WEEKLY REPORTING OF OTC CONTRACTS: MONTHLY ANALYSIS

(SEPTEMBER 2011)

[An analysis of all weekly reports (reporting period 29th August - 25th September) received from licensed-traders for the month of September 2011]

Prepared on 8th October 2011

Market Monitoring Cell, CERC

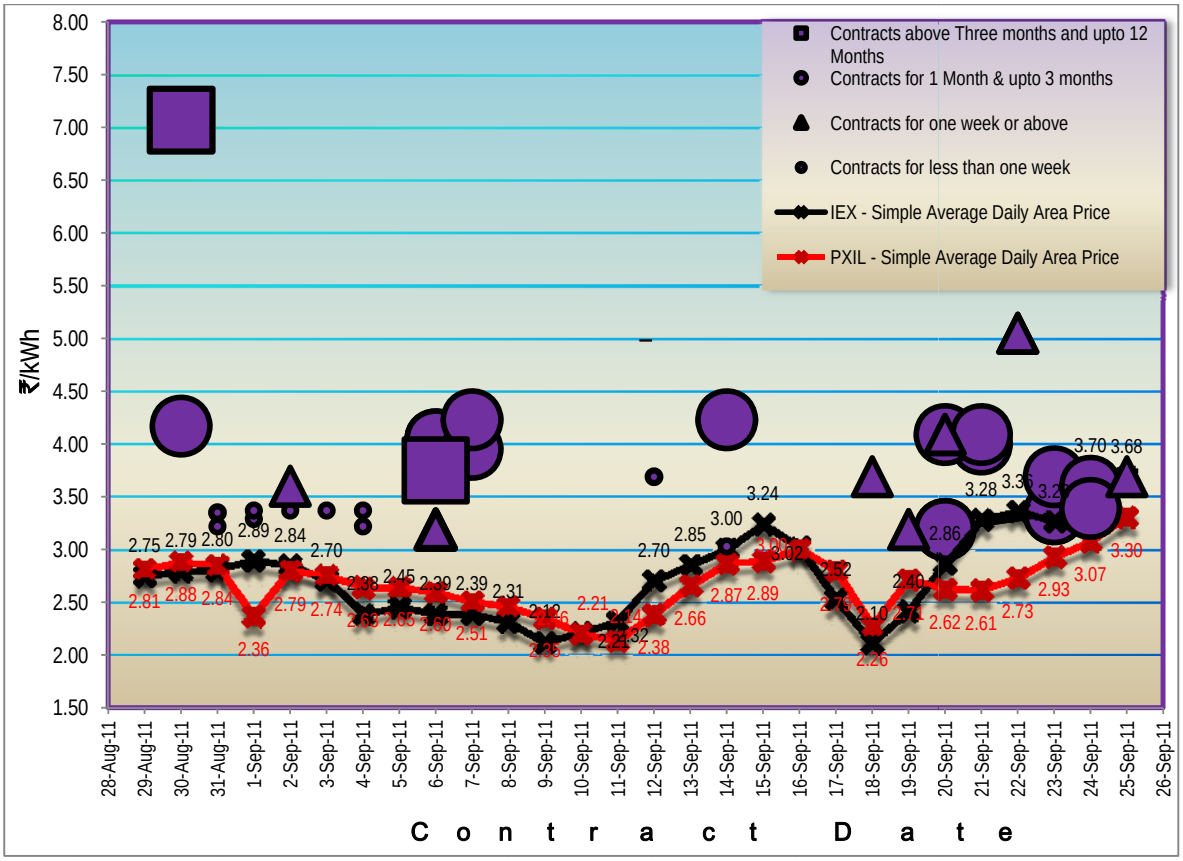
Snapshot for September 2011

- ✓ The reported short-term contract volume for the month of September was 3603.35 MUs whereas the same was 1547.96 MUs for the month of August. There is a 133% increase in reported contract-volume.
- ✓ 33% of total volume has been contracted at above price of ₹ 4/kWh.
- ✓ Total number of contracts (including Swap & Banking) in September was 48 by 8 traders whereas in August it was 40 by 8 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 29th August – 25th September 2011. As is seen from the scatter diagram, most of the contracts were concentrated evenly during 1st , 2nd and 4th week of the reported period and the price was in a range of ₹ 3.03/kWh to ₹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).

