

# WEEKLY REPORTING OF OTC CONTRACTS: MONTHLY ANALYSIS (SEPTEMBER 2010)

[An analysis of all weekly reports received from licensee-traders for the month of September 2010]

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


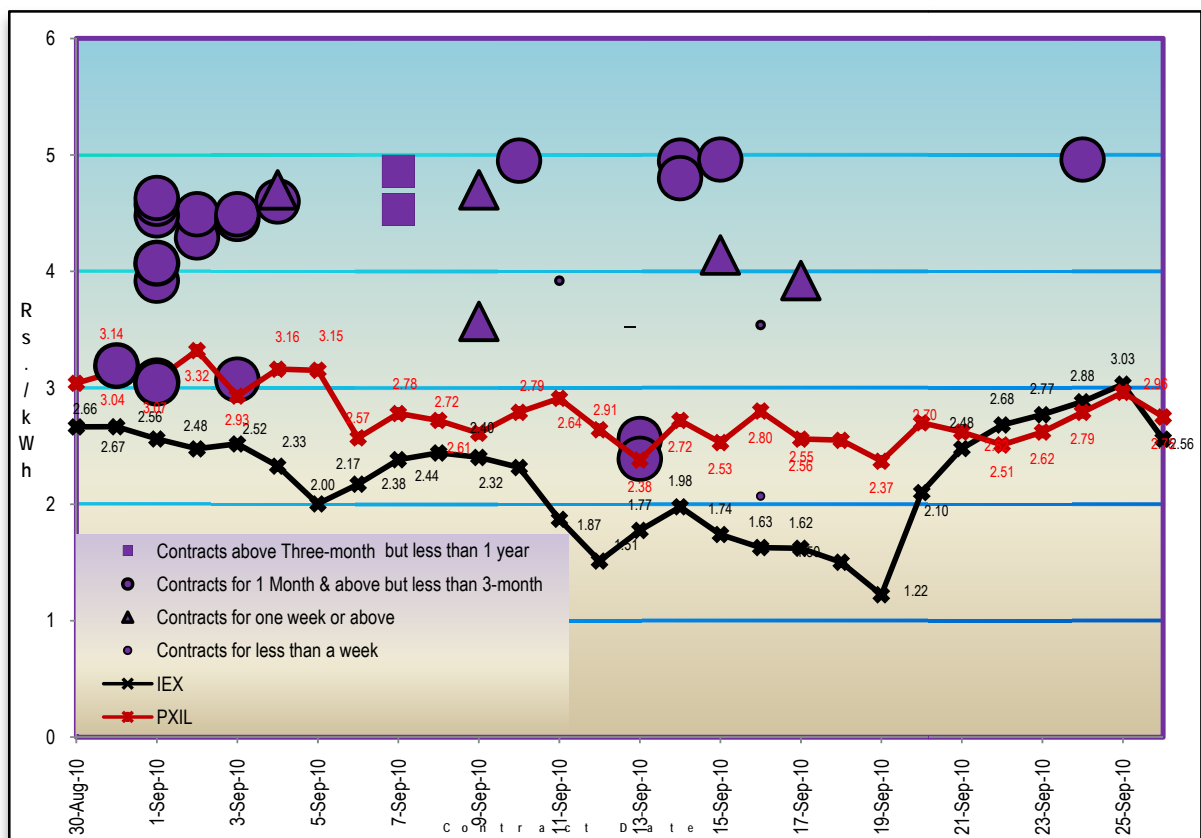
 **Process of Formulation.** The scatter diagram represents the details of OTC contracts undertaken by traders between 30<sup>th</sup> August to 26<sup>th</sup> September for short-term (upto three months) transactions of electricity (Annexure I). Each data-point represents contract sale-price on a particular contract date.

Chart 1: Price of Electricity for OTC contracts and Transactions in Power Exchanges



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.

The chart shows a comparative analysis of price movement in both the OTC and Power Exchange markets during the period. 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		
30 <sup>th</sup> August-5 <sup>th</sup> September	4.7	3.06	3.96	541.12
6 <sup>th</sup> -12 <sup>th</sup> September	4.95	3.57	4.76	1459.69
13 <sup>th</sup> -19 <sup>th</sup> September	4.96	2.07	3.48	146.76
20 <sup>th</sup> -26 <sup>th</sup> September*	NA		4.96	4.84
<b>Total</b>	—			<b>2152.41</b>

Source: Based on Traders' weekly reports

\*: Three contracts reported of which two were swap contracts.

