

# WEEKLY REPORTING OF OTC CONTRACTS: MONTHLY ANALYSIS (JUNE 2011)

[An analysis of all weekly reports (reporting period 6<sup>th</sup> June – 3<sup>rd</sup> July) received from licensed-traders for the month of June 2011]

Prepared on 8<sup>th</sup> July 2011

Market Monitoring Cell, CERC

#### Snapshot for June 2011

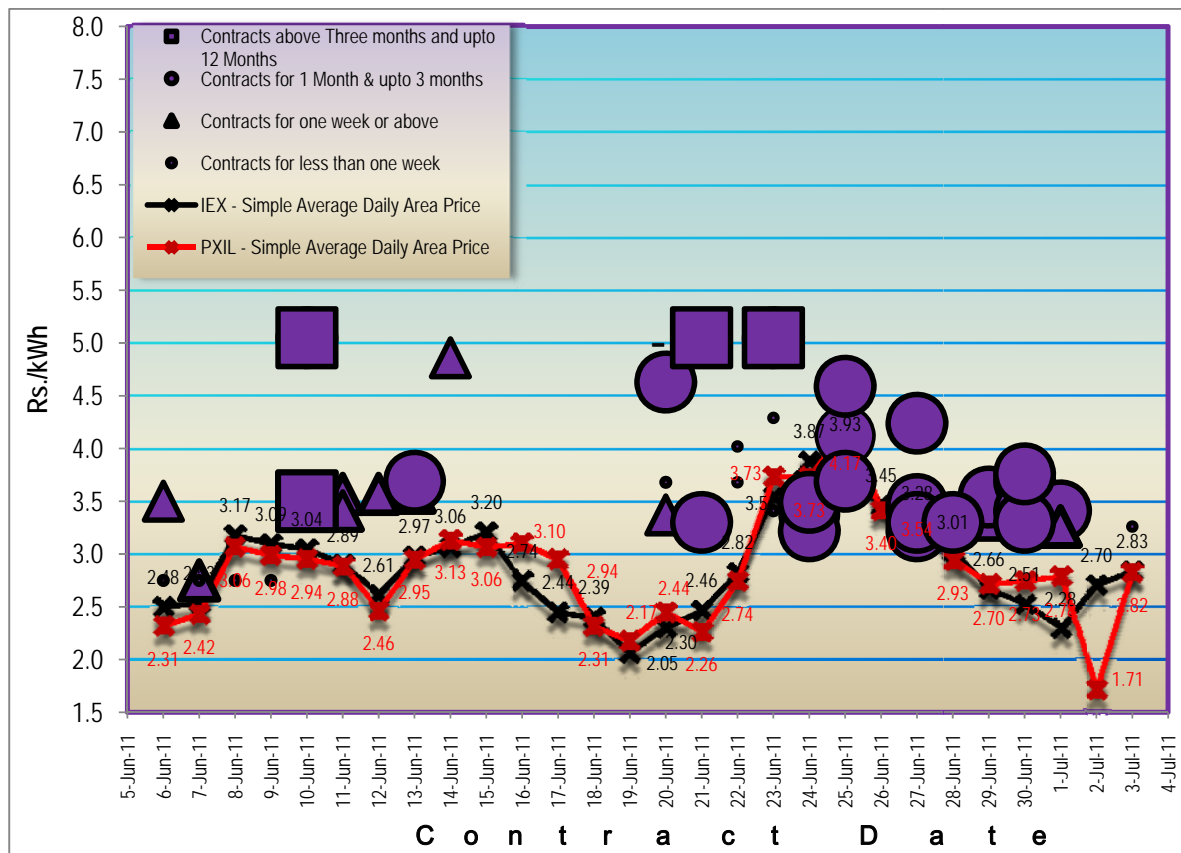
- ✓ The reported short-term contract volume for the month of June was 3276.30 MUs whereas the same was 2736.80 MUs for the month of May. There is a 20% increase in reported contract-volume.
- ✓ 20% of total volume has been contracted at above price of Rs. 4/kWh.
- ✓ Total number of contracts (including swap & Banking) in June was 86 by 7 traders whereas in May it was 122 by 6 traders.

## Weekly reporting of OTC Contracts: Monthly Analysis

### 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 6<sup>th</sup> June – 3<sup>rd</sup> July 2011. As is seen from the scatter diagram, the contracts were evenly spread during 1<sup>st</sup>, 3<sup>rd</sup> and 4<sup>th</sup> Week of the reported period and in the price was in a range of Rs. 2.75/kWh to Rs. 5.05/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).

