

Monthly Report on Short-term Transactions of Electricity in India

February, 2018



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Abbreviations

Abbreviation	Expanded Version
ACBIL	ACB (India) Limited
ACP	Area Clearing Price
ACV	Area Clearing Volume
Adani HVDC	Adani Power Limited (High Voltage Direct Line Current Line)
AD HYDRO	AD Hydro Power Limited
BALCO	Bharat Aluminum Company Limited
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGPL	Coastal Gujarat Power Limited
CHUZACHEN HEP	Chuzachen Hydro Electric Power Project
COASTGEN	Coastal Energen Private Limited
DAGACHU	Dagachhu Hydro Power Corporation
DB POWER	Diligent Power Pvt. Ltd.
DCPP	Donga Mahua Captive Power Plant
DGEN MEGA POWER	DGEN Mega Power Project
DHARIWAL POWER	Dhariwal Power Station
DOYANG HEP	Doyang Hydro Electric Project
DSM	Deviation Settlement Mechanism
DVC	Damodar Valley Corporation
EMCO	EMCO Energy Limited
ESSAR POWER	Essar Power Limited
ESSAR STEEL	Essar Steel Ltd
GMR CHHATTISGARH	GMR Chhattisgarh Energy Limited
GMR KAMALANGA	GMR Kamalanga Energy Ltd.
IEX	Indian Energy Exchange Limited
ILF&S	Infrastructure Leasing & Financial Services Limited
J&K	Jammu & Kashmir
JAYPEE NIGRIE	Jaypee Nigrie Super Thermal Power Project
JINDAL POWER	Jindal Power Limited
JINDAL STAGE-II	Jindal Power Ltd Stage II
JITPL	Jindal India Thermal Power Ltd.
JORETHANG	Jorethang Loop Hydroelectric Power Project
KARCHAM WANGTOO	Jaypee Karcham Hydro Corporation Limited
KORBA WEST POWER	Korba West Power Company Limited
KSK MAHANADI	KSK Mahanadi Power Ltd
LANCO BUDHIL	LancoBudhil Hydro Power Private Limited
LANKOAMK	LancoAmarkantak Power Private Limited
LANKOKONDAPALLY	LancoKondapally Power Private Limited
LOKTAK	Loktak Power Project
MALANA	Malana Hydroelectric Plant
Maruti Coal	Maruti Clean Coal and Power Limited
MB POWER	MB Power Ltd
MEENAKSHI	Meenakshi Energy Private Limited
MP	Madhya Pradesh
MUs	Million Units

NEEPCO	North Eastern Electric Power Corporation Limited
NHPC STATIONS	National Hydro Electric Power Corporation Ltd. Stations
NLC	Neyveli Lignite Corporation Limited
NTPC STATIONS	National Thermal Power Corporation Ltd. Stations
NJPC	Nathpa Jhakri Hydroelectric Power Station
NLDC	National Load Despatch Centre
NSPCL	NTPC - SAIL Power Company Private Limited
NVVN	NTPC Vidyut Vyapar Nigam Limited
NTECL Vallur	NTPC Tamilnadu Energy Company Limited Vallur
ONGC Platana	ONGC Tripura Power Company
OTC	Over The Counter
PX	Power Exchange
PXIL	Power Exchange India Limited
RANGIT HEP	Rangit Hydro electric power project
REC	Renewable Energy Certificate
RGPPL	Ratnagiri Gas and Power Private Limited
RLDC	Regional Load Despatch Centre
RTC	Round The Clock
Sasan UMPP	Sasan Ultra Mega Power Project
SEMBCORP	Sembcorp Gayatri Power Ltd
SHREE CEMENT	Shree Cement Limited
SIMHAPURI	Simhapuri Energy Private Limited
SKS Power	SKS Power Generation Chhatisgarh Limited
SPECTRUM	Spectrum Power Generation Ltd
TEESTA STG3	Teesta Stage 3 Hydro Power Project

Introduction

A well-functioning electricity market requires an effective market monitoring process. As part of the market monitoring process, the monthly report on short-term transactions of electricity, is being prepared and posted on the website of CERC since August 2008. Here, “short-term transactions of electricity” refers to the contracts of less than one year period, for electricity transacted (inter-State & intra-State) through inter-State Trading Licensees and directly by the Distribution Licensees, Power Exchanges (Indian Energy Exchange Ltd (IEX) and Power Exchange India Ltd (PXIL), and Deviation Settlement Mechanism (DSM)). The objectives of the report are: (i) to observe the trends in volume and price of the short-term transactions of electricity; (ii) to analyse competition among the market players; (iii) to analyse effect of congestion on volume of electricity transacted through power exchanges; (iv) to analyse bilateral contracts executed by traders; (v) to provide information on volume and price of Renewable Energy Certificates (RECs) transacted through power exchanges; and (vi) to disclose/disseminate all relevant market information. The details of the report for the month of **February, 2018** are as under:

I: Volume of Short-term Transactions of Electricity

During February 2018, total electricity generation excluding generation from renewable and captive power plants in India was 91620.98 MUs (Table-1).

Of the total electricity generation, 9414.76 MUs (10.28%) was transacted through short-term, comprising of 4523.60 MUs (4.94%) through bilateral (through traders and term-ahead contracts on power exchanges and directly between distribution companies), followed by 3353.57 MUs (3.66%) through day ahead collective transactions on power exchanges (IEX and PXIL) and 1537.58 MUs (1.68%) through DSM (Table-1 & Figure-2).

Of the total short-term transactions, bilateral constitutes 48.05% (35.45% through traders and term-ahead contracts on power exchanges and 12.60% directly between distribution companies) followed by 35.62% through day ahead collective transactions on power exchanges and 16.33% through DSM (Table-1 & Figure-1). Daily volume of short-term transactions is shown in Table-17 & Figure-3.

The percentage share of electricity traded by each trading licensee in the total volume of electricity traded by all the trading licensees is provided in Table-2 & Figure-4. The volume of electricity transacted by the trading licensees includes bilateral transactions and the transactions undertaken through power exchanges. There were 36 trading licensees as on February, 2018. In February, 2018, 23 trading licensees were engaged in short term trading. Top 5 trading licensees had a share of 77.99% in the total volume traded by all the licensees. These are PTC India Ltd., NTPC Vidyut Vyapar Nigam Ltd., Manikaran Power Ltd., Mittal Processor (P) Ltd. and Arunachal Pradesh Power Corp. Pvt. Ltd.

Herfindahl-Hirschman Index (HHI) has been used for measuring the competition among the trading licensees. Increase in the HHI generally indicates decrease in competition and increase of market concentration, and vice versa. The HHI below 0.15 indicates non-concentration, HHI between 0.15 and 0.25 indicates moderate concentration and HHI above 0.25 indicates high concentration. The HHI has been computed based on the volume of electricity traded (inter-State & intra-State) by inter-State trading licensees, and it was 0.1868 for the month of February, 2018, which indicates moderate concentration of market power (Table-2).

The volume of electricity transacted through IEX and PXIL in the day ahead market was 3325.97 MUs and 27.60 MUs respectively. The volume of total buy bids and sell bids was 4325.75 MUs and 6269.53 MUs respectively in IEX while the same was 33.18 MUs and 94.08 MUs respectively in PXIL. The variation in the volume of buy bids and sell bids placed through power exchanges shows variation in the demand and supply position.

The volume of electricity transacted through IEX and PXIL in the term-ahead market was 17.95 MUs and 120.03 MUs respectively (Table-6 & Table-7).

II: Price of Short-term Transactions of Electricity

(i) *Price of electricity transacted through Traders:* The minimum, maximum and weighted average sale prices have been computed for the electricity transacted through traders and the sale prices were ₹2.19/kWh, ₹6.40/kWh and ₹4.13/kWh respectively (Table-3). The weighted average sale prices were also computed for the transactions during

Round the Clock (RTC), Peak and Off-peak periods separately, and the sale prices were ₹4.24/kWh, ₹0.00/kWh, and ₹4.02/kWh respectively (Table-4).

(ii) **Price of electricity transacted through Power Exchanges:** The minimum, maximum and weighted average prices have been computed for the electricity transacted through IEX and PXIL separately. The minimum, maximum and weighted average prices were ₹1.75/kWh, ₹11.29/kWh and ₹3.42/kWh respectively in IEX and ₹3.40/kWh, ₹3.75/kWh and ₹2.12/kWh respectively in PXIL. (Table-5).

The price of electricity transacted through IEX and PXIL in the term-ahead market was ₹4.15/kWh and ₹3.40/kWh respectively (Table-6 and Table-7).

(iii) **Price of electricity transacted through DSM:** The average deviation settlement price was ₹2.18/kWh. The minimum and maximum deviation settlement prices were ₹0.00/kWh and ₹6.36/kWh respectively (Table-8).

The prices of electricity transacted through trading licensees, power exchanges and DSM and their comparison is shown in Table-18, Figure-5 & 6.