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

September 2010															
Contract Dates (2010)	31 <sup>st</sup> Aug	1 <sup>st</sup> Sep	2 <sup>nd</sup> Sep	3 <sup>rd</sup> Sep	4 <sup>th</sup> Sep	7 <sup>th</sup> Sep	9 <sup>th</sup> Sep	10 <sup>th</sup> Sep	11 <sup>th</sup> Sep	13 <sup>th</sup> Sep	14 <sup>th</sup> Sep	15 <sup>th</sup> Sep	16 <sup>th</sup> Sep	17 <sup>th</sup> Sep	24 <sup>th</sup> Sep
IEX (Rs. / kWh)	2.67	2.56	2.48	2.52	2.33	2.58	2.4	2.32	1.87	1.77	1.98	1.74	1.63	1.62	2.88
PXIL (Rs. / kWh)	3.14	3.07	3.32	2.93	3.16	2.78	2.61	2.79	2.91	2.38	2.72	2.53	2.8	2.56	2.749

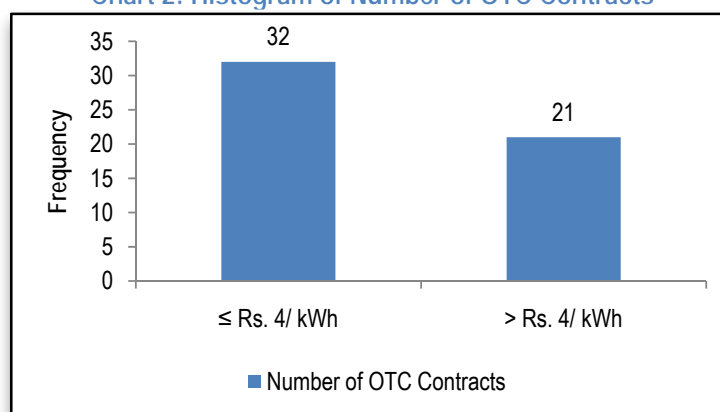
Source: Indian Energy Exchange & Power Exchange of India Ltd. Websites

## Observations

1. During the period from 30<sup>th</sup> August to 26<sup>th</sup> September, most of the contracts in the OTC market are at higher prices than the prices prevailing in the exchanges. The minimum price in the exchange was Rs. 1.22/kWh (IEX, 19<sup>th</sup> Sep 2010) while that in the OTC market was Rs. 2.07/kWh. Maximum price at the exchange reached Rs. 3.81/kWh (PXIL, 30<sup>th</sup> Sep 2010) and in the OTC market it was Rs.4.96/kWh.

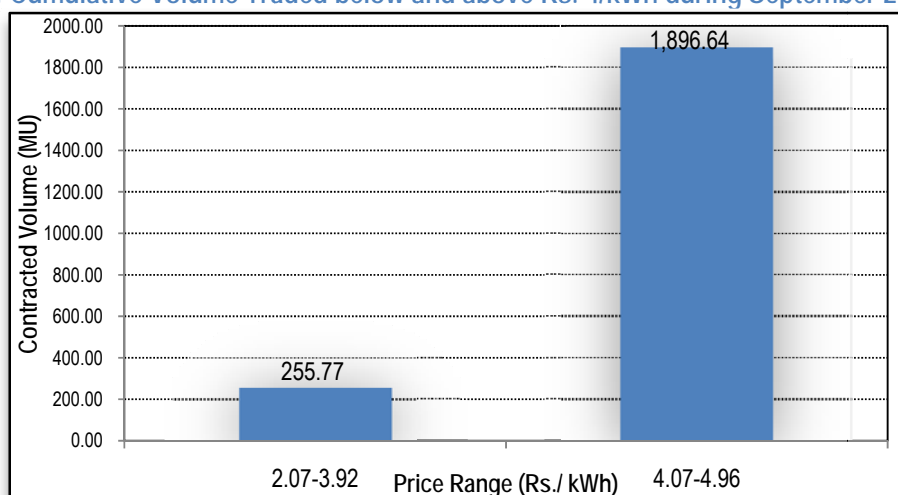
2. In September, OTC contracts mostly are for a month or more and the scheduling of these contracts is generally happening from one or two days to one month after contract date.
3. Two contracts have been done by a trader for eight months (from 1<sup>st</sup> October 2010 to 31<sup>st</sup> May 2011) and six months (from 1<sup>st</sup> October 2010 to 31<sup>st</sup> March 2011) of power supply. Another trader has executed 20 contracts, of which 18 contracts have been done at same price (Rs. 3.06/kWh) for the same buyer but with various sellers.
4. The number of contracts entered into above Rs. 4/kWh was 32. \*

