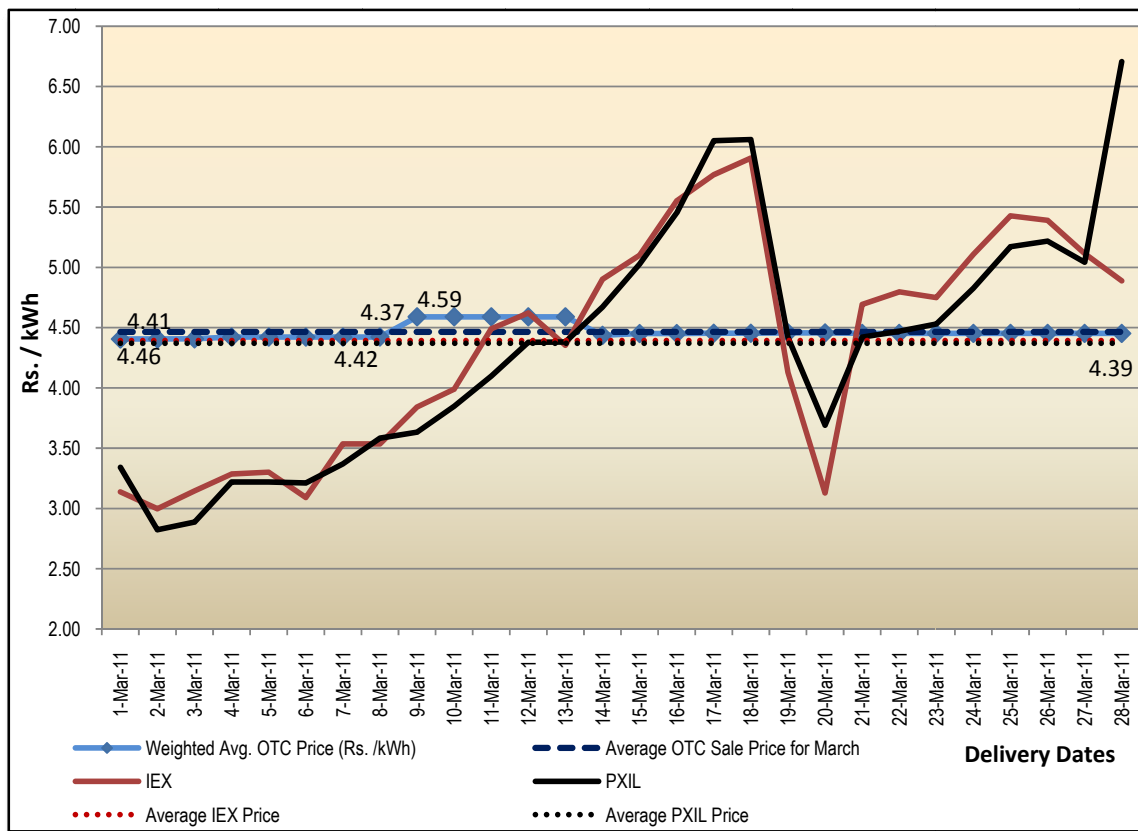


III. Post-facto Comparison of Prices in OTC Contracts and Power Exchanges (on Power Delivery Dates)

The post facto graph shows the average OTC price vis-à-vis power exchanges prices for the last month's power deliveries. Hence this compares the spot delivered prices with OTC deliveries (OTC contracts may have been executed earlier but delivered on these same days). The process of calculating the data points is same as in the forwards curve.

It is observed that PXIL prices were above the average OTC prices throughout the month whereas IEX prices were below the average OTC prices and at the end of the month it showed an upward trend which may later cross the OTC price line.

Chart 5: Comparison OTC Deliveries and Power Exchange Spot Delivery Price for March 2011



Overall Comparative View between February and March 2011

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

Table 3: Number of Contracts Reported in February and March 2011^ψ

	February-11	March- 2011
One month or above	72	40
One week or above	27	5
Less than a week	3	13
Total	102	58

From the above table it is clear that the total numbers of contracts in February 2011 was almost twice that of reported in the month of March 2011.

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)

	February 2011		March 2011	
	Maximum	Minimum	Maximum	Minimum
IEX	5.10 (7 th)	2.44 (27 th)	5.91 (18 th)	3.00 (2 nd)
PXIL	6.24 (27 th)	3.9 (2 nd)	6.06 (18 th)	2.82 (22 nd)
OTC Contracts	6.50 (10 th)	2.50 (7 th)	7.42 (9 th)	3.69 (22 nd)

^ψ Including swap/ banking contracts between different DISCOMS

Overall inferences

1. From Chart-1 (Contracted date price analysis), it is observed that a number of OTC contract prices were above the IEX and PXIL spot prices. (it may be pertinent to highlight that OTC contracts are for delivery in the period of April-June 2011 whereas spot price are day ahead contracts)
2. From Chart-5 (post facto power delivery date analysis), this time it is seen that the average OTC sale price and the exchanges' average prices were closer to each other during the month. Difference between the two was only Rs. 0.09/kWh (PXIL & OTC) and Rs. 0.07/kWh (IEX & OTC).
3. In Chart 4, the Forward curve for 90 days ahead period (for 8th April- 6th July 2011 period of power delivery) is showing a downward trend.

Annexure-I

Table 4: List of Trading-Licensees who have undertaken Contracts in March 2011*

	Name of Licensee	28 th Feb – 6 th March	7 th -13 th March	14 th -20 ^h March	21 st – 27 th March
1	NTPC Vidyut Vyapar Nigam Ltd.	Y (10)	Y(9)	Y (18)	Y (8)
2	PTC India Ltd.	Y (2)	Y (7)	NIL	NIL
3	Adani Enterprise Ltd.	Y (1)	NIL	Y (1)	NR
4	GMR Energy Trading Ltd.	NIL	Y (2)	NIL	NIL
Total No. of Contracts		13	18	19	8
Total for month for all traders		58			

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 five 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*

The post facto graph shows the average OTC price vis-à-vis power exchanges prices for the last month's power deliveries. Hence this compares the spot delivered prices with OTC deliveries (OTC contracts may have been executed earlier but delivered on these same days). The process of calculating the data points is same as in the forwards curve.