III: Volume of Short-term Transactions of Electricity (Regional Entity¹-Wise)

Of the total bilateral transactions, top 5 regional entities sold 53.88% of the volume, and these were Punjab, Sembcorp Gayatri Power Ltd., Haryana, Delhi and GMR Chhattisgarh Energy Limited. Top 5 regional entities purchased 56.48% of the volume, and these were Tamil Nadu, Telangana, Jammu & Kashmir, Himachal Pradesh and Gujarat (Table-9 & 10).

Of the total power exchange transactions, top 5 regional entities sold 37.53% of the volume, and these were Madhya Pradesh, Damodar Valley Corporation, Telangana, Diligent Power Pvt. Ltd. and Essar Power Limited. Top 5 regional entities purchased 53.20% of the volume, and these were Gujarat, Maharashtra, Essar Steel Limited, Karnataka and Uttarakhand (Table-11 & 12).

¹ In case of a state, the entities which are “selling” also include generators connected to state grid and the entities which are “buying” also include open access consumers.

Of the total DSM transactions, top 5 regional entities underdrew 26.26% of the volume, and these were NTPC Stations (Western region), Karnataka, Telangana, NTPC Stations (Northern region) and Neyveli Lignite Corporation Limited (Table-13). Top 5 regional entities overdrew 33.30% of the volume, and these were Tamil Nadu, Rajasthan, Odisha, Haryana and Uttar Pradesh (Table-14).

Regional entity-wise total volume of net short-term transactions of electricity i.e. volume of net transactions through bilateral, power exchanges and DSM is shown in Table-15 & 19. Top 5 electricity selling regional entities were Punjab, Sembcorp Gayatri Power Ltd., Delhi, Damodar Valley Corporation and Haryana. Top 5 electricity purchasing regional entities were Gujarat, Tamil Nadu, Jammu & Kashmir, Karnataka and Maharashtra.

IV: Congestion² on Inter-State Transmission Corridor for Day-Ahead Market on Power Exchanges

Power Exchanges use a price discovery mechanism in which the aggregate demand and supply are matched to arrive at an unconstrained market price and volume. This step assumes that there is no congestion in the inter-State transmission system between different regions. However, in reality, the system operator (NLDC) in coordination with RLDCs limits the flow (due to congestion) in the inter-State transmission system. In such a situation, power exchanges adopt a mechanism called “Market Splitting”³.

In the month of February 2018, congestion occurred only in IEX. The details of congestion are shown in Table-16. The volume of electricity that could not be cleared due to congestion and could not be transacted through power exchanges is the difference between

² “Congestion” means a situation where the demand for transmission capacity exceeds the available transfer capability

³ “Market Splitting” is a mechanism adopted by Power Exchange where the market is split in the event of transmission congestion, into predetermined (by NLDC) bid areas or zones, which are cleared individually at their respective area prices such that the energy balance in every bid area is reached based upon the demand and supply in individual bid areas and using the available transmission corridor capacity between various bid areas simultaneously”

As a result of this market splitting the price of electricity in the importing region, where demand for electricity is more than supply, becomes relatively higher than the price of electricity in the exporting region.

unconstrained cleared volume (volume of electricity that would have been scheduled, had there been no congestion) and actual cleared volume.

During the month, the volume of electricity that could not be cleared in IEX due to congestion was 0.43% of the unconstrained cleared volume. In terms of time, congestion occurred was 4.95% in IEX. There was no congestion in PXIL (Table-16).

V: Bilateral Contracts executed by Traders

The above sections covered an analysis on short-term transactions of electricity in February, 2018. This section covers an analysis of bilateral contracts executed in March, 2018.

(i) Duration of bilateral contracts: During March, 2018, a total of 120 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 3268.45 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 58.3% of the bilateral contracts were executed for duration of up to one week, 40.8% of the contracts were executed for duration of more than a week and up to one month, no contracts were executed for duration of more than a month and up to three months, while 0.9% of the contracts were executed for duration of more than three months and upto 12 months.

During the month, 26 banking/swapping bilateral contracts were also executed for the volume of 1913.48 MUs.

(ii) Forward Curve based on price of bilateral contracts: A forward curve reflects present day's expectation of prices for a future period. The forward curve of electricity prices are based on sale prices of bilateral contracts executed by traders. The price of each contract for each day is taken into consideration while constructing the forward curve. On the basis of these prices, the weighted average price for each day is calculated using various sale prices of contracts for delivery on that particular day.

Figure-8 represents the forward curve of electricity sale prices for the period from 27th February, 2018 to 27th June, 2018 based on the bilateral contracts⁴ executed till March,

⁴Excluding Banking/Swapping contracts

2018. Forward curves have been drawn for the contracts executed in February, 2018 and March, 2018 for the purpose of comparison. It is observed that forward contract prices are significantly higher (for the period from 27th February to 1st March 2018 and 5th March to 5th April 2018) for the contracts executed in March, 2018 compared to the contracts executed in February, 2018, after which, the prices of contracts in February and March 2018 have been moving together.

VI: Volume and Price of Renewable Energy Certificates (RECs)

The concept of Renewable Energy Certificates (RECs) seeks to address mismatch between availability of renewable energy and the requirement of the obligated entities to meet their renewable purchase obligation by purchasing green attributes of renewable energy remotely located in the form of RECs. The REC mechanism is a market based instrument, to promote renewable sources of energy and development of electricity market.

One REC is equivalent to 1 MWh electricity injected into the grid from renewable energy sources. The REC is exchanged only in the power exchanges approved by CERC within the band of a floor price and forbearance (ceiling) price as notified by CERC from time to time. The first REC trading was held on power exchanges in February, 2011.

Trading in Renewable Energy Certificates (RECs) which was stayed by the Supreme Court in May 2017 has been allowed since July, 2017. However, the order restricted the trading of non-solar RECs on the condition to comply with the earlier prices.

The details of REC transactions for the month of February, 2018 are shown in Table-20. Market clearing volume of non-solar RECs transacted on IEX and PXIL were 3.90 lacs and 19.68 lacs respectively and the market clearing price of these RECs was ₹1500/MWh on both the power exchanges.

The gap between the volume of buy and sell bids of RECs placed through power exchanges shows about the variation in demand for non-solar RECs. For non-solar RECs, the ratio of buy bids to sell bids was 0.20 and 0.70 in IEX and PXIL respectively.

VII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 10.28%.
- Of the total short-term transactions, bilateral constitutes 48.05% (35.45% through traders and term-ahead contracts on power exchanges and 12.60% directly between distribution companies) followed by 35.62% through day ahead collective transactions on power exchanges and 16.33% through DSM (Table-1 & Figure-1).
- Top 5 trading licensees had a share of 77.99% in the total volume traded by all the trading licensees.
- The Herfindahl Hirschman Index computed for the volume of electricity traded by trading licensees was 0.19, indicating moderate concentration of market power.
- The weighted average price of electricity transacted through trading licensees was ₹4.13/kWh. The weighted average prices of electricity transacted through IEX and PXIL was ₹3.42/kWh and ₹2.12/kWh respectively.
- The average price of electricity transacted through DSM was ₹2.18/kWh.
- Top 5 electricity selling regional entities were Punjab, Sembcorp Gayatri Power Ltd., Delhi, Damodar Valley Corporation and Haryana. Top 5 electricity purchasing regional entities were Gujarat, Tamil Nadu, Jammu & Kashmir, Karnataka and Maharashtra.
- During the month, the volume of electricity that could not be cleared in IEX due to congestion was 0.43% of the unconstrained cleared volume. In terms of time, congestion occurred was 4.95% in IEX. There was no congestion in PXIL.
- In March, 2018, 58.3% of the bilateral contracts were executed for duration of up to one week, 40.8% of the contracts were executed for duration of more than a week and up to one month, no contracts were executed for duration of more than a month and up to three months, while 0.9% of the contracts were executed for duration of more than three months and upto 12 months.

- The forward curve of electricity sale prices for the period from 27th February, 2018 to 27th June, 2018 based on the bilateral contracts executed till March, 2018 shows that forward contract prices are significantly higher (for the period from 27th February to 1st March 2018 and 5th March to 5th April 2018) for the contracts executed in March, 2018 compared to the contracts executed in February, 2018, after which, the prices of contracts in February and March 2018 have been moving together.
- Market clearing volume of non-solar RECs transacted on IEX and PXIL were 3.90 lacs and 19.68 lacs respectively and the market clearing price of these RECs was ₹1500/MWh on both the power exchanges.