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)
	Min	Max		
29th August- 4th September	3.22	7.07	5.06	203.17
5th -11th September	3.19	4.23	3.82	2181.29
12th-18th September	3.03	4.23	4.18	196.97
19th- 25th September	3.19	5.05	3.75	615.63
Total	-			3197.07

Source: Based on Electricity Traders' weekly reports

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

Contract Date (2011)	30th Aug	31st Aug	1st Sep	2nd Sep	3rd Sep	4th Sep	6th Sep	7th Sep	12th Sep	14th Sep	18th Sep	20th Sep	21st Sep	22nd Sep	23rd Sep	24th Sep	25th Sep
IEX (₹ / kWh)	2.79	2.80	2.89	2.84	2.70	2.38	2.39	2.39	2.70	3.00	2.10	2.86	3.28	3.36	3.26	3.70	3.68
PXIL (₹ / kWh)	2.88	2.84	2.36	2.79	2.74	2.63	2.60	2.51	2.38	2.87	2.26	2.62	2.61	2.73	2.93	3.07	3.30
OTC Contracts (₹/ kWh)	5.06 (29th August- 4th September)					3.82 (5th -11th September)			4.18 (12th-18th September)			3.75 (19th- 25th September)					

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

Observations

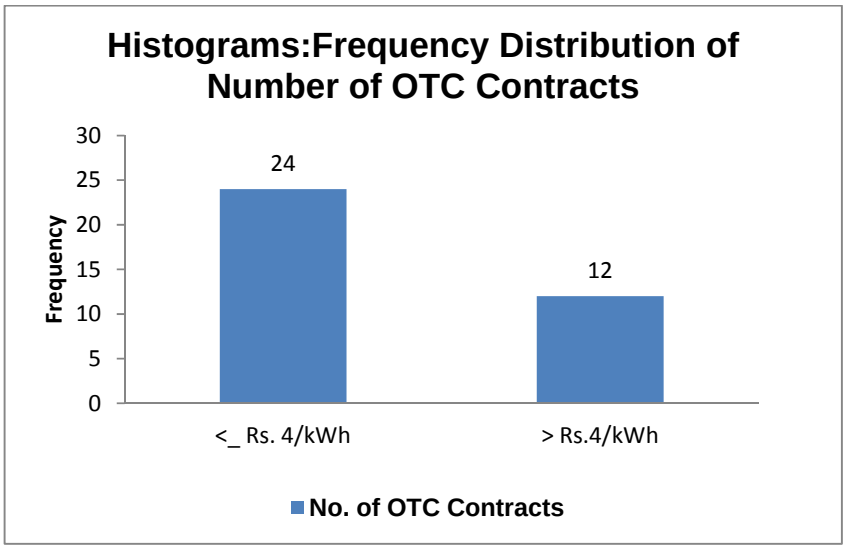
1. In the month of September, OTC contract prices were higher than the Indian Energy Exchange (IEX) and Power Exchange of India Ltd (PXIL) spot prices. During the month, prices at both the exchanges followed a downward trajectory except at the end of the reported period where prices at IEX were slightly higher than that of OTC. The minimum price in the exchanges during reported period was ₹ 2.10/kWh (IEX, 18th September 2011) while that in the OTC market was ₹3.03/kWh (14th September 2011). Maximum price in Day-Ahead market at the exchange reached ₹3.70/kWh (IEX, 24th September 2011) and in OTC Market it was ₹7.07/kWh (30th August 2011) which was a peak power contract.

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

3. As for the number of contracts, 12 out of totals 36♣ contracts were entered above ₹4/kWh (total 48 contracts including swap & banking).