## Weekly reporting of OTC Contracts: Monthly Analysis

**Table 1: Price and Volume of OTC Contracts**

Weeks	Range of Sale Price (Rs./ kWh)		Weighted Average of Sale Price (Rs./ kWh)	Total Volume (MUs)
	Max	Min		
6th-12th June	5.05	2.75	3.53	906.55
13th-19 th June	4.86	3.58	3.78	38.33
20th-26th June	5.05	3.22	3.44	776.97
27th June- 3rd July	4.24	3.22	4.18	622.57
<b>Total</b>	—			<b>2344.42</b>

Source: Based on Electricity Traders' weekly reports

**Table 2: Prices on Power Exchanges on OTC Contract Dates**

Contract Date (2011)	6th June	7th June	8th June	9th June	10th June	11th June	12th June	13th June	14th June	20th June	21st June	22nd June	23rd June	24th June	25th June	27th June	28th June	29th June	30th June	1st July	3rd July
IEX (Rs. / kWh)	2.48	2.53	3.17	3.09	3.04	2.89	2.61	2.97	3.06	2.30	2.46	2.82	3.54	3.87	3.93	3.28	3.01	2.66	2.51	2.28	2.83
PXIL (Rs. / kWh)	2.31	2.42	3.06	2.98	2.94	2.88	2.46	2.95	3.13	2.44	2.26	2.74	3.73	3.73	4.17	3.54	2.93	2.70	2.73	2.78	2.82
OTC Contract S (Rs./ kWh)	3.53 (6th -12th June)							3.78 (13th-19th June)			3.44 (20th-26th June)				4.18 (27th-3rd July)						

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

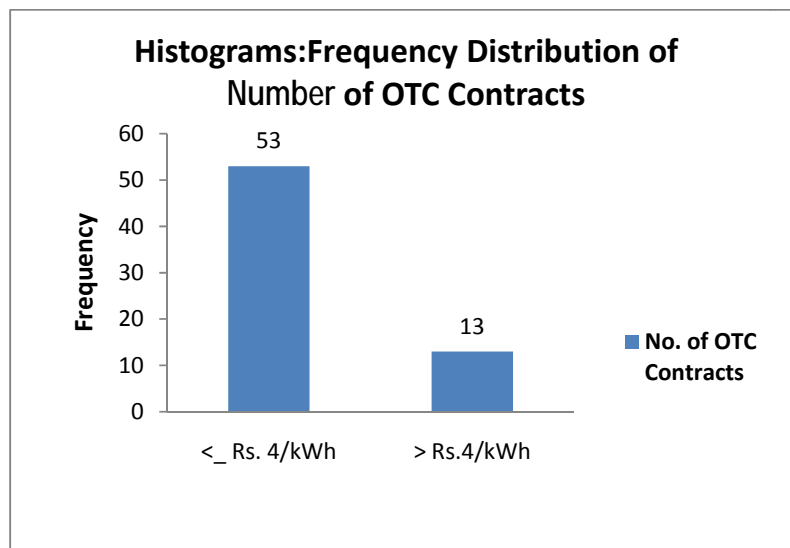
### Observations

1. In the beginning of June, OTC contract prices were higher than the Indian Power Exchange (IEX) and Power Exchange of India Ltd spot prices. In the 3<sup>rd</sup> week of the month, prices at both the exchanges' followed an upward trajectory followed by a downward trajectory in the last week. The minimum price in the exchanges during 6<sup>th</sup> June – 3<sup>rd</sup> July 2011 was Rs. 1.71/kWh (PXIL, 2<sup>nd</sup> July 2011) while that in the OTC market was Rs. 2.75/kWh. Maximum price at the exchange reached Rs. 4.17/kWh (PXIL, 25<sup>th</sup> June 2011 while in OTC Market it was Rs. 5.05/kWh.