Table-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA), 7 FEBRUARY 2018				
Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	4523.60	48.05	4.94
	(i) Through Traders and PXs	3337.25	35.45	3.64
	(ii) Direct	1186.35	12.60	1.29
2	Through Power Exchanges	3353.57	35.62	3.66
	(i) IEX	3325.97	35.33	3.63
	(ii) PXIL	27.60	0.29	0.03
3	Through DSM	1537.58	16.33	1.68
	Total	9414.76	-	10.28
	Total Generation	91620.98	-	-

Source: NLDC

Figure-1: Volume of Short-term Transactions of Electricity, February, 2018

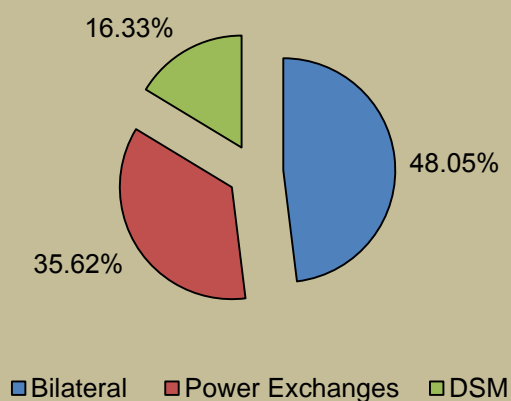
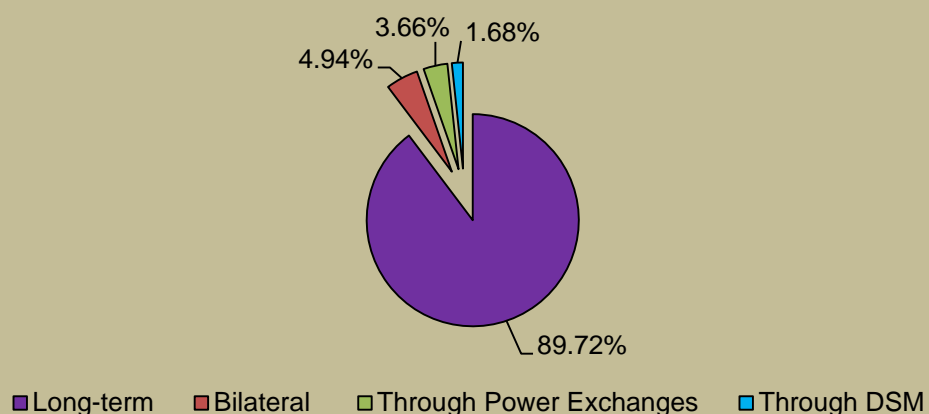


Figure-2: Volume of Various Kinds of Electricity Transactions in Total Electricity Generation, February 2018



**Figure-3: Volume of Short-term Transactions of Electricity,
February 2018 (Day-wise)**

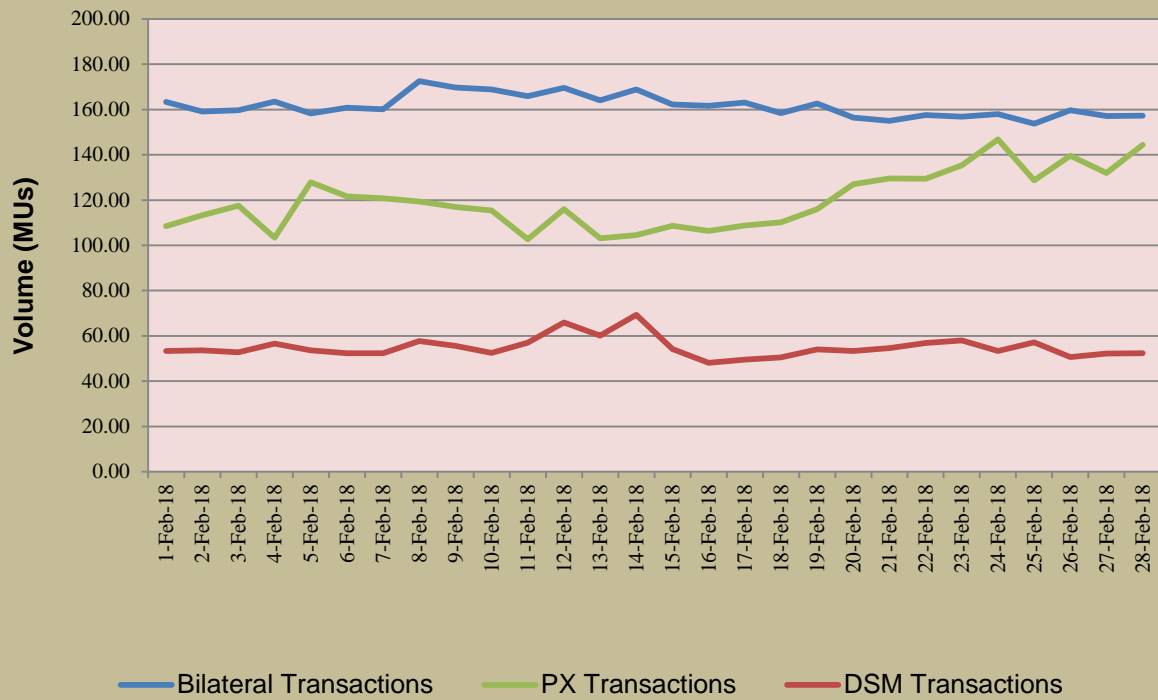


Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, FEBRUARY 2018			
Sr.No	Name of the Trading Licensee	% Share in total Volume transacted by Trading Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd.	36.58	0.1338
2	NTPC Vidyut Vyapar Nigam Ltd.	12.87	0.0166
3	Manikaran Power Ltd.	11.12	0.0124
4	Mittal Processors (P) Ltd.	10.90	0.0119
5	Arunachal Pradesh Power Corporation (P) ltd	6.52	0.0043
6	GMR Energy Trading Ltd.	5.61	0.0032
7	Tata Power Trading Company (P) Ltd.	5.47	0.0030
8	Essar Electric Power Development Corp. Ltd.	2.87	0.0008
9	Jaiprakash Associates Ltd.	2.12	0.0004
10	Knowledge Infrastructure Systems (P) Ltd	1.28	0.0002
11	JSW Power Trading Company Ltd	1.13	0.0001
12	National Energy Trading & Services Ltd.	0.96	0.0001
13	RPG Power Trading Company Ltd.	0.69	0.0000
14	Adani Enterprises Ltd.	0.41	0.0000
15	Customized Energy Solutions India (P) Ltd.	0.38	0.0000
16	Instinct Infra & Power Ltd.	0.29	0.0000
17	Statkraft Markets Pvt. Ltd.	0.27	0.0000
18	My Home Power Private Ltd.	0.21	0.0000
19	Shree Cement Ltd.	0.19	0.0000
20	IPCL Power Trading Pvt. Ltd.	0.10	0.0000
21	Parshavanath Power Projects Private Limited	0.02	0.0000
22	Gita Power & Infrastructure Private Limited	0.01	0.0000
23	Phillip Commodities India (P) Ltd.	0.01	0.0000
TOTAL		100.00%	0.1868
Top 5 trading licensees		77.99%	
<i>Note 1: Volume of electricity transacted by the trading licensees includes bilateral transactions (inter-state & intra-state) and the transactions undertaken through power exchanges.</i>			
<i>Note 2: Volume of electricity transacted by Global Energy Ltd is not included.</i>			
<i>Source: Information submitted by trading licensees</i>			

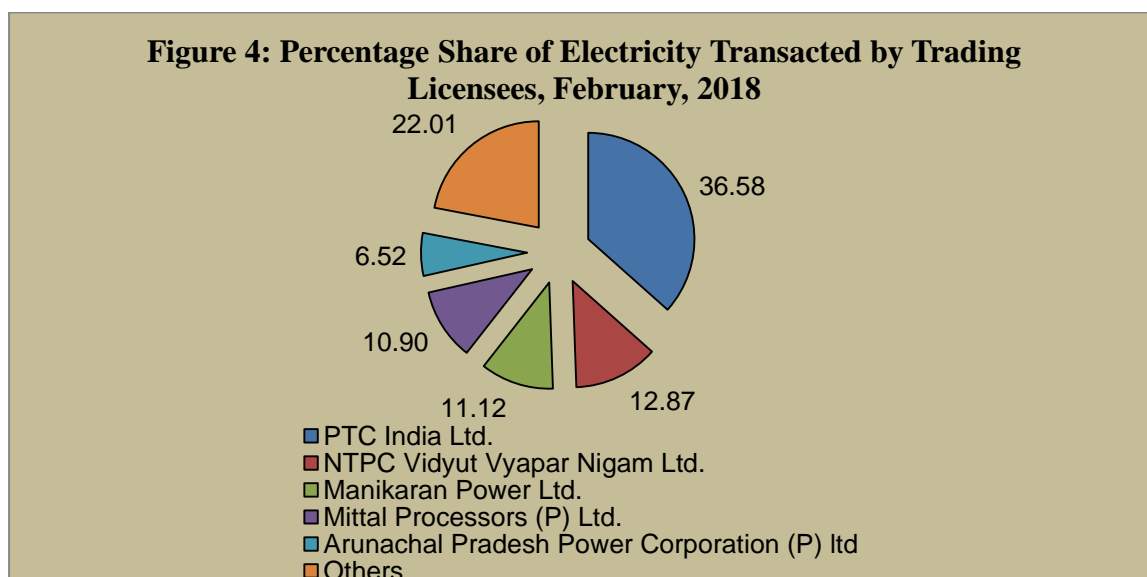


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, FEBRUARY 2018		
Sr.No	Item	Sale Price of Traders (₹/kWh)
1	Minimum	2.19
2	Maximum	6.40
3	Weighted Average	4.13

