WEEKLY REPORTING OF OTC CONTRACTS: MONTHLY ANALYSIS

(AUGUST 2011)

[An analysis of all weekly reports (reporting period 1st– 28th August) received from licensed-traders for the month of August 2011]

Prepared on 8th September 2011

Market Monitoring Cell, CERC

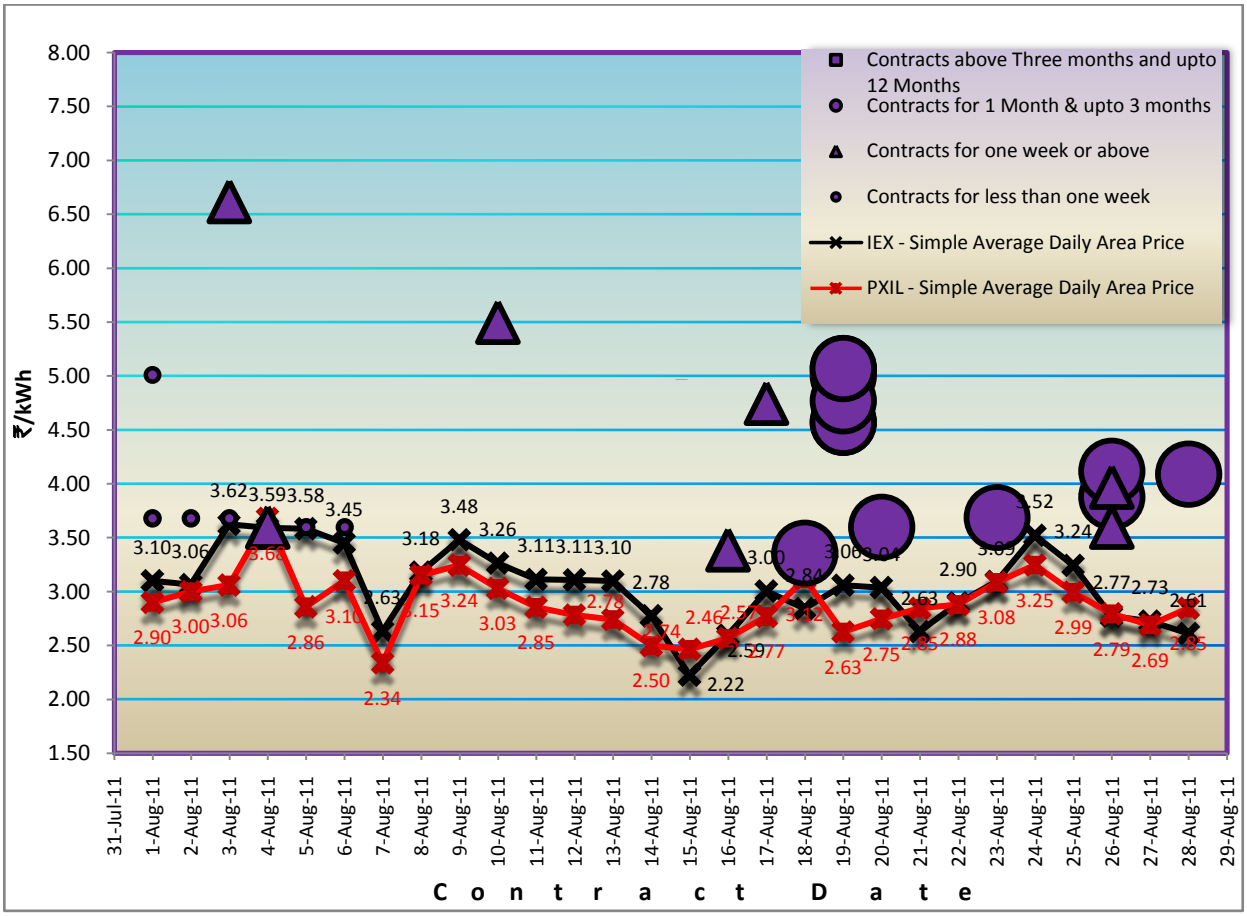
Snapshot for August 2011

- ✓ The reported short-term contract volume for the month of August was 1547.96 MUs whereas the same was 1248.50 MUs for the month of July. There is a 24% increase in reported contract-volume.
- ✓ 61% of total volume has been contracted at above price of ₹ 4/kWh.
- ✓ Total number of contracts (including Swap & Banking) in August was 40 by 8 traders whereas in July it was 52 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 1st August- 28th August 2011. As is seen from the scatter diagram, most of the contracts were concentrated evenly during 2nd fortnight of the reported period and the price was in a range of ₹ 3.45/kWh to ₹ 6.62/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 (₹/ kWh)		Weighted Average of Sale Price (₹/ kWh)	Total Volume (MUs)
	Max	Min		
1st-7th August	6.62	3.45	3.61	224.34
8th-14th August	5.50	5.50	5.50	1.75
15th-21st August	5.07	3.36	4.50	658.80
22nd-28th August	4.12	3.60	4.03	446.03
Total	_			1330.92

