

WEEKLY REPORTING OF OTC CONTRACTS: MONTHLY ANALYSIS (NOVEMBER 2011)

[An analysis of all weekly reports (reporting period 31st October – 27th November) received from licensed-traders for the month of November 2011]

Prepared on 8th December 2011

Market Monitoring Cell, CERC

Snapshot for November 2011

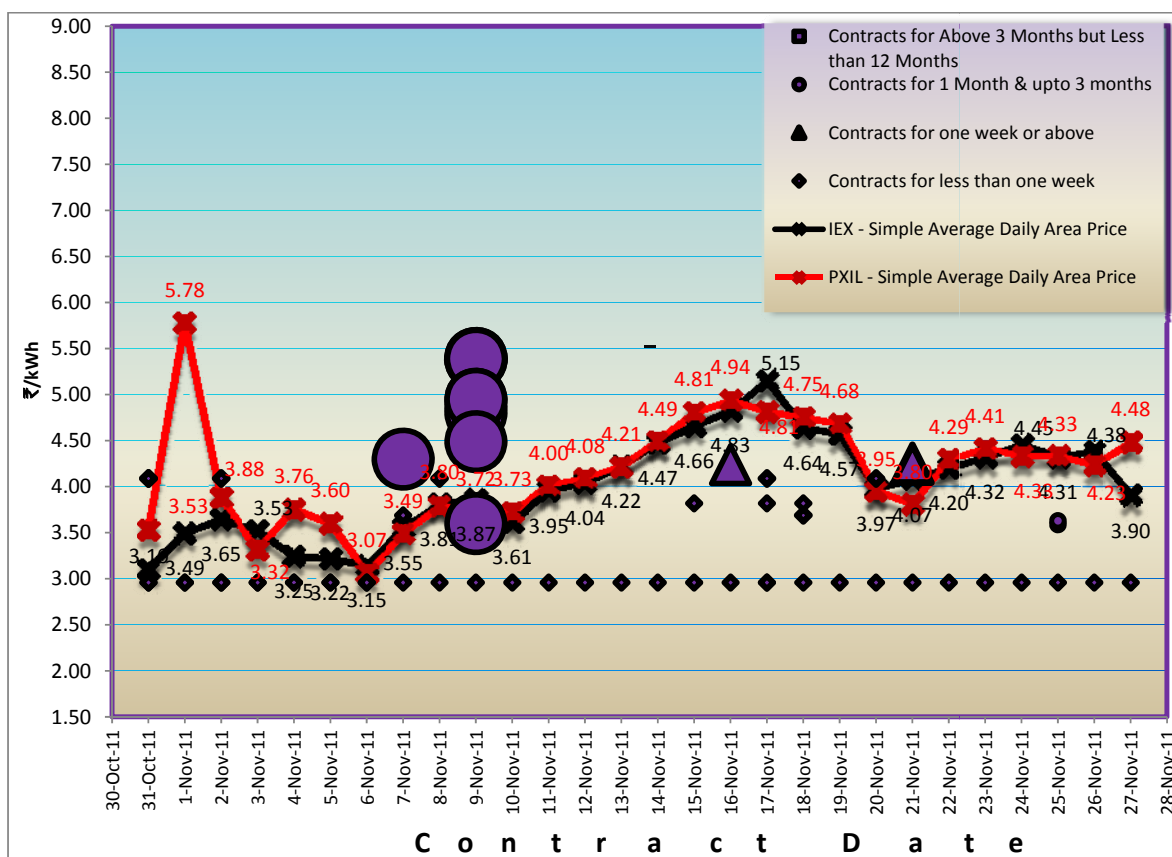
- ✓ The reported short-term contract volume for the month of November was 1568.57MUs whereas the same was 3474.94 MUs for the month of October. There is a 55% decrease in reported contract-volume.
- ✓ 48% of total volume has been contracted at above price of ₹ 4/kWh.
- ✓ Total number of contracts (including Swap & Banking) in November was 102 by 4 traders whereas in October it was 97 by 7 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 31st October – 27th November 2011. As is seen from the scatter diagram, most of the contracts were concentrated in the 2nd week of the reported period and the price was in a range of ₹ 2.96/kWh to ₹5.39/ kWh. The contracts reported were mostly for less than a week (71 Contracts) and for a months and above (22) 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).