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), FEBRUARY 2018		
Sr.No	Period of Trade	Sale Price of Traders (₹/kWh)
1	RTC	4.24
2	PEAK	0.00
3	OFF PEAK	4.02

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, FEBRUARY 2018			
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)
1	Minimum	1.75	3.40
2	Maximum	11.29	3.75
3	Weighted Average	3.42	2.12

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, FEBRUARY 2018			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	12.54	4.31
2	Day Ahead Contingency Contracts	5.41	3.78
	Total	17.95	4.15

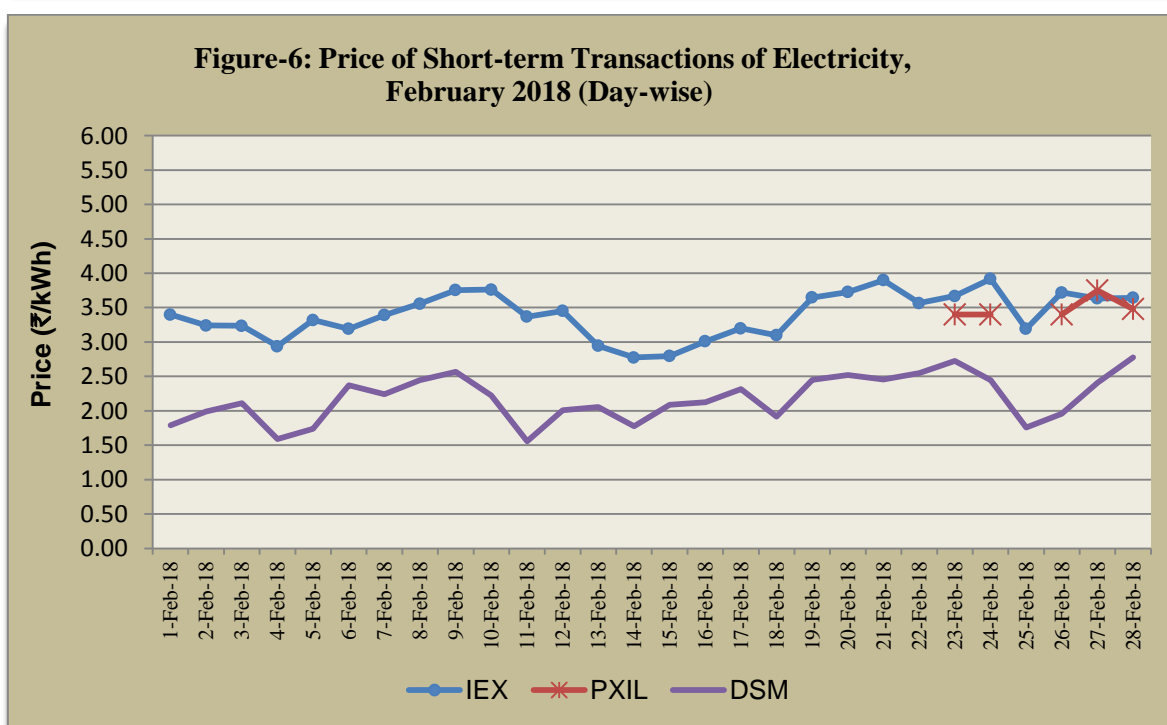
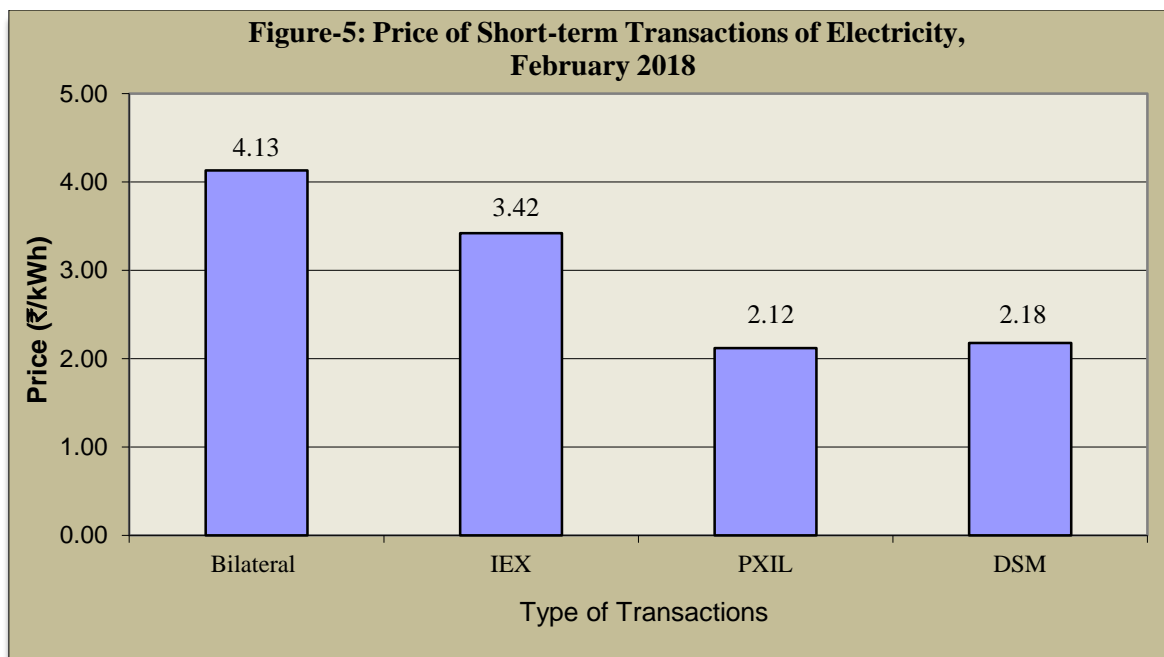
Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, FEBRUARY 2018			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	7.23	3.90
2	Weekly Contracts	112.80	3.37
	Total	120.03	3.40

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH DSM, FEBRUARY 2018		
Sr.No	Item	Price in All India Grid (₹/kWh)
1	Minimum	0.00
2	Maximum	6.36
3	Average	2.18

Source: NLDC



Note: There were transactions only on 23rd, 24th, 26th, 27th and 28th February, 2018 in PXIL.

Table-9: VOLUME OF ELECTRICITY SOLD THROUGH BILATERAL, FEBRUARY 2018		
Name of the Entity	Volume of Sale (MUs)	% of Volume
PUNJAB	603.68	13.21
SEMBCORP	592.33	12.96
HARYANA	514.78	11.26
DELHI	489.16	10.70
GMR CHATTISGARH	263.00	5.75
WEST BENGAL	236.50	5.17
ILF&S	235.96	5.16
DVC	173.44	3.79
RAJASTHAN	136.15	2.98
JINDAL POWER	129.63	2.84
UTTAR PRADESH	125.84	2.75
MB POWER	98.28	2.15
SKS POWER	96.31	2.11
ADHUNIK POWER LTD	85.18	1.86
SHREE CEMENT	71.91	1.57
JITPL	60.92	1.33
SASAN UMPP	54.07	1.18
JINDAL STAGE-II	53.61	1.17
DB POWER	53.46	1.17
JAYPEE NIGRIE	53.11	1.16
ODISHA	52.37	1.15
ONGC PALATANA	43.68	0.96
GUJARAT	43.54	0.95
MP	43.35	0.95
TELANGANA	36.11	0.79
ANDHRA PRADESH	36.10	0.79
HIMACHAL PRADESH	24.59	0.54
THERMAL POWERTECH	18.38	0.40
SPECTRUM	17.93	0.39
DAGACHU	14.37	0.31
ACBIL	12.04	0.26
CHANDIGARH	11.76	0.26
ASSAM	11.33	0.25
MEGHALAYA	11.17	0.24
TRN ENERGY	10.78	0.24
MAHARASHTRA	9.31	0.20
TAMIL NADU	8.70	0.19
LANKO_AMK	8.26	0.18
JHABUA POWER_MP	7.03	0.15
MIZORAM	5.33	0.12
SIKKIM	5.17	0.11
KARNATAKA	5.16	0.11
J & K	4.38	0.10
GMR KAMALANGA	0.83	0.02
NTPC STATIONS-SR	0.83	0.02
KERALA	0.78	0.02
BIHAR	0.60	0.01
Total	4571.20	100.00
Volume Sold by top 5 Regional Entities	2462.95	53.88