Chart 2: Histogram of Number of OTC Contracts



5. In September, the cumulative volume traded above Rs. 4/kWh was 1896.64 MUs which is 88% of total OTC contracts for September 2010.

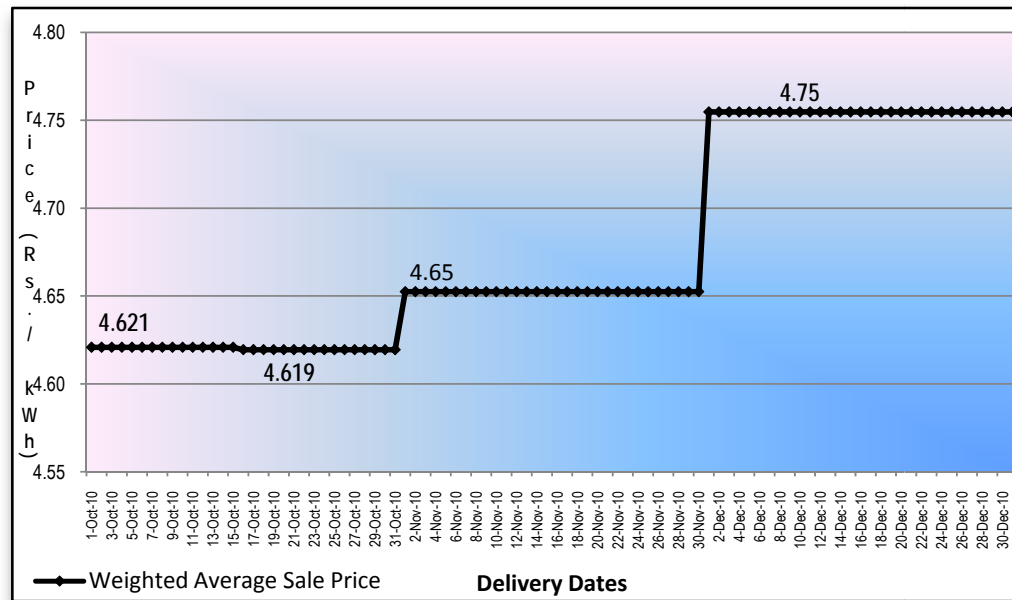
Chart 3: Cumulative Volume Traded below and above Rs. 4/kWh during September 2010



\* Excluding swap contracts which do not have any sale prices.

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

**Chart 4: Forward Curve for OTC Market, October-December 2010**



A forward curve reflects expectation of prices for a future period. Accordingly a forward curve has been drawn based on prices of contracts executed for supply of power in months of October, November and December 2010.

### Process of Formulation

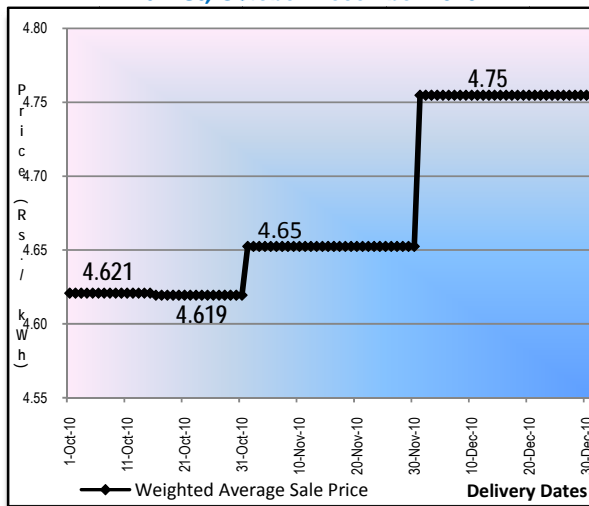
The forward curve has been made based on OTC sale prices reported every week by the traders. For a contract of a full month, the average monthly contract price is considered discretely as the price for each day. Finally, the average daily price for the forward curve is the weighted average daily price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