## Weekly reporting of OTC Contracts: Monthly Analysis

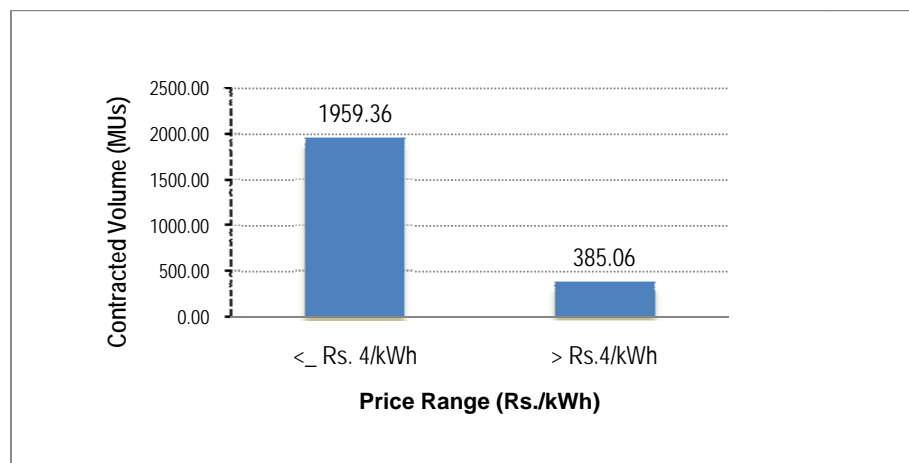
2. OTC contracts are mostly for a delivery period of one month. The scheduling of these contracts is generally happening from one day to one month after the contract date.
3. As for the number of contracts, 13 out of total 66\* contracts were entered above Rs. 4/kWh (total 86 contracts including swap & banking).

Chart 2: Histogram of Number of OTC Contracts



4. The cumulative volume traded above Rs. 4/kWh was 385.06\* MUs which is 20% of total OTC contracts for the reported period (6th June- 3<sup>rd</sup> July 2011).

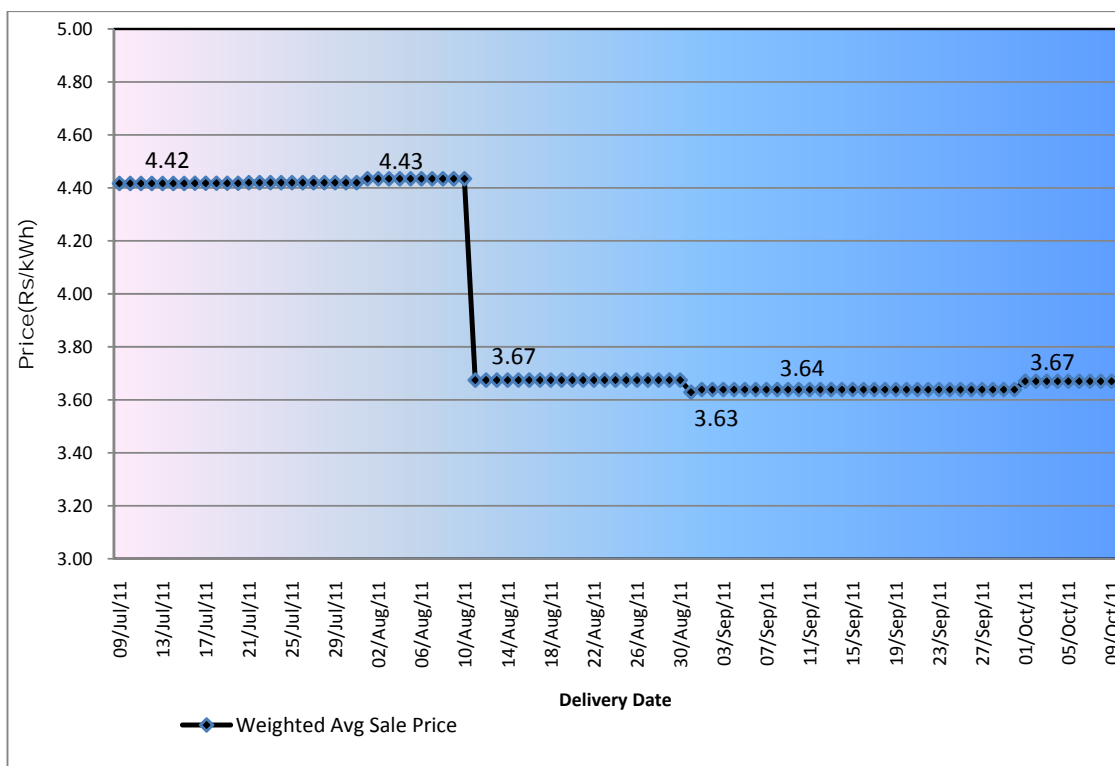
Chart 3: Cumulative Volume Traded below and above Rs. 4/kWh during 2<sup>nd</sup> May-5<sup>th</sup> June 2011



\* 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 9<sup>th</sup> July- 9<sup>th</sup> October 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 9<sup>th</sup> July 2011 to 9<sup>th</sup> October 2011, i.e. 90 days ahead period of power supply. This forward curve has been made on 8<sup>th</sup> July but is based on 66 contract prices reported by trader's upto 3<sup>rd</sup> July 2011.