Table-10: VOLUME OF ELECTRICITY PURCHASED THROUGH BILATERAL, FEBRUARY 2018		
Name of the Entity	Volume of Purchase (MUs)	% of Volume
TAMIL NADU	770.47	17.03
TELANGANA	586.87	12.97
J & K	426.79	9.43
HIMACHAL PRADESH	403.35	8.92
GUJARAT	367.52	8.12
KARNATAKA	362.94	8.02
ANDHRA PRADESH	311.06	6.88
UTTARAKHAND	206.77	4.57
MP	126.63	2.80
BANGLADESH	111.93	2.47
CHHATTISGARH	108.55	2.40
ASSAM	98.94	2.19
JHARKHAND	85.18	1.88
MAHARASHTRA	81.42	1.80
BIHAR	79.36	1.75
NEPAL(NVVN)	69.96	1.55
RAJASTHAN	57.04	1.26
MEGHALAYA	53.41	1.18
ODISHA	37.24	0.82
MANIPUR	34.58	0.76
UTTAR PRADESH	30.31	0.67
KERALA	25.80	0.57
DADRA & NAGAR HAVELI	20.11	0.44
PUNJAB	19.00	0.42
DELHI	18.58	0.41
GOA	16.92	0.37
WEST BENGAL	11.41	0.25
ESSAR STEEL	0.87	0.02
HARYANA	0.56	0.01
TOTAL	4523.60	100.00
Volume Purchased by top 5 Regional Entities	2555.01	56.48

Table-11: VOLUME OF ELECTRICITY SOLD THROUGH POWER EXCHANGES, FEBRUARY 2018		
Name of the Entity	Volume of Sale (MUs)	% of Volume
MP	342.27	10.21
DVC	276.68	8.25
TELANGANA	249.82	7.45
DB POWER	219.85	6.56
ESSAR POWER	169.95	5.07
DELHI	133.04	3.97
CHHATTISGARH	125.41	3.74
PUNJAB	121.73	3.63
NLC	120.32	3.59
TEESTA STG3	118.76	3.54
ANDHRA PRADESH	111.35	3.32
SEBPCORP	96.68	2.88
MB POWER	65.55	1.95
ODISHA	60.19	1.79
HIMACHAL PRADESH	56.23	1.68
TRIPURA	53.86	1.61
ASSAM	53.59	1.60
KARNATAKA	51.59	1.54
JINDAL STAGE-II	49.66	1.48
MAHARASHTRA	48.31	1.44
SKS POWER	47.53	1.42
NTPC STATIONS-WR	47.31	1.41
THERMAL POWERTECH	45.86	1.37
JITPL	43.66	1.30
ACBIL	41.10	1.23
RAJASTHAN	41.01	1.22
KERALA	36.58	1.09
J & K	36.05	1.08
HARYANA	34.90	1.04
JAYPEE NIGRIE	30.99	0.92
WEST BENGAL	29.74	0.89
GMR CHATTISGARH	28.72	0.86
SPECTRUM	28.47	0.85
GUJARAT	24.56	0.73
GOA	23.83	0.71
JINDAL POWER	23.72	0.71
BIHAR	23.09	0.69
TAMIL NADU	20.35	0.61
MANIPUR	16.43	0.49
UTTAR PRADESH	16.02	0.48
KARCHAM WANGTOO	15.44	0.46
MIZORAM	13.09	0.39
SHREE CEMENT	12.82	0.38
MEGHALAYA	12.79	0.38
TASHIDENG HEP	12.57	0.37
ILF&S	11.82	0.35
GMR KAMALANGA	10.90	0.32
JORETHANG	10.87	0.32
NTPC STATIONS-SR	9.88	0.29
JHABUA POWER_MP	9.67	0.29

SIKKIM	8.81	0.26
AD HYDRO	8.42	0.25
DADRA & NAGAR HAVELI	7.31	0.22
MARUTI COAL	7.20	0.21
SAINJ HEP	6.98	0.21
DIKCHU HEP	5.19	0.15
NJPC	3.88	0.12
NTPC STATIONS-NER	3.83	0.11
CHUZACHEN HEP	3.37	0.10
CHANDIGARH	3.17	0.09
COASTGEN	3.04	0.09
TRN ENERGY	2.92	0.09
DHARIWAL POWER	1.14	0.03
NTPC STATIONS-ER	1.00	0.03
UTTARAKHAND	0.80	0.02
NTPC STATIONS-NR	0.61	0.02
MALANA	0.52	0.02
LANCO BUDHIL	0.45	0.01
EMCO	0.36	0.01
Total	3353.57	100.00
Volume sold by top 5 Regional Entities	1258.58	37.53

Table-12: VOLUME OF ELECTRICITY PURCHASED THROUGH POWER EXCHANGES, FEBRUARY 2018

Name of the Entity	Volume of Purchase (MUs)	% of Volume
GUJARAT	658.70	19.64
MAHARASHTRA	363.08	10.83
ESSAR STEEL	296.62	8.84
KARNATAKA	238.04	7.10
UTTARAKHAND	227.51	6.78
ODISHA	217.80	6.49
J & K	184.80	5.51
RAJASTHAN	178.27	5.32
BIHAR	174.59	5.21
UTTAR PRADESH	118.36	3.53
TELANGANA	116.05	3.46
ANDHRA PRADESH	111.01	3.31
WEST BENGAL	93.40	2.79
TAMIL NADU	90.16	2.69
ASSAM	57.70	1.72
HARYANA	53.95	1.61
DELHI	45.20	1.35
HIMACHAL PRADESH	30.29	0.90
DAMAN AND DIU	27.01	0.81
KERALA	20.49	0.61
MP	12.12	0.36
MEGHALAYA	10.80	0.32
GOA	9.63	0.29
PONDICHERRY	4.28	0.13
ARUNACHAL PRADESH	4.06	0.12
NAGALAND	3.89	0.12
DADRA & NAGAR HAVELI	2.67	0.08
CHHATTISGARH	2.53	0.08
MANIPUR	0.21	0.01
MEENAKSHI	0.19	0.01
CHANDIGARH	0.15	0.00
TOTAL	3353.57	100.00
Volume purchased by top 5 Regional Entities	1783.95	53.20

**Table-13: VOLUME OF ELECTRICITY UNDER DRAWAL (EXPORTED) THROUGH
DSM, FEBRUARY 2018**

Name of the Entity	Volume of Underdrawal (MUs)	% of Volume
NTPC STATIONS-WR	95.33	7.27
KARNATAKA	64.65	4.93
TELANGANA	64.60	4.93
NTPC STATIONS-NR	61.29	4.67
NLC	58.46	4.46
MP	56.59	4.32
ANDHRA PRADESH	50.86	3.88
MAHARASHTRA	48.13	3.67
TAMIL NADU	46.50	3.55
GUJARAT	45.14	3.44
PUNJAB	44.36	3.38
DVC	42.63	3.25
NTPC STATIONS-SR	41.14	3.14
UTTAR PRADESH	40.44	3.08
BIHAR	37.41	2.85
SASAN UMPP	36.76	2.80
J & K	34.95	2.67
UTTARAKHAND	34.69	2.65
CHHATTISGARH	33.55	2.56
RAJASTHAN	29.20	2.23
NTPC STATIONS-ER	21.52	1.64
DELHI	20.89	1.59
ESSAR STEEL	19.03	1.45
SEMBCORP	17.43	1.33
NEPAL(NVVN)	16.01	1.22
HIMACHAL PRADESH	13.83	1.05
LANKO_AMK	11.98	0.91
HARYANA	11.91	0.91
PONDICHERRY	9.29	0.71
NSPCL	9.24	0.70
ASSAM	7.99	0.61
GMR CHATTISGARH	7.80	0.59
TRIPURA	7.43	0.57
GOA	7.22	0.55
EMCO	6.47	0.49
MB POWER	5.87	0.45
JHARKHAND	5.85	0.45
JAYPEE NIGRIE	5.77	0.44
DB POWER	5.76	0.44
GMR KAMALANGA	5.67	0.43
NEEPCO STATIONS	5.21	0.40
TEESTA HEP	5.19	0.40
KARCHAM WANGTOO	5.08	0.39
MEGHALAYA	4.82	0.37
NJPC	4.59	0.35
JINDAL STAGE-II	4.58	0.35
CGPL	4.50	0.34
ACBIL	4.49	0.34
MANIPUR	4.48	0.34
MAITHON POWER LTD	4.28	0.33