Source: Based on Electricity Traders' weekly reports

Table 2: Comparison of Day Ahead Market with OTC Contracts (Includes Term Ahead Contracts at Power Exchanges)

Contract Date (2011)	1st Aug	2nd Aug	3rd Aug	4th Aug	5th Aug	6th Aug	10th Aug	16th Aug	17th Aug	18th Aug	19th Aug	20th Aug	23rd Aug	26th Aug	28th Aug
IEX (₹/ kWh)	3.10	3.06	3.62	3.59	3.58	3.45	3.26	2.59	3.00	2.84	3.06	3.04	3.09	2.77	2.61
PXIL (₹/ kWh)	2.90	3.00	3.06	3.68	2.86	3.10	3.03	2.57	2.77	3.12	2.63	2.75	3.08	2.79	2.85
OTC Contracts (₹/ kWh)	3.61 (1st-7th August)						5.50 (8th-14th August)	4.50 (15th-21st August)					4.03 (22nd-28th August)		

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

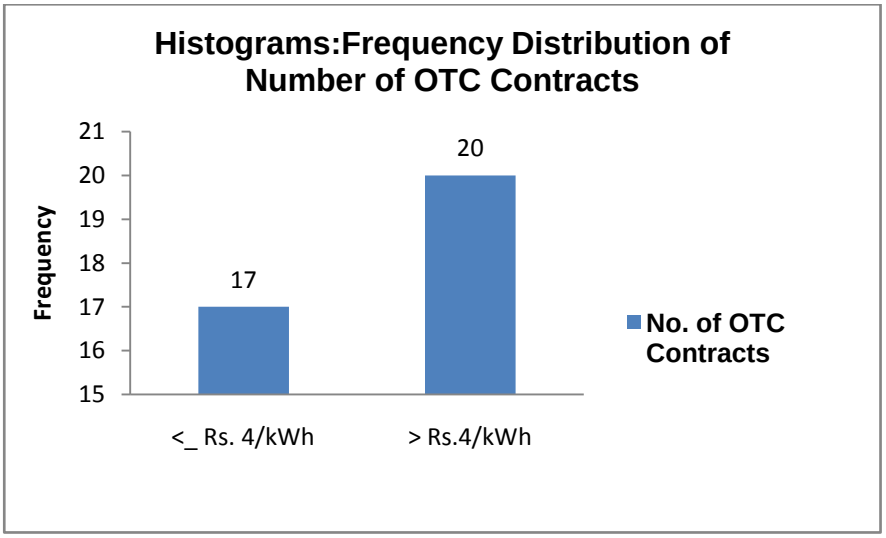
Observations

1. In the month of August, OTC contract prices were higher than the Indian Energy Exchange (IEX) and Power Exchange of India Ltd (PXIL) spot prices. During the month, prices at both the exchanges followed a downward trajectory. The minimum price in the exchanges during reported period was ₹ 2.22/kWh (IEX, 15th August 2011) while that in the OTC market was ₹3.45/kWh. Maximum price in Day-Ahead market at the exchange reached ₹3.68/kWh (PXIL, 4th August 2011), in OTC Market it was ₹5.07/kWh (19th August 2011) and for a weekly contract in the Term-Ahead market on IEX the maximum price was to ₹6.62/kWh (3rd August 2011).

2. OTC contracts are mostly for a delivery period of one month. The scheduling of these contracts is generally happening from one month after the contract date.