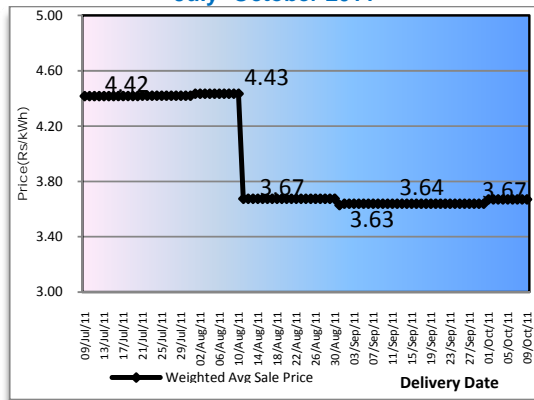
### Observations

1. The forward curve for the next three month period i.e. from 9<sup>th</sup> July 2011 to 9<sup>th</sup> October 2011 is downward sloping. For August delivery, power price falls from Rs.4.43/kWh to Rs. 3.67/ kWh which falls further to Rs. 3.63/kWh on 1<sup>st</sup> September and again rises to Rs. 3.67/kWh on 1<sup>st</sup> October 2011.
2. It may be noted that, the nature of the forward curves drawn in May and June is similar. The curve drawn in May shows a downward trend in prices of power deliveries from 1<sup>st</sup> July to 30<sup>th</sup> September 2011 which is similar to the one drawn this

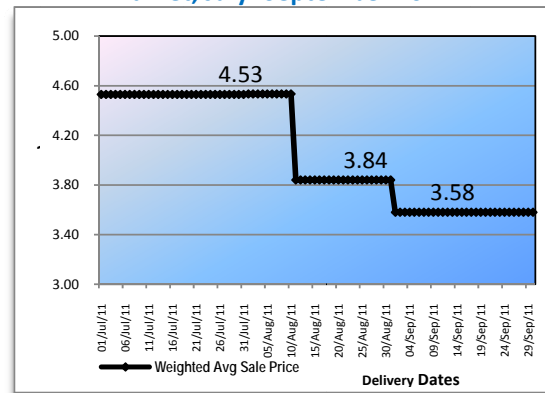
## Weekly reporting of OTC Contracts: Monthly Analysis

month which shows a downward trend for power deliveries in 9<sup>th</sup> July to 9<sup>th</sup> October 2011. Prices for power deliveries in the month of August are different in two graphs. This is due to the fact that new contracts reported during this period decreased the average sale price from Rs. 3.84/kWh earlier to Rs. 3.67/kWh for the month of August deliveries. The price for July deliveries also shown a decline from Rs. 4.53/kWh to Rs. 4.42/kWh.