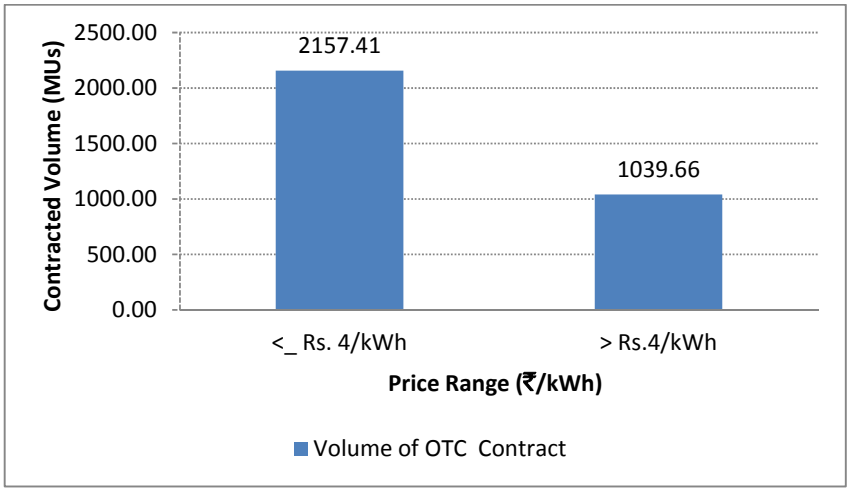
4. There has been one peak contract at ₹7.07/kWh executed for 8 months duration and one medium term RTC contract at ₹3.75/kWh executed for 21 months duration.

Chart 2: Histogram of Number of OTC Contracts



5. The cumulative volume traded above ₹ 4/kWh was 1039.66♣ MUs which is 33% of total OTC contracts for the reported period (29th August – 25th September 2011).

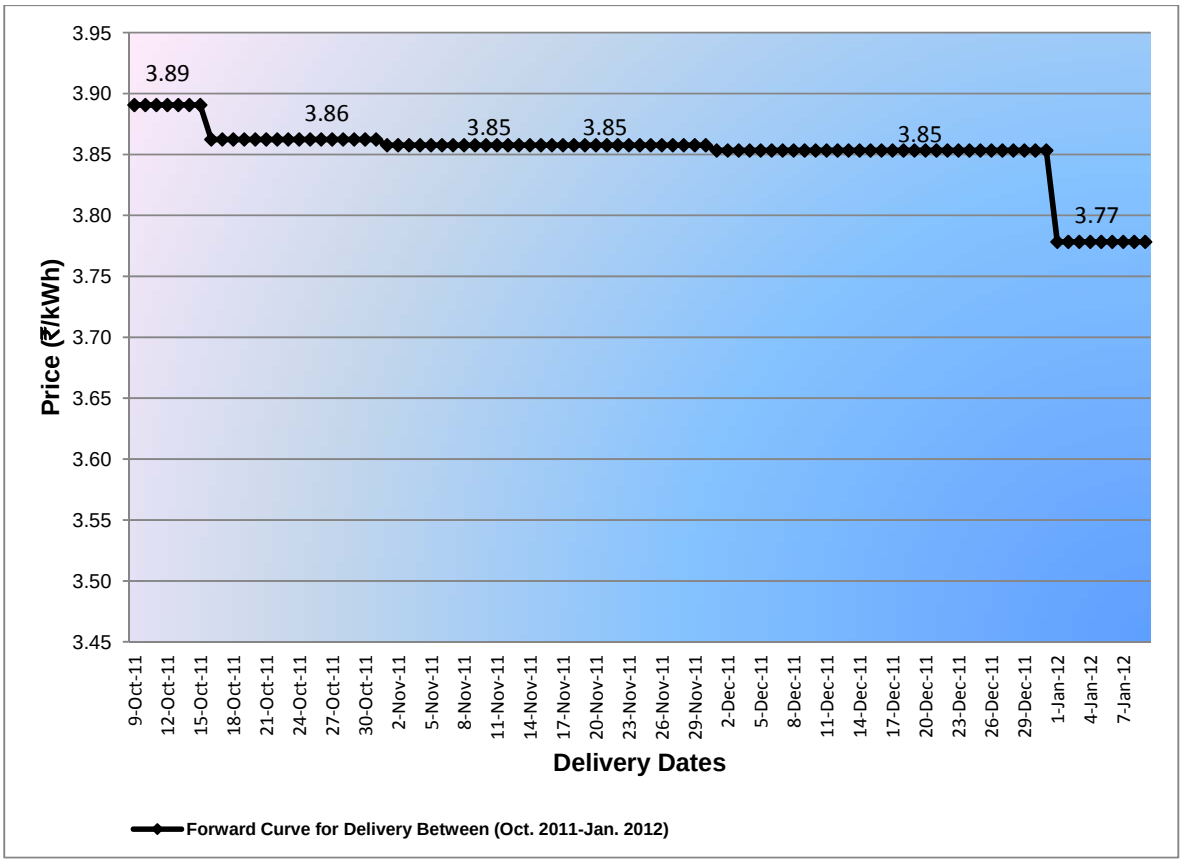
Chart 3: Cumulative Volume Traded below and above ₹ 4/kWh during 29th August – 25th September 2011