WEST BENGAL	3.98	0.30
NAGALAND	3.65	0.28
JITPL	3.54	0.27
SKS POWER	3.52	0.27
BALCO	3.51	0.27
TRN ENERGY	3.47	0.26
THERMAL POWERTECH	3.37	0.26
BANGLADESH	2.94	0.22
NHPC STATIONS	2.94	0.22
DCPP	2.91	0.22
CHANDIGARH	2.90	0.22
JHABUA POWER_MP	2.89	0.22
MIZORAM	2.89	0.22
SIKKIM	2.68	0.20
ESSAR POWER	2.55	0.19
ILF&S	2.43	0.19
URI-2	2.40	0.18
ODISHA	2.33	0.18
JINDAL POWER	2.09	0.16
KSK MAHANADI	2.05	0.16
KERALA	1.84	0.14
RANGANADI HEP	1.81	0.14
TEESTA STG3	1.60	0.12
ADHUNIK POWER LTD	1.45	0.11
RGPPL (DABHOL)	1.43	0.11
DAMAN AND DIU	1.42	0.11
ARUNACHAL PRADESH	1.17	0.09
SHREE CEMENT	1.14	0.09
JORETHANG	1.12	0.09
RANGIT HEP	1.08	0.08
DADRA & NAGAR HAVELI	0.84	0.06
TASHIDENG HEP	0.81	0.06
NETCL VALLUR	0.78	0.06
DOYANG HEP	0.73	0.06
DHARIWAL POWER	0.73	0.06
AD HYDRO	0.69	0.05
COASTGEN	0.69	0.05
LOKTAK	0.64	0.05
RKM POWER	0.49	0.04
DIKCHU HEP	0.48	0.04
CHUZACHEN HEP	0.34	0.03
MALANA	0.03	0.00
KORBA WEST POWER	0.00	0.00
Total	1311.18	100.00
Volume Exported by top 5 Regional Entities	344.33	26.26

Table-14: VOLUME OF ELECTRICITY OVER DRAWAL (IMPORTED) THROUGH DSM, FEBRUARY 2018		
Name of the Entity	Volume of Over drawal (MUs)	% of Volume
TAMIL NADU	130.94	8.00
RAJASTHAN	130.79	7.99
ODISHA	112.59	6.88
HARYANA	85.64	5.23
UTTAR PRADESH	84.89	5.19
MAHARASHTRA	74.50	4.55
GUJARAT	65.36	3.99
WEST BENGAL	61.84	3.78
NEPAL(NVVN)	58.33	3.56
NTPC STATIONS-NR	51.12	3.12
NTPC STATIONS-WR	51.07	3.12
NTPC STATIONS-SR	43.93	2.68
MP	43.08	2.63
NTPC STATIONS-ER	34.73	2.12
JHARKHAND	32.68	2.00
KERALA	32.11	1.96
KARNATAKA	28.86	1.76
ANDHRA PRADESH	28.18	1.72
PUNJAB	26.90	1.64
HIMACHAL PRADESH	26.04	1.59
BIHAR	25.60	1.56
ESSAR STEEL	23.03	1.41
ASSAM	22.87	1.40
DADRA & NAGAR HAVELI	22.63	1.38
CGPL	20.73	1.27
TELANGANA	17.83	1.09
CHHATTISGARH	15.91	0.97
NETCL VALLUR	14.72	0.90
DAMAN AND DIU	12.81	0.78
J & K	12.73	0.78
ARUNACHAL PRADESH	11.70	0.72
DELHI	11.61	0.71
CHANDIGARH	11.61	0.71
DVC	11.50	0.70
THERMAL POWERTECH	11.33	0.69
UTTARAKHAND	11.31	0.69
GMR KAMALANGA	10.27	0.63
SEMBICORP	10.14	0.62
NHPC STATIONS	9.86	0.60
NLC	8.71	0.53
ILF&S	8.40	0.51
GOA	7.79	0.48
MB POWER	7.40	0.45
BALCO	7.36	0.45
JITPL	7.12	0.43
JHABUA POWER_MP	7.10	0.43
ESSAR POWER	6.32	0.39
TRIPURA	4.39	0.27
MIZORAM	3.94	0.24
SIKKIM	3.77	0.23

JINDAL STAGE-II	3.72	0.23
KARCHAM WANGTOO	3.32	0.20
TASHIDENG HEP	3.22	0.20
JORETHANG	3.10	0.19
DB POWER	3.08	0.19
BANGLADESH	3.01	0.18
NJPC	2.84	0.17
GMR CHATTISGARH	2.78	0.17
MEENAKSHI	2.65	0.16
SHREE CEMENT	2.59	0.16
NAGALAND	2.50	0.15
DAGACHU	2.49	0.15
MEGHALAYA	2.34	0.14
JINDAL POWER	2.18	0.13
RGPL (DABHOL)	2.12	0.13
PONDICHERRY	2.12	0.13
EMCO	2.05	0.13
RKM POWER	1.97	0.12
ACBIL	1.81	0.11
SKS POWER	1.80	0.11
KSK MAHANADI	1.66	0.10
MANIPUR	1.64	0.10
SASAN UMPP	1.62	0.10
MAITHON POWER LTD	1.54	0.09
NSPCL	1.36	0.08
TEESTA STG3	1.30	0.08
COASTGEN	1.02	0.06
RANGANADI HEP	0.98	0.06
DGEN MEGA POWER	0.91	0.06
DCPP	0.83	0.05
NEEPCO STATIONS	0.81	0.05
TRN ENERGY	0.77	0.05
LANKO KONDAPALLI	0.68	0.04
SIMHAPURI	0.64	0.04
ADHUNIK POWER LTD	0.64	0.04
AD HYDRO	0.57	0.03
JAYPEE NIGRIE	0.48	0.03
KORBA WEST POWER	0.48	0.03
URI-2	0.46	0.03
LANCO BUDHIL	0.45	0.03
RANGIT HEP	0.39	0.02
CHUZACHEN HEP	0.29	0.02
TEESTA HEP	0.21	0.01
DHARIWAL POWER	0.19	0.01
LANKO_AMK	0.16	0.01
DOYANG HEP	0.16	0.01
MALANA	0.14	0.01
LOKTAK	0.14	0.01
TOTAL	1636.31	100.00
Volume Imported by top 5 Regional Entities	544.85	33.30

Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), FEBRUARY 2018		
Sr.No.	Name of the Entity	Total volume of net short-term transactions of electricity*
1	GUJARAT	978.34
2	TAMIL NADU	916.02
3	J & K	548.95
4	KARNATAKA	508.45
5	MAHARASHTRA	413.25
6	UTTARAKHAND	410.10
7	TELANGANA	370.22
8	HIMACHAL PRADESH	365.03
9	ESSAR STEEL	301.50
10	ODISHA	252.74
11	ANDHRA PRADESH	251.93
12	BIHAR	218.44
13	RAJASTHAN	159.75
14	NEPAL(NVVN)	112.28
15	JHARKHAND	112.02
16	BANGLADESH	112.00
17	ASSAM	106.60
18	UTTAR PRADESH	51.26
19	KERALA	39.20
20	DAMAN AND DIU	38.41
21	MEGHALAYA	37.77
22	DADRA & NAGAR HAVELI	37.26
23	CGPL	16.23
24	MANIPUR	15.53
25	ARUNACHAL PRADESH	14.59
26	NETCL VALLUR	13.95
27	NTPC STATIONS-ER	12.21
28	NHPC STATIONS	6.92
29	BALCO	3.86
30	GOA	3.30
31	MEENAKSHI	2.84
32	NAGALAND	2.74
33	RKM POWER	1.48
34	DGEN MEGA POWER	0.91
35	RGPPL (DABHOL)	0.69
36	LANKO KONDAPALLI	0.68
37	RANGIT HEP	-0.69
38	RANGANADI HEP	-0.84
39	DHARIWAL POWER	-1.67
40	URI-2	-1.94
41	DCPP	-2.08
42	COASTGEN	-2.71
43	MAITHON POWER LTD	-2.74
44	PONDICHERRY	-2.89
45	CHUZACHEN HEP	-3.41
46	NTPC STATIONS-NER	-3.83
47	NEEPCO STATIONS	-4.41
48	EMCO	-4.78
49	TEESTA HEP	-4.99
50	NJPC	-5.63

51	DIKCHU HEP	-5.66
52	CHANDIGARH	-6.07
53	SAINJ HEP	-6.98
54	GMR KAMALANGA	-7.13
55	MARUTI COAL	-7.20
56	NSPCL	-7.88
57	NTPC STATIONS-SR	-7.92
58	AD HYDRO	-8.55
59	JORETHANG	-8.89
60	TASHIDENG HEP	-10.15
61	NTPC STATIONS-NR	-10.78
62	DAGACHU	-11.87
63	JHABUA POWER_MP	-12.48
64	SIKKIM	-12.89
65	TRN ENERGY	-16.39
66	KARCHAM WANGTOO	-17.19
67	MIZORAM	-17.35
68	LANKO_AMK	-20.09
69	CHHATTISGARH	-31.98
70	ONGC PALATANA	-43.68
71	SPECTRUM	-46.39
72	ACBIL	-55.81
73	THERMAL POWERTECH	-56.28
74	TRIPURA	-56.90
75	SHREE CEMENT	-83.28
76	ADHUNIK POWER LTD	-85.99
77	SASAN UMPP	-89.22
78	JAYPEE NIGRIE	-89.39
79	NTPC STATIONS-WR	-91.57
80	JITPL	-101.00
81	WEST BENGAL	-103.57
82	JINDAL STAGE-II	-104.12
83	TEESTA STG3	-119.07
84	SKS POWER	-145.56
85	JINDAL POWER	-153.27
86	MB POWER	-162.29
87	ESSAR POWER	-166.18
88	NLC	-170.07
89	ILF&S	-241.81
90	MP	-260.39
91	DB POWER	-275.99
92	GMR CHATTISGARH	-296.74
93	HARYANA	-421.43
94	DVC	-481.25
95	DELHI	-567.70
96	SEMBCORP	-696.30
97	PUNJAB	-723.87
* Total volume of net short-term transactions of electricity includes net of transactions of electricity through bilateral, power exchange and UI		
(-) indicates sale and (+) indicates purchase		