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Table 1: Price and Volume of OTC Contracts

Weeks	Range of Sale Price (₹/ kWh)		Weighted Average of Sale Price (₹/ kWh)	Total Volume (MUs)
	Min	Max		
31st October-6th November	2.96	4.09	3.46	10.83
7th - 13th November	2.96	5.39	4.59	445.65
14th - 20th November	2.96	4.25	3.89	79.08
21st - 27th November	2.96	4.25	3.61	301.82
Total	-			837.38

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)	31 st Oct	1 st Nov	2 nd Nov	3 rd Nov	4 th Nov	5 th Nov	6 th Nov	7 th Nov	8 th Nov	9 th Nov	10 th Nov	11 th Nov	12 th Nov	13 th Nov
IEX (₹/ kWh)	3.10	3.49	3.65	3.53	3.25	3.22	3.15	3.55	3.81	3.87	3.61	3.95	4.04	4.22
PXIL (₹/ kWh)	3.53	5.78	3.88	3.32	3.76	3.60	3.07	3.49	3.80	3.72	3.73	4.00	4.08	4.21
OTC Contracts (₹/ kWh)	3.46							4.59						
	31st October-6th November							7th - 13th November						

Contract Date (2011)	14 th Nov	15 th Nov	16 th Nov	17 th Nov	18 th Nov	19 th Nov	20 th Nov	21 st Nov	22 nd Nov	23 rd Nov	24 th Nov	25 th Nov	26 th Nov	27 th Nov
IEX (₹/ kWh)	4.47	4.66	4.83	5.15	4.64	4.57	3.97	4.07	4.20	4.32	4.45	4.31	4.38	3.90
PXIL (₹/ kWh)	4.49	4.81	4.94	4.82	4.75	4.68	3.95	3.80	4.29	4.41	4.33	4.33	4.23	4.48
OTC Contracts (₹/ kWh)	3.89							3.61						
	14th - 20th November							21st - 27th November						

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

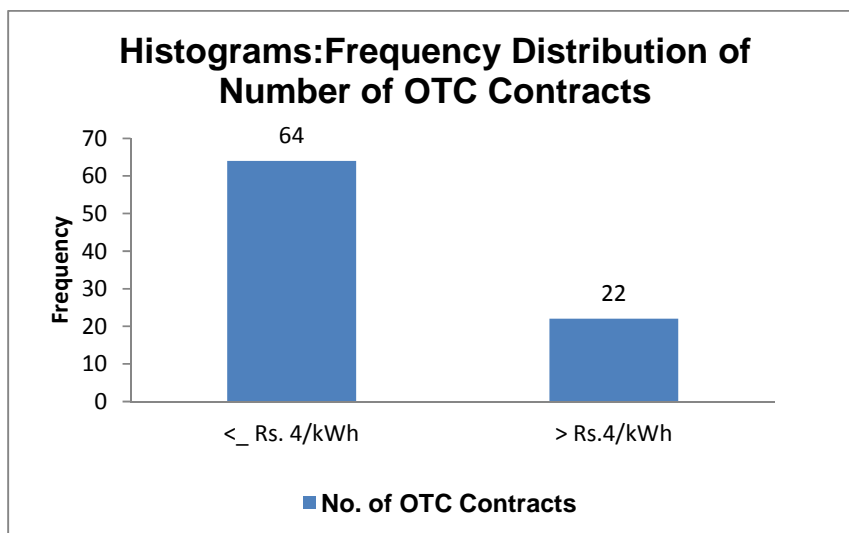
Observations

1. In the month of November, OTC contract prices were lower than the Indian Energy Exchange (IEX) and Power Exchange of India Ltd (PXIL) spot prices except in the 2nd week of the reported period where prices at Power Exchanges were slightly lower than that of OTC. The minimum price in the exchanges during reported period was ₹3.07/kWh (PXIL, 6th November 2011) while that in the OTC market was ₹2.96/kWh (31st October-27th November 2011). Maximum price in Day-Ahead market at the exchange reached

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₹5.78/kWh (PXIL, 1st November 2011) and in OTC Market it was ₹5.39/kWh (9th November 2011) which was a peak power contract. As for the number of contracts, 22 out of total 86* contracts were entered above ₹4/kWh. There were a total 102 contracts including swap & banking during the month.