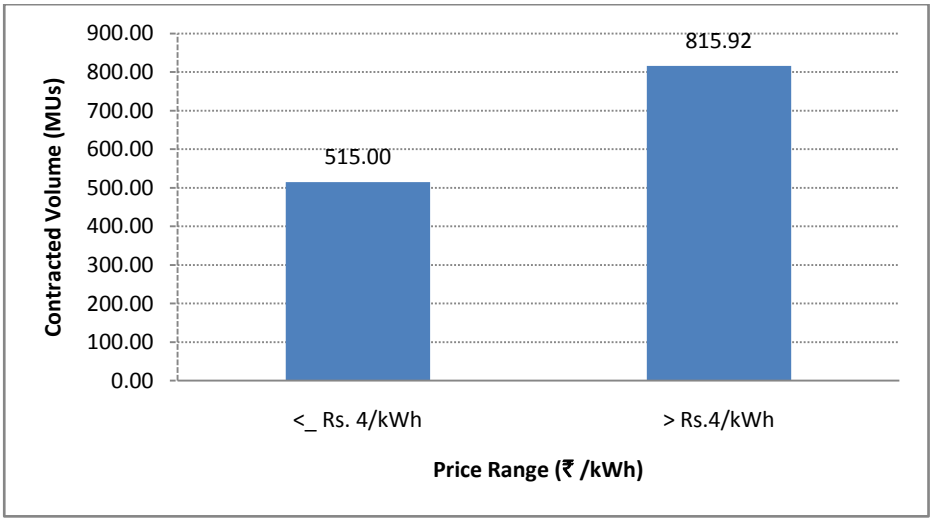
3. As for the number of contracts, 20 out of total 37♣ contracts were entered above ₹ 4/kWh (total 40 contracts including swap & banking).

Chart 2: Histogram of Number of OTC Contracts



4. The cumulative volume traded above ₹ 4/kWh was 815.92♣ MUs which is 61% of total OTC contracts for the reported period (1st August – 28th August 2011).

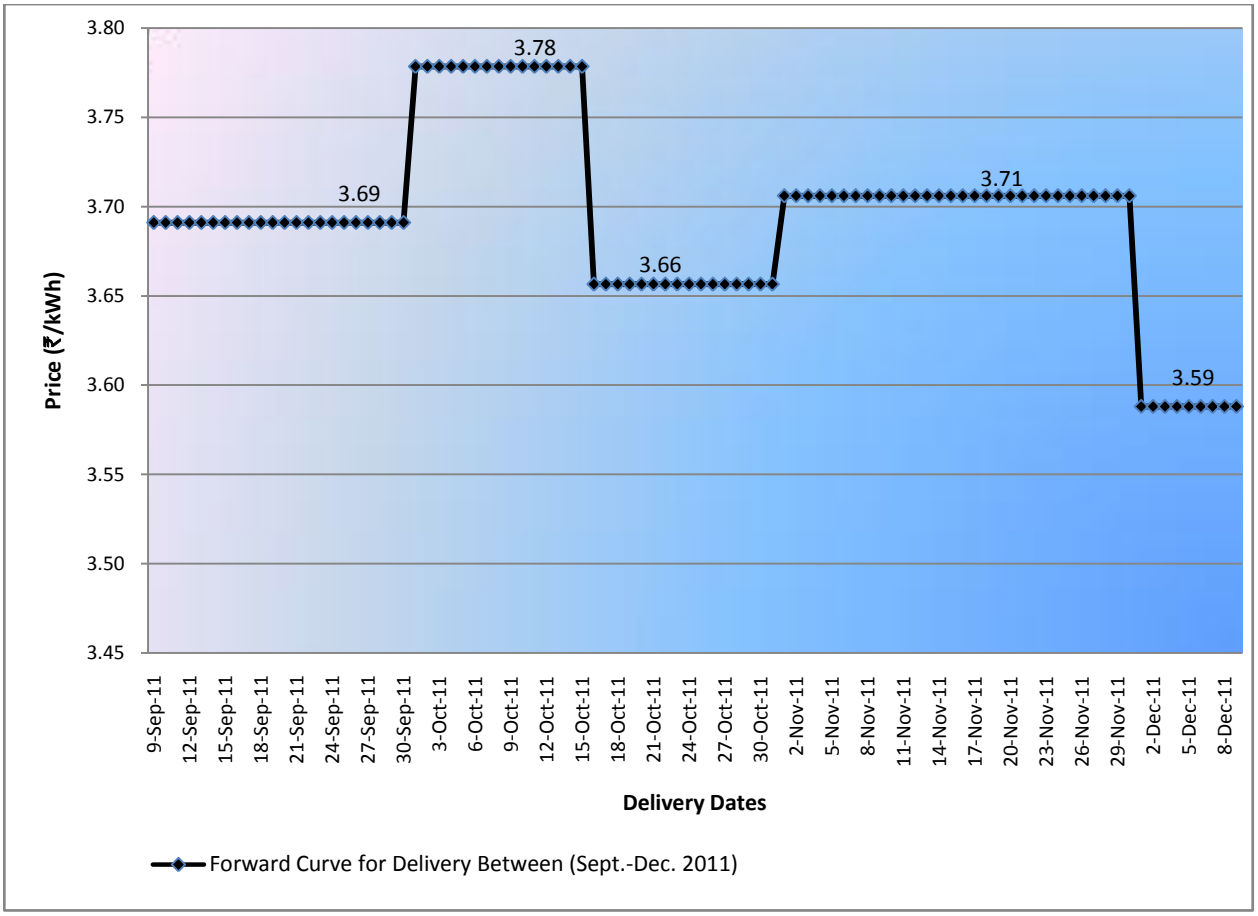
Chart 3: Cumulative Volume Traded below and above ₹ 4/kWh during 1st – 28th August 2011



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

II. Three-Month Forward Curve of Power Prices

Chart 4: Forward Curve for 9th September - 9th December 2011



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 9th September - 9th December 2011, i.e. 90 days ahead period of power supply. This forward curve is as on 8th September 2011 but based on 37 contract prices reported by trader's upto 28th August 2011.