♣ *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 October 2011 - 9th January 2012



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 October - 9th January 2012, i.e. 90 days ahead period of power supply. This forward curve is as on 8th October 2011 but based on 36 contract prices reported by trader's upto 25th September 2011.

Observations

1. The forward curve for the next three month period i.e. 9th October 2011 - 9th January 2012 generally followed a downward trajectory across the period. The prices for November deliveries has increased from ₹ 3.71/kWh to ₹ 3.86/kWh in September reporting. This is due to the fact that new contracts for November executed in September have been contracted at a slightly higher price (around ₹3.8/kWh).

Chart 4: Forward Curve in October for OTC Market, October 2011 - January 2012

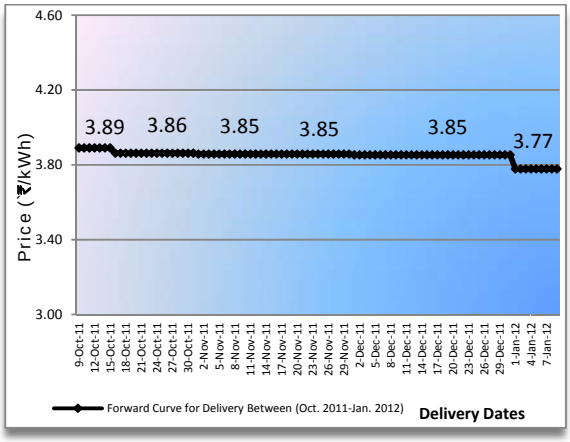
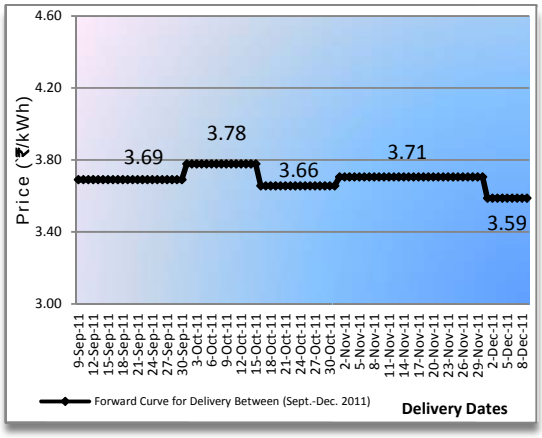