### Observations

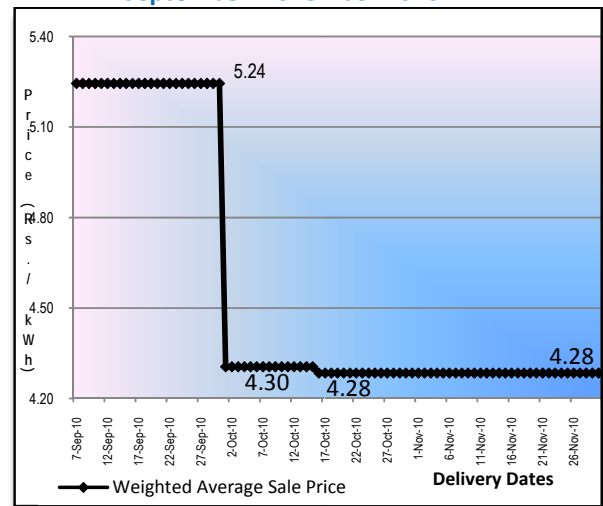
1. The forward curve made for the next three months, i.e. October to December is in contango (upward sloping). During the month of October, the OTC sale price is Rs. 4.62/kWh which decreases marginally to Rs. 4.619/ kWh on 17th October and remains at that level till 31st October. From 1<sup>st</sup> November 2010, it increases to Rs. 4.65/kWh and remains at this level till November end. The future price increases further in December 2010 to Rs. 4.75/kWh and remains at this level through the month.

2. It may be worthwhile to note here that the Forward curve made in August for the future three-month period (September-November) was in backwardation (downward sloping) whereas the Forward curve made in September is in contango (upward sloping), showing an upward trend in expected future price of electricity. The stark contrast in the shape of the two graphs can be seen as follows:

**Chart 2: Forward Curve in September for OTC Market, October-December 2010**



**Chart 2.1: Forward Curve in August for OTC Market, September-November 2010**

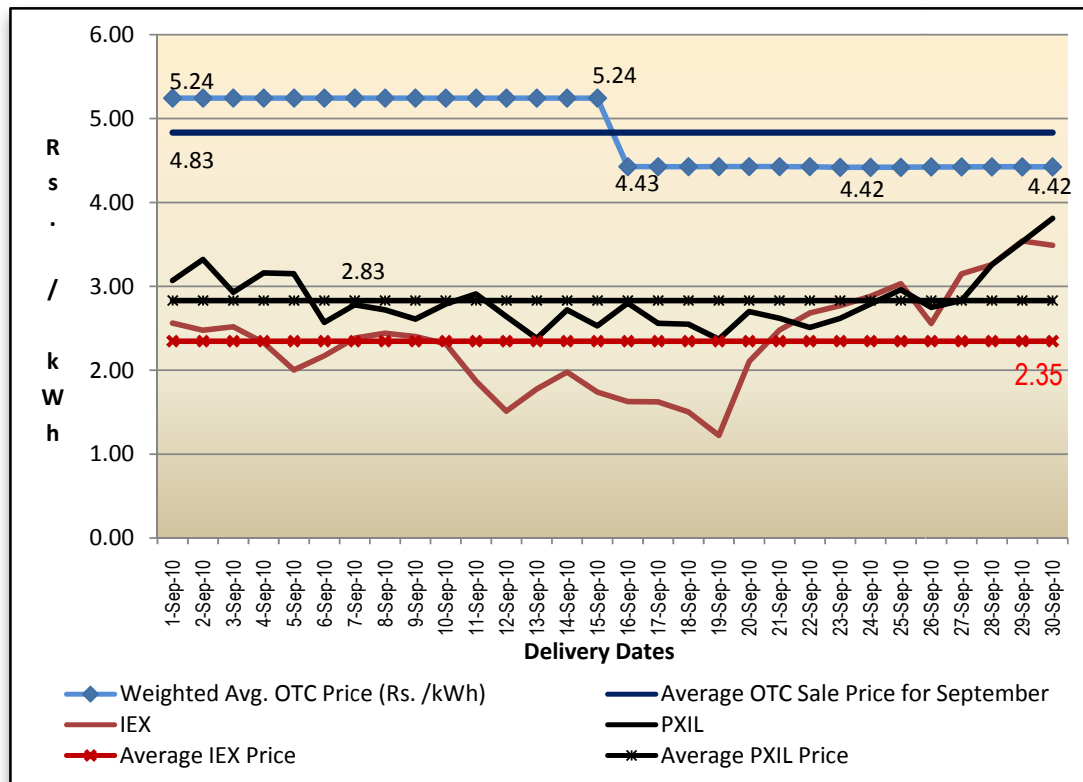


### III. Post-facto Comparison of Prices in OTC Contracts and Power Exchanges (on Power Delivery Dates)

#### Process of Formulation

The post facto graph shows the average OTC price vis-à-vis power exchanges prices for September month's power deliveries. There is a visible difference in between the two prices and generally OTC prices remained at a level higher than the exchange prices. During the month of September, the average OTC price was at Rs. 4.83/ kWh and the same was at Rs. 2.35/ kWh in IEX and Rs. 2.83/kWh in PXIL.

Chart 5: OTC and Power Exchange Prices during September 2010



## Overall Comparative View between August and September 2010

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

Table 3: Number of Contracts Reported in August and September 2010<sup>Ψ</sup>

	August-10	September-10
One month or above	18	50
One week or above	13	7
Less than a week	30	6
Total	61	63

From the above table it is clear that though the total number of contracts in August and September are approximately equal, the number of contracts undertaken for a month & above is higher in September (50) compared to that of in August (18).

<sup>Ψ</sup> Including swap contracts between different DISCOMS.

2. In August, the OTC contract prices were quite dispersed from Rs. 3.54/kWh to Rs. 9.42/kWh, whereas in September the range was comparatively narrow, within Rs. 2.07/kWh to Rs. 4.96/kWh.
3. A comparative table to represent maximum and minimum prices at both the exchanges vis-à-vis OTC contracts prices.

**Table 4: Maximum and Minimum Prices-A Comparative View** Rs/ kWh (Dates)

	August 2010		September 2010	
	Maximum	Minimum	Maximum	Minimum
IEX	4.77 (16 <sup>th</sup> )	2.45 (29 <sup>th</sup> )	3.54 (29 <sup>th</sup> )	1.22 (19 <sup>th</sup> )
PXIL	4.72 (14 <sup>th</sup> )	2.59 (8 <sup>th</sup> )	3.81 (30 <sup>th</sup> )	2.37 (19 <sup>th</sup> )
OTC Contracts	9.42 (11 <sup>th</sup> )	3.82 (6 <sup>th</sup> )	4.96 (24 <sup>th</sup> )	2.07 (16 <sup>th</sup> )

### Overall inferences

1. In general, from the two types of price analysis (Chart 1 & Chart 5), it is evident that the OTC market prices of electricity during the month of September were at a higher level as compared to the prices of power exchanges. However it needs to be noted that OTC prices are for monthly, customized contracts whereas power exchange prices are for spot standardized contracts.
2. From the price analysis of Chart 4, it can be inferred that the forward curve for the future three-month period i.e. October to December 2010 is in contango (upward rising) and shows an upward trend in prices for the future period.

*Limitation:* The report has been prepared based only on information received from traders.



**Annexure-I****Table 4: List of Trading-Licensees who have undertaken Contracts in September 2010\***

	Name of Licensee	30th Aug-5th Sep	6th-12th Sep	13th-19th Sep	20th-26th Sep
1	PTC India Ltd.	Y(2)	Y(2)	Y(2)	NIL
2	Tata Power Trading Company Pvt. Ltd.	NR	Y (1)	NR	NIL
3	NTPC Vidyut Vyapar Nigam Ltd.	Y(10)	Y(6)	Y (13)	Y (3)
4	RPG Power Trading Company Limited	Y(3)	NIL	NIL	NIL
5	JSW Power Trading Company Ltd.	NIL	NIL	Y (1)	NIL
6	Knowledge Infrastructure System Pvt. Ltd.	Y (20)	NIL	NIL	NIL
Total No. of Contracts		35	9	16	3

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.