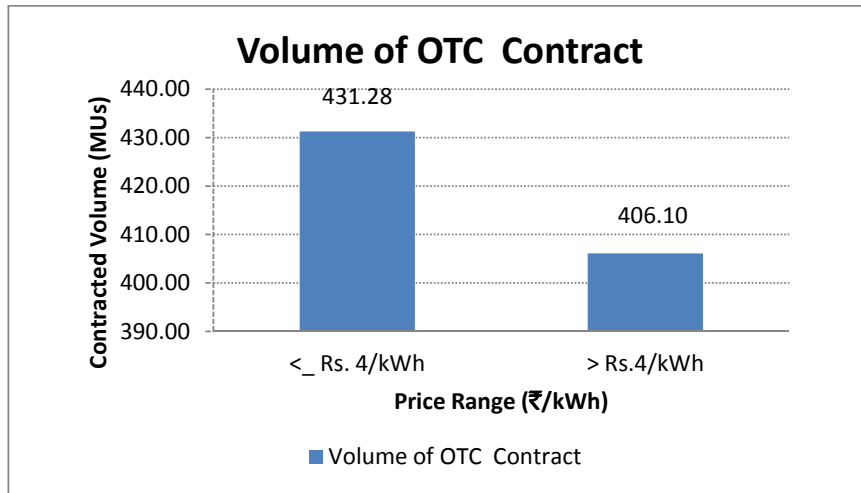
Chart 2: Histogram of Number of OTC Contracts



2. The cumulative volume traded above ₹ 4/kWh was 406.10* MUs which is 48% of total OTC contracts for the reported period 31st October – 27th November 2011).

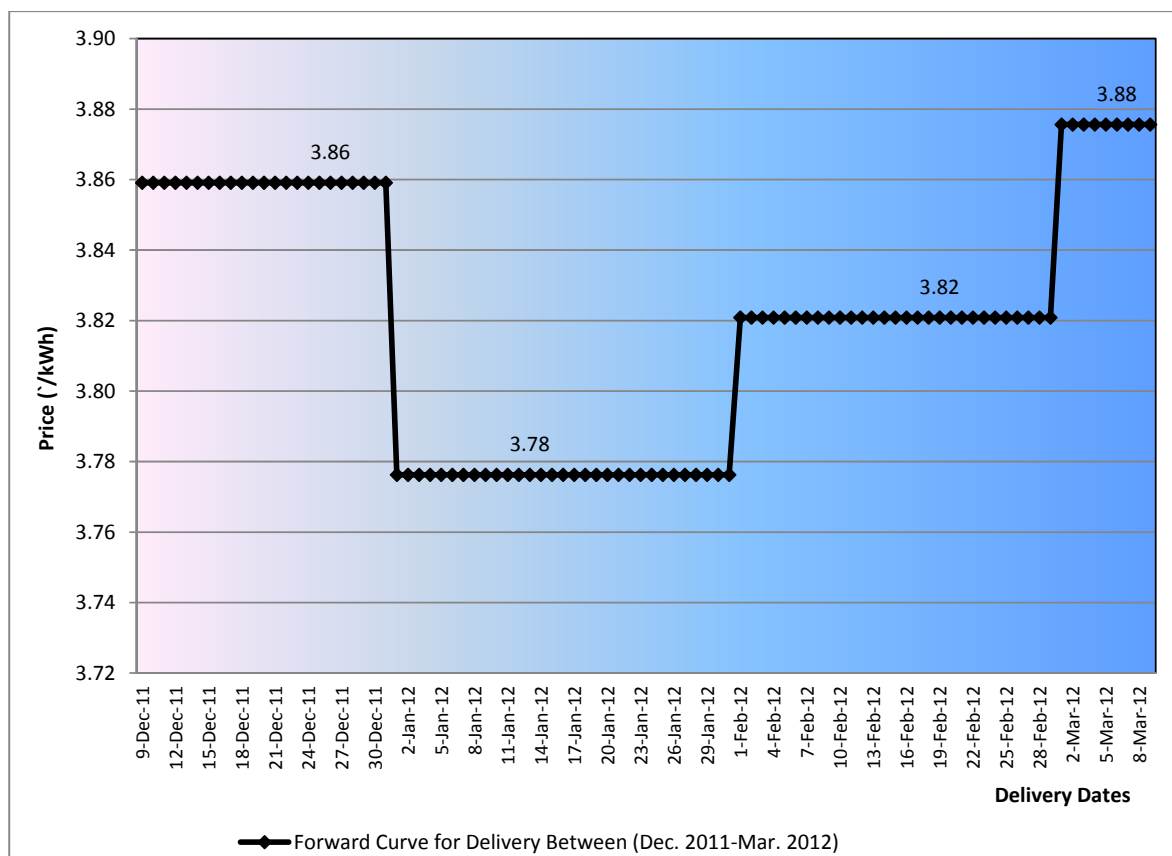
* Excluding swap/banking contracts since they do not have any sale price.