Observations

1. The forward curve for the next three month period i.e. 9th September - 9th December 2011 generally followed a downward trajectory across the period. The prices for October deliveries has decreased from ₹ 3.78/kWh to ₹ 3.66/kWh in August reporting. This is due to the fact that new contracts for October executed in August have been contracted at a lower price (around ₹3.6/kWh).

Chart 4: Forward Curve in June for OTC Market, September- December 2011

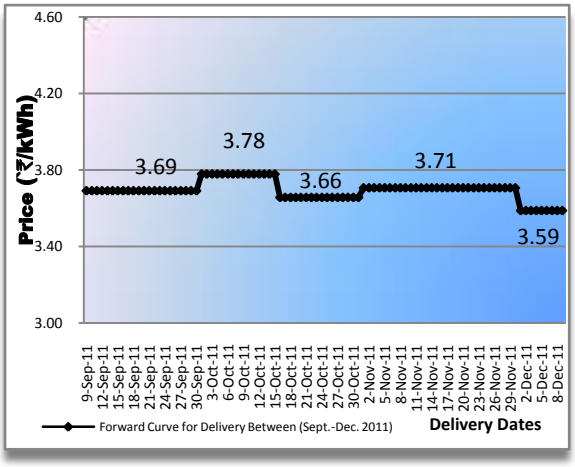
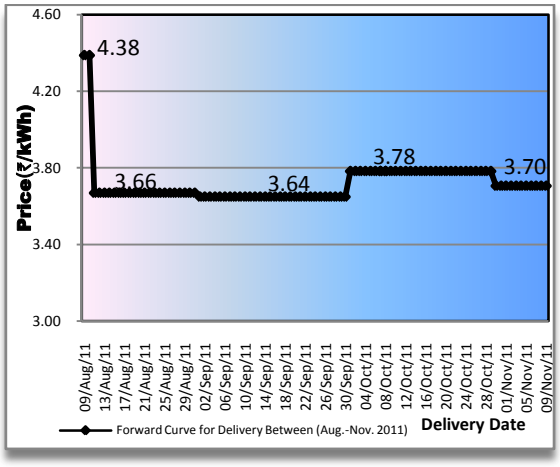