**Chart 4: Forward Curve in June for OTC Market, July- October 2011**



**Chart 4.1: Forward Curve in April for OTC Market, July- September 2011**

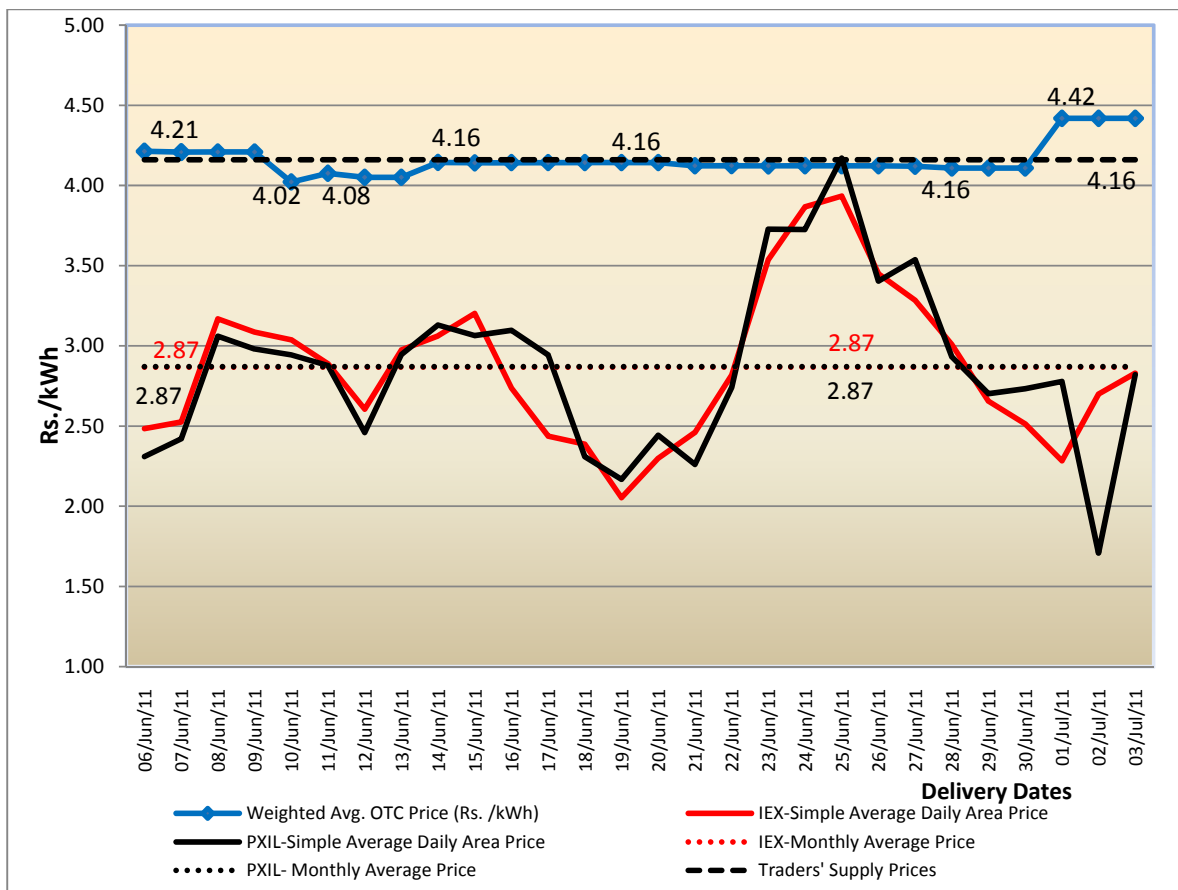


### III. Post-facto Comparison of Prices in OTC Contracts and Power Exchanges (on Power Delivery Dates)

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 throughout the month of June.

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





## Overall Comparative View between April and June 2011

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

**Table 3: Number of Contracts Reported in May and June 2011<sup>ψ</sup>**

	May - 2011	June-2011
Above three months and upto 12 months	0	4
One month or above	39	39
One week or above	20	17
Less than a week	63	26
Total	122	86

From the above table it is clear that the total numbers of contracts for power deliveries for the category one month or above; were same in May and June 2011 (39 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** Rs/ kWh (Dates)

	May 2011		June-2011 (6 <sup>th</sup> June- 3 <sup>rd</sup> July)	
	Maximum	Minimum	Maximum	Minimum
IEX	3.96 (3rd)	2.17 (5th June)	3.93(25th June)	2.15 (19th June)
PXIL	4.05 (2nd)	2.13 (14th)	4.17 (25th June)	1.71 (2nd July)
OTC Contracts	8.54 (18th)	2.75 (31st)	5.05 (10th June)	2.75 (7th June)

<sup>ψ</sup> 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 close to the IEX and PXIL spot prices in the beginning of the month though later both the exchange prices went below the OTC contract prices. (it may be pertinent to highlight that OTC contracts are for delivery over 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 seen that the average OTC sale price was higher than the average exchange prices. The price difference between PXIL & OTC and IEX & OTC was Rs. 1.29/kWh in both cases.
3. In Chart 4, the Forward curve for 90 days ahead period (for 9<sup>th</sup> July- 9<sup>th</sup> October 2011 period of power delivery) is showing a declining trend throughout the period.

**Annexure-I**

**Table 4: List of Trading-Licensees who have undertaken Contracts in  
the period 6<sup>th</sup> June – 3<sup>rd</sup> July 2011 \***

	Name of Licensee	6th-12th June	13th-19 th June	20th-26th June	27th June- 3rd July
1	NTPC Vidyut Vyapar Nigam Ltd.	Y(2)	Y(4)	Y(12)	Y(12)
2	PTC India Ltd.	Y(10)	Y(1)	Y(7)	Y(9)
3	GMR Energy Trading Ltd.	NIL	NIL	Y(5)	Y(7)
4	Tata Power Trading Co. Ltd.	Y(2)	Y(1)	Y(4)	Y(3)
5	Lanco (NETS)	Y(1)	NIL	Y(1)	NIL
6	JSW-PTCL	Y(1)	NIL	Y(3)	NIL
7	RPG	Y(1)	NIL	NIL	NIL
Total No. of Contracts		17	6	32	31
Total for month for all traders					86

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.