Chart 3: Cumulative Volume Traded below and above ₹ 4/kWh during 31st October – 27th November 2011



II. Three-Month Forward Curve of Power Prices

Chart 4: Forward Curve for 9th December 2011 - 9th March 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 December 2011 - 9th March 2012, i.e. 90 days ahead period of power supply. This forward curve is as on 9th December 2011 but based on 86 contract prices reported by trader's upto 27th November 2011.

Observations

1. The forward curve for the next three month period i.e. 9th December 2011 - 9th March 2012 generally remained flat across the period. The prices for December 2011 and January 2012 deliveries have marginally declined from ₹3.86 to ₹3.78/kWh in contracts executed in November. This is due to the fact that new contracts for December 2011 and January 2012 delivery executed in November have been contracted at lower prices to contacts executed in October (around ₹3.6/kWh).

Weekly Reporting of OTC Contracts: Monthly Analysis

- The OTC Contract prices started rising for the deliveries in February and March 2012 months because the contracts entered in to November 2011 were at a higher price than ₹4/kWh.

Chart 4: Forward Curve in November for OTC Market, December 2011 - March 2012

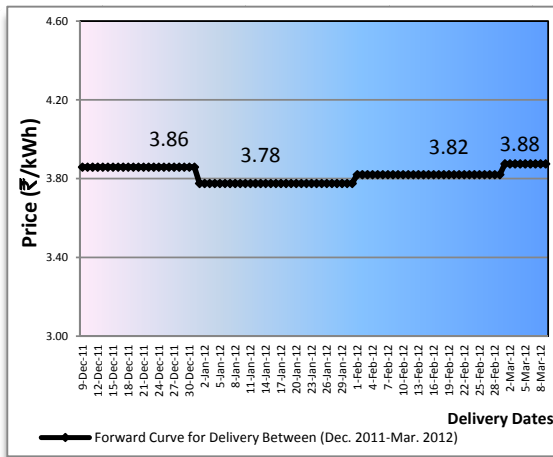
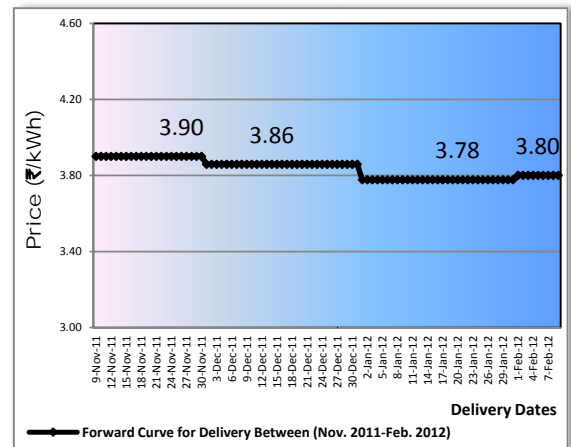


Chart 4.1: Forward Curve in October for OTC Market, November 2011 - February 2012