Chart 4.1: Forward Curve in April for OTC Market, August- November 2011

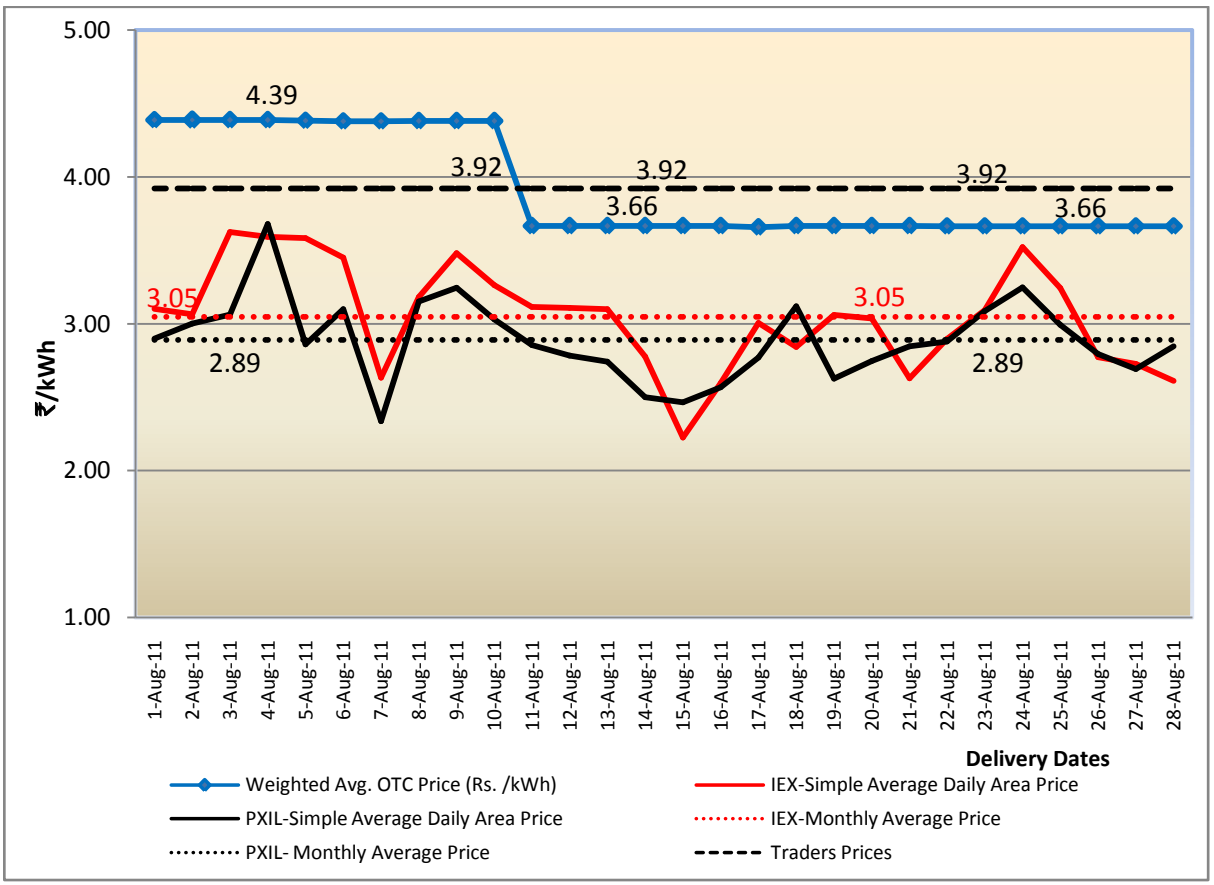


III. Post-facto Comparison of Prices in OTC Contracts and Power Exchanges (on Power Delivery Dates)

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 forward curve.

It is observed that IEX and PXIL prices were below the average OTC contract prices.

Chart 5: Comparison OTC deliveries and Power Exchange Spot Delivery Price for August 2011



Overall Comparative View between July and August 2011

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

Table 3: Number of Contracts Reported in July and August 2011[Ψ]

	Jul-11	Aug-11
Above three months and upto 12 months	1	0
One month or above	16	22
One week or above	6	11
Less than a week	29	7
Total	52	40

From the above table it is clear that the total numbers of contracts for power deliveries for the category one month or above; were more in August than July, 2011 (i.e. 22 Contracts).

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 ₹/ kWh (Dates)

	Jul-11		August 2011(1st -28th August)	
	Maximum	Minimum	Maximum	Minimum
IEX	4.50(6th July)	2.29(24th July)	3.62 (3rd August)	2.22 (15th August)
PXIL	4.70(7th July)	2.31 (10th July)	3.68 (4th August)	2.34 (7th August)
OTC Contracts	6.57 (6th July)	3.26 (4th,5th,7th,8th &9th July)	6.62 (3rd August)	3.36 (18th August)

[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 higher than the IEX and PXIL spot prices during the month. (It may be pertinent to highlight that OTC contracts are for delivery ranging for a 1- 3 month period of whereas spot price are day-ahead contracts).

2. From Chart-5 (post facto power delivery date analysis), it is observed that the average OTC sale price was higher than the average exchange prices. The difference between the two (PXIL & OTC) and (IEX & OTC) was ₹1.03/kWh and ₹0.87/kWh respectively.

3. In Chart 4, the Forward Curve for 90 days ahead period (for 9th September to 9th December 2011 period of power delivery) is flat and prices are similar over the period.

Annexure-I

Table 4: List of Trading Licensees who have undertaken Contracts in the period 1st August – 28th August 2011*

	Name of Licensee	1st-7th August	8th-14th August	15th-21st August	22nd-28th August
1	PTC India Ltd.	Y(1)	NIL	NIL	NIL
2	NTPC Vidyut Vyapar Nigam Ltd.	Y(1)	NIL	Y(2)	Y(7)
3	JSW-PTCL	Y(9)	Y(1)	Y(1)	NIL
4	RPG	Y(1)	NIL	Y(1)	NIL
5	RETL	Y(1)	NIL	NIL	NIL
6	Instinct Infra	NIL	NIL	Y(12)	NIL
7	TPTCL	NIL	NIL	Y(2)	NIL
8	SCL	Y(1)	NIL	NIL	NIL
Total No. of Contracts		14	1	18	7
Total for month for all traders					40

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 at least one contracts during the reported period. 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.