Chart 4.1: Forward Curve in September for OTC Market, September- December 2011

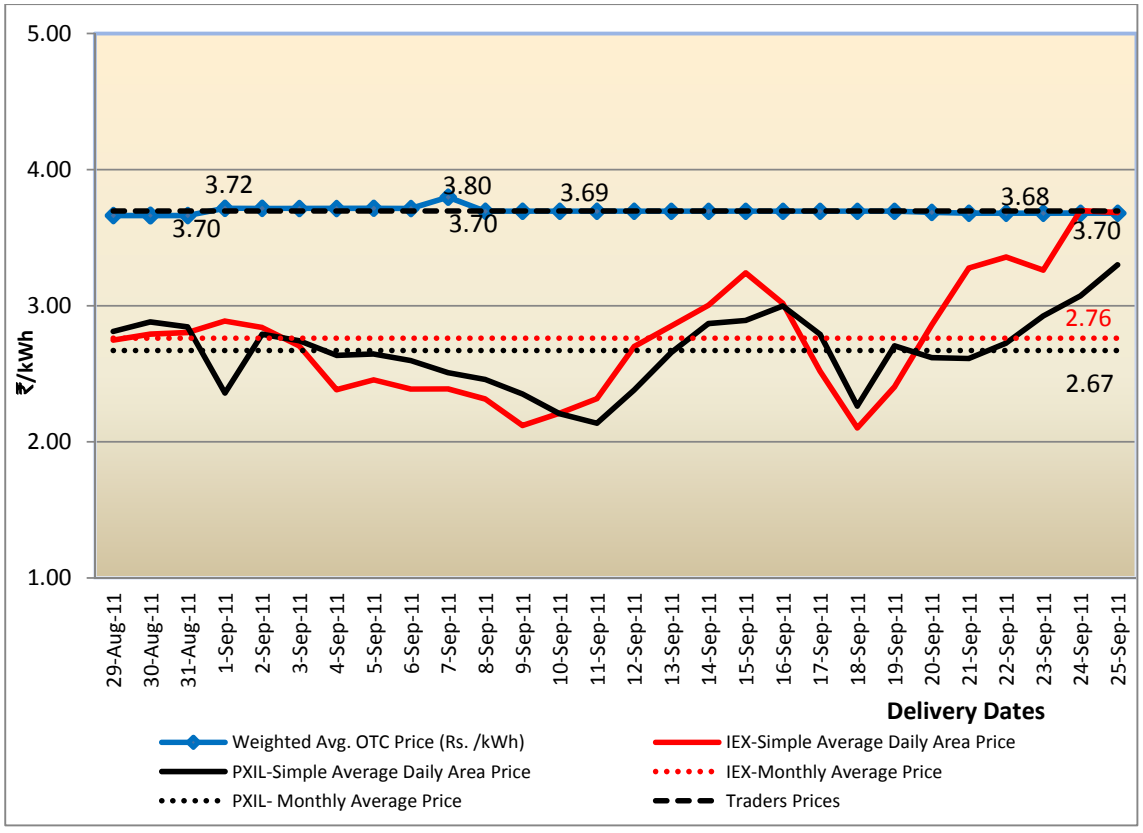


III. Post-facto Comparison of Prices in OTC Contracts and Power Exchanges (on Power Delivery Dates)

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 except at the end of the reported period (25th September).

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



Overall Comparative View between August and September 2011

1. 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 2011[Ψ]

	Aug-11	Sep-11
Above three months and upto 12 months	0	2
One month or above	7	19
One week or above	11	14
Less than a week	22	13
Total	40	48

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 September (21 Contracts) than August, 2011 (7 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)

	August 2011 (1st-28th August)		September 2011 (29th August-25th September)	
	Maximum	Minimum	Maximum	Minimum
IEX	3.62 (3rd August)	2.22 (15th August)	3.70 (24th September)	2.10 (18th September)
PXIL	3.68 (4th August)	2.34 (7th August)	3.30 (25th September)	2.14 (11th September)
OTC Contracts	6.62 (3rd August)	3.36 (18th August)	7.07 (30th August)	3.03 (14th September)

[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 ₹0.93/kWh respectively.

3. In Chart 4, the Forward Curve for 90 days ahead period (for 9th October 2011 to 9th January 2012 period of power delivery) is almost flat in the range (₹3.77 - ₹3.89/kWh) prices are similar over the period. If one compares the forward curves drawn in July 2011 with the present one, it is observed that the prices have declined from ₹4.39/kWh to ₹3.78/kWh.

Annexure-I

Table 4: List of Trading Licensees who have undertaken Contracts in the period 29th August – 25th September 2011*

	Name of Licensee	29th August-4th September	5th -11th September	12th-18th September	19th- 25th September
1	PTC India Ltd.	Y(6)	Y(6)	NIL	Y(1)
2	NTPC Vidyut Vyapar Nigam Ltd.	Y(5)	NIL	Y(3)	Y(11)
3	JSW Power Trading Co. Ltd.	NIL	NIL	Y(1)	NIL
4	RPG Power Trading Co. Ltd.	NIL	NIL	Y(1)	NIL
5	GMR Energy Trading Ltd.	NIL	NIL	NIL	Y(2)
6	National Energy Trading & Services Ltd.	NIL	Y(5)	NIL	Y(1)
7	Tata Power Trading Co. (P) Ltd.	Y(1)	NIL	NIL	Y(3)
8	Shree Cement Ltd.	Y(1)	NIL	Y(1)	NIL
Total No. of Contracts		13	11	6	18
Total for month for all traders					48

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.