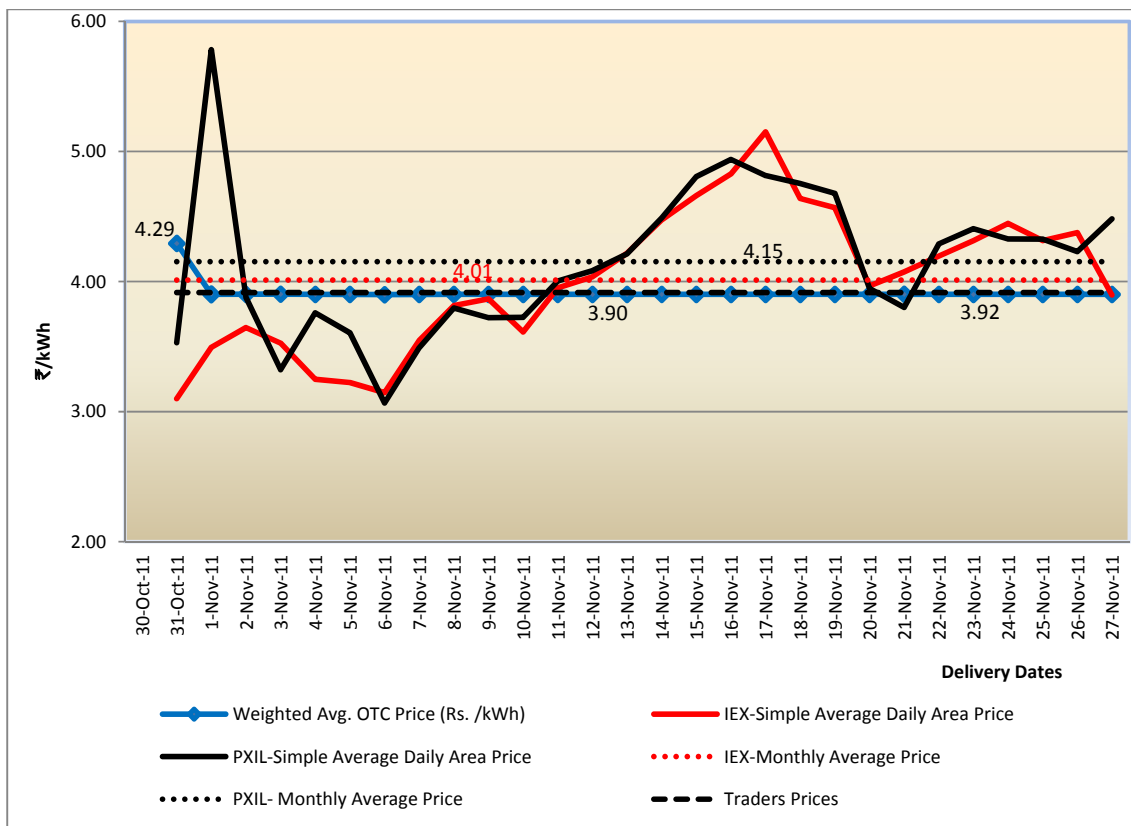


III. Post-facto Comparison of Prices in OTC Contracts and Power Exchanges (on Power Delivery Dates)

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 above the average OTC contract prices except at the end of the reported period.

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



Overall Comparative View between October and November 2011

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

Table 3: Number of Contracts Reported in October and November 2011^ψ

	Oct-11	Nov-11
Above three months and upto 12 months	2	0
One month or above	37	22
One week or above	15	9
Less than a week	43	71
Total	97	102

From the above table it is clear that the total numbers of contracts for power deliveries for the category one month or above; were less in November (22 Contracts) than October, 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 ₹/ kWh (Dates)

	October 2011 (26th September - 30th October)		November 2011 (31st October-27th November)	
	Maximum	Minimum	Maximum	Minimum
IEX	7.89 (14th October)	2.58 (30th October)	5.15 (17th November)	3.10 (31st October)
PXIL	7.54 (14th October)	2.48 (30th October)	5.78 (1st November)	3.07 (6th November)
OTC Contracts	7.86 (29th September)	3.42 (1st-7th October)	2.96 (31st Oct. - 27th November)	5.39 (9th November)

^ψ Including swap/ banking contracts between different DISCOMS

Overall inferences

1. From Chart-1 (Contracted date price analysis), it is observed that for most of OTC contract, prices were lower than the IEX and PXIL spot prices during the month. This deviation in price behavior been observed over the last two months.
2. From Chart-5 (post facto power delivery date analysis), it is observed that the average OTC price was lower than the average exchange prices. It can be concluded that a buyer who entered into OTC contract in October for November delivery ,the average monthly price would less than average power price in day ahead Power Exchange in November. It is also seen that there have been a large number (71) of contracts for less than week period of delivery.
3. In Chart 4, the Forward Curve for 90 days ahead period (for 9th December 2011 to 9th March 2012 period of power delivery) is almost flat in the range of ₹3.86 - ₹3.88/kWh.
4. In Chart 4, the Forward Curve for the deliveries in February and March 2012 months is slightly rising because the contracts entered in to November 2011 were higher than ₹4/kWh.

Annexure-I

Table 4: List of Trading Licensees who have undertaken Contracts in the period 9th December 2011 to 9th March 2012*

Sr.No.	Name of Licensee	31st October-6th November	7th - 13th November	14th - 20th November	21st - 27th November
1	PTC India Ltd.	Y(14)	Y(23)	Y(23)	Y(17)
2	NTPC Vidyut Vyapar Nigam Ltd.	Y(4)	Y(4)	Y(8)	Y(4)
3	National Energy Trading and Services Ltd.	NIL	Y(4)	NIL	NIL
4	Tata Power Trading Company Ltd.	NIL	NIL	Y(1)	NIL
Total No. of Contracts		18	31	32	21
Total for month for all traders					102

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.