Table-16: DETAILS OF CONGESTION IN POWER EXCHANGES, FEBRUARY 2018			
	Details of Congestion	IEX	PXIL
A	Unconstrained Cleared Volume* (MUs)	3340.49	27.60
B	Actual Cleared Volume and hence scheduled (MUs)	3325.97	27.60
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	14.52	0.00
D	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	0.43%	0.00%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	4.95%	0.00%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	0.00%	0.00%
	6.00 - 12.00 hours	24.06%	0.00%
	12.00 - 18.00 hours	39.85%	0.00%
	18.00 - 24.00 hours	36.09%	0.00%
<i>* This power would have been scheduled had there been no congestion.</i>			
<i>Source: IEX & PXIL& NLDC</i>			

Table-17: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (DAY-WISE) (MUs), FEBRUARY 2018						
Date	Bilateral		Power Exchange (Area Clearing Volume# of Day Ahead Market)		Deviation Settlement (Over Drawl+Under Generation)	Total Electricity Generation (MU) as given at CEA Website*
	Through Traders and PXs**	Direct	IEX	PXIL		
1-Feb-18	119.66	43.74	108.51	0.00	53.31	3268.05
2-Feb-18	118.21	40.92	113.22	0.00	53.59	3288.28
3-Feb-18	115.98	43.67	117.59	0.00	52.82	3252.96
4-Feb-18	120.31	43.17	103.32	0.00	56.61	3124.59
5-Feb-18	114.47	43.72	127.88	0.00	53.57	3235.92
6-Feb-18	117.07	43.77	121.65	0.00	52.38	3316.81
7-Feb-18	116.92	43.19	120.84	0.00	52.37	3355.95
8-Feb-18	124.24	48.34	119.36	0.00	57.74	3334.01
9-Feb-18	121.49	48.17	116.94	0.00	55.61	3364.08
10-Feb-18	120.81	48.05	115.38	0.00	52.54	3337.48
11-Feb-18	121.26	44.67	102.62	0.00	56.96	3112.44
12-Feb-18	121.76	47.77	116.01	0.00	65.97	3110.00
13-Feb-18	119.42	44.57	103.09	0.00	60.11	3144.16
14-Feb-18	123.18	45.75	104.57	0.00	69.26	3115.62
15-Feb-18	120.57	41.62	108.64	0.00	54.11	3166.59
16-Feb-18	123.68	37.95	106.38	0.00	48.12	3278.54
17-Feb-18	124.04	38.96	108.74	0.00	49.53	3293.04
18-Feb-18	117.45	40.95	110.13	0.00	50.45	3187.84
19-Feb-18	120.68	41.95	115.95	0.00	54.06	3259.16
20-Feb-18	116.81	39.59	126.98	0.00	53.38	3333.72
21-Feb-18	114.24	40.74	129.59	0.00	54.65	3345.90
22-Feb-18	119.09	38.50	129.39	0.00	56.82	3378.55
23-Feb-18	116.83	40.01	132.93	2.40	58.04	3358.53
24-Feb-18	118.65	39.27	139.67	7.20	53.31	3295.45
25-Feb-18	114.50	39.29	128.73	0.00	57.13	3194.29
26-Feb-18	119.63	40.10	132.38	7.20	50.63	3331.40
27-Feb-18	117.17	39.89	128.34	3.60	52.15	3385.78
28-Feb-18	119.16	38.05	137.16	7.20	52.39	3451.84
Total	3337.25	1186.35	3325.97	27.60	1537.58	91620.98
<i>Source: NLDC</i>						
<i>* Gross Electricity Generation excluding electricity generation from renewables and captive power plants.</i>						
<i>** The volume of bilateral through PXs represents the volume through term-ahead contracts.</i>						
<i># Area Clearing Volume represents the scheduled volume of all the bid areas.</i>						

Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), FEBRUARY 2018									
Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (DSM)		
Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid		
							Minimum Price	Maximum Price	Average Price**
1-Feb-18	1.92	9.41	3.40	-	-	-	-	3.45	1.79
2-Feb-18	1.75	11.29	3.24	-	-	-	-	3.45	1.99
3-Feb-18	1.92	5.00	3.24	-	-	-	-	3.45	2.11
4-Feb-18	2.00	4.01	2.94	-	-	-	-	3.45	1.59
5-Feb-18	1.92	4.81	3.32	-	-	-	-	3.45	1.74
6-Feb-18	2.01	4.41	3.19	-	-	-	-	5.32	2.37
7-Feb-18	2.00	4.90	3.39	-	-	-	-	5.32	2.24
8-Feb-18	2.01	5.30	3.56	-	-	-	-	5.95	2.45
9-Feb-18	2.27	5.33	3.76	-	-	-	-	5.32	2.57
10-Feb-18	2.25	5.50	3.76	-	-	-	-	5.32	2.22
11-Feb-18	2.25	5.25	3.37	-	-	-	-	3.45	1.56
12-Feb-18	2.00	5.25	3.45	-	-	-	-	3.45	2.01
13-Feb-18	2.00	4.25	2.94	-	-	-	-	3.45	2.06
14-Feb-18	1.90	3.90	2.77	-	-	-	-	3.45	1.78
15-Feb-18	1.98	3.91	2.80	-	-	-	0.36	3.45	2.09
16-Feb-18	2.00	4.30	3.01	-	-	-	-	4.91	2.13
17-Feb-18	2.09	4.74	3.20	-	-	-	-	4.91	2.32
18-Feb-18	2.17	4.47	3.10	-	-	-	-	3.45	1.92
19-Feb-18	2.24	5.28	3.65	-	-	-	-	4.91	2.45
20-Feb-18	2.40	5.32	3.73	-	-	-	0.36	4.91	2.52
21-Feb-18	2.40	6.11	3.90	-	-	-	-	5.95	2.45
22-Feb-18	2.25	5.00	3.57	-	-	-	-	5.74	2.55
23-Feb-18	2.25	5.30	3.67	3.40	3.40	3.40	-	6.36	2.73
24-Feb-18	2.40	5.99	3.92	3.40	3.40	3.40	0.71	4.91	2.45
25-Feb-18	2.31	4.47	3.19	-	-	-	-	3.45	1.76
26-Feb-18	2.16	5.80	3.72	3.40	3.40	3.40	-	3.45	1.96
27-Feb-18	2.09	5.77	3.63	3.75	3.75	3.75	-	5.11	2.41
28-Feb-18	2.31	5.58	3.64	3.48	3.48	3.48	1.07	5.32	2.78
	1.75	11.29	3.42	0.00	3.75	2.12	0.00	6.36	2.18
Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.									
* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.									
** Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.									
# Maximum/Minimum in the month									

Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY*-WISE) (MUs), FEBRUARY 2018										
Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	603.68	19.00	-584.68	121.73	0.00	-121.73	26.90	44.36	-17.46	-723.87
HARYANA	514.78	0.56	-514.21	34.90	53.95	19.05	85.64	11.91	73.73	-421.43
RAJASTHAN	136.15	57.04	-79.11	41.01	178.27	137.26	130.79	29.20	101.60	159.75
DELHI	489.16	18.58	-470.58	133.04	45.20	-87.84	11.61	20.89	-9.28	-567.70
UP	125.84	30.31	-95.53	16.02	118.36	102.34	84.89	40.44	44.45	51.26
UTTARAKHAN	0.00	206.77	206.77	0.80	227.51	226.71	11.31	34.69	-23.38	410.10
HP	24.59	403.35	378.77	56.23	30.29	-25.94	26.04	13.83	12.21	365.03
J & K	4.38	426.79	422.42	36.05	184.80	148.75	12.73	34.95	-22.22	548.95
CHANDIGARH	11.76	0.00	-11.76	3.17	0.15	-3.02	11.61	2.90	8.71	-6.07
MP	43.35	126.63	83.28	342.27	12.12	-330.16	43.08	56.59	-13.51	-260.39
MAHARASHTRA	9.31	81.42	72.11	48.31	363.08	314.77	74.50	48.13	26.37	413.25
GUJARAT	43.54	367.52	323.98	24.56	658.70	634.14	65.36	45.14	20.23	978.34
CHHATTISGARH	0.00	108.55	108.55	125.41	2.53	-122.88	15.91	33.55	-17.64	-31.98
GOA	0.00	16.92	16.92	23.83	9.63	-14.19	7.79	7.22	0.57	3.30
DAMAN DIU	0.00	0.00	0.00	0.00	27.01	27.01	12.81	1.42	11.40	38.41
D&N HAVELI	0.00	20.11	20.11	7.31	2.67	-4.64	22.63	0.84	21.79	37.26
ANDHRA P	36.10	311.06	274.96	111.35	111.01	-0.35	28.18	50.86	-22.68	251.93
KARNATAKA	5.16	362.94	357.78	51.59	238.04	186.46	28.86	64.65	-35.79	508.45
KERALA	0.78	25.80	25.02	36.58	20.49	-16.09	32.11	1.84	30.26	39.20
TAMIL NADU	8.70	770.47	761.77	20.35	90.16	69.81	130.94	46.50	84.44	916.02
PONDICHERR	0.00	0.00	0.00	0.00	4.28	4.28	2.12	9.29	-7.17	-2.89
TELANGANA	36.11	586.87	550.76	249.82	116.05	-133.77	17.83	64.60	-46.76	370.22
WEST BENGAL	236.50	11.41	-225.09	29.74	93.40	63.67	61.84	3.98	57.86	-103.57
ODISHA	52.37	37.24	-15.13	60.19	217.80	157.61	112.59	2.33	110.26	252.74
BIHAR	0.60	79.36	78.76	23.09	174.59	151.50	25.60	37.41	-11.81	218.44
JHARKHAND	0.00	85.18	85.18	0.00	0.00	0.00	32.68	5.85	26.84	112.02
SIKKIM	5.17	0.00	-5.17	8.81	0.00	-8.81	3.77	2.68	1.09	-12.89
DVC	173.44	0.00	-173.44	276.68	0.00	-276.68	11.50	42.63	-31.13	-481.25
ARUNACHAL P	0.00	0.00	0.00	0.00	4.06	4.06	11.70	1.17	10.53	14.59
ASSAM	11.33	98.94	87.61	53.59	57.70	4.11	22.87	7.99	14.88	106.60
MANIPUR	0.00	34.58	34.58	16.43	0.21	-16.21	1.64	4.48	-2.84	15.53
MEGHALAYA	11.17	53.41	42.25	12.79	10.80	-1.99	2.34	4.82	-2.48	37.77
MIZORAM	5.33	0.00	-5.33	13.09	0.00	-13.09	3.94	2.89	1.06	-17.35
NAGALAND	0.00	0.00	0.00	0.00	3.89	3.89	2.50	3.65	-1.15	2.74
TRIPURA	0.00	0.00	0.00	53.86	0.00	-53.86	4.39	7.43	-3.04	-56.90
NTPC -NR	0.00	0.00	0.00	0.61	0.00	-0.61	51.12	61.29	-10.17	-10.78
NHPC STNS	0.00	0.00	0.00	0.00	0.00	0.00	9.86	2.94	6.92	6.92
NJPC	0.00	0.00	0.00	3.88	0.00	-3.88	2.84	4.59	-1.75	-5.63
AD HYDRO	0.00	0.00	0.00	8.42	0.00	-8.42	0.57	0.69	-0.12	-8.55
KARCHAM WA	0.00	0.00	0.00	15.44	0.00	-15.44	3.32	5.08	-1.76	-17.19
SHREE CEME	71.91	0.00	-71.91	12.82	0.00	-12.82	2.59	1.14	1.45	-83.28
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.46	2.40	-1.94	-1.94
SAINJ HEP	0.00	0.00	0.00	6.98	0.00	-6.98	0.00	0.00	0.00	-6.98
NTPC -WR	0.00	0.00	0.00	47.31	0.00	-47.31	51.07	95.33	-44.27	-91.57
JINDAL POWE	129.63	0.00	-129.63	23.72	0.00	-23.72	2.18	2.09	0.09	-153.27

LANKO_AMK	8.26	0.00	-8.26	0.00	0.00	0.00	0.16	11.98	-11.82	-20.09
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	1.36	9.24	-7.88	-7.88
ACBIL	12.04	0.00	-12.04	41.10	0.00	-41.10	1.81	4.49	-2.68	-55.81
BALCO	0.00	0.00	0.00	0.00	0.00	0.00	7.36	3.51	3.86	3.86
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	20.73	4.50	16.23	16.23
DCPP	0.00	0.00	0.00	0.00	0.00	0.00	0.83	2.91	-2.08	-2.08
EMCO	0.00	0.00	0.00	0.36	0.00	-0.36	2.05	6.47	-4.42	-4.78
ESSAR STEEL	0.00	0.87	0.87	0.00	296.62	296.62	23.03	19.03	4.00	301.50
ESSAR POWE	0.00	0.00	0.00	169.95	0.00	-169.95	6.32	2.55	3.77	-166.18
JINDAL STG-II	53.61	0.00	-53.61	49.66	0.00	-49.66	3.72	4.58	-0.86	-104.12
DB POWER	53.46	0.00	-53.46	219.85	0.00	-219.85	3.08	5.76	-2.68	-275.99
DHARIWAL PC	0.00	0.00	0.00	1.14	0.00	-1.14	0.19	0.73	-0.54	-1.67
JAYPEE NIGR	53.11	0.00	-53.11	30.99	0.00	-30.99	0.48	5.77	-5.29	-89.39
GMR CHATTIS	263.00	0.00	-263.00	28.72	0.00	-28.72	2.78	7.80	-5.02	-296.74
MB POWER	98.28	0.00	-98.28	65.55	0.00	-65.55	7.40	5.87	1.53	-162.29
MARUTI COAL	0.00	0.00	0.00	7.20	0.00	-7.20	0.00	0.00	0.00	-7.20
SPECTRUM	17.93	0.00	-17.93	28.47	0.00	-28.47	0.00	0.00	0.00	-46.39
JHABUA_MP	7.03	0.00	-7.03	9.67	0.00	-9.67	7.10	2.89	4.22	-12.48
SASAN UMPP	54.07	0.00	-54.07	0.00	0.00	0.00	1.62	36.76	-35.15	-89.22
TRN ENERGY	10.78	0.00	-10.78	2.92	0.00	-2.92	0.77	3.47	-2.70	-16.39
RKM POWER	0.00	0.00	0.00	0.00	0.00	0.00	1.97	0.49	1.48	1.48
SKS POWER	96.31	0.00	-96.31	47.53	0.00	-47.53	1.80	3.52	-1.72	-145.56
NTPC -SR	0.83	0.00	-0.83	9.88	0.00	-9.88	43.93	41.14	2.79	-7.92
MEENAKSHI	0.00	0.00	0.00	0.00	0.19	0.19	2.65	0.00	2.65	2.84
COASTGEN	0.00	0.00	0.00	3.04	0.00	-3.04	1.02	0.69	0.33	-2.71
THERMAL POW	18.38	0.00	-18.38	45.86	0.00	-45.86	11.33	3.37	7.96	-56.28
ILF&S	235.96	0.00	-235.96	11.82	0.00	-11.82	8.40	2.43	5.97	-241.81
NLC	0.00	0.00	0.00	120.32	0.00	-120.32	8.71	58.46	-49.75	-170.07
SEBPCORP	592.33	0.00	-592.33	96.68	0.00	-96.68	10.14	17.43	-7.29	-696.30
NETCL VALLU	0.00	0.00	0.00	0.00	0.00	0.00	14.72	0.78	13.95	13.95
NTPC -ER	0.00	0.00	0.00	1.00	0.00	-1.00	34.73	21.52	13.21	12.21
MAITHON POW	0.00	0.00	0.00	0.00	0.00	0.00	1.54	4.28	-2.74	-2.74
ADHUNIK POW	85.18	0.00	-85.18	0.00	0.00	0.00	0.64	1.45	-0.81	-85.99
CHUZACHEN H	0.00	0.00	0.00	3.37	0.00	-3.37	0.29	0.34	-0.05	-3.41
GMR KAMALAN	0.83	0.00	-0.83	10.90	0.00	-10.90	10.27	5.67	4.60	-7.13
JITPL	60.92	0.00	-60.92	43.66	0.00	-43.66	7.12	3.54	3.58	-101.00
TEESTA HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.21	5.19	-4.99	-4.99
DAGACHU	14.37	0.00	-14.37	0.00	0.00	0.00	2.49	0.00	2.49	-11.87
JORETHANG	0.00	0.00	0.00	10.87	0.00	-10.87	3.10	1.12	1.98	-8.89
NEPAL(NVVN)	0.00	69.96	69.96	0.00	0.00	0.00	58.33	16.01	42.32	112.28
BANGLADESH	0.00	111.93	111.93	0.00	0.00	0.00	3.01	2.94	0.07	112.00
TEESTA STG3	0.00	0.00	0.00	118.76	0.00	-118.76	1.30	1.60	-0.30	-119.07
DIKCHU HEP	0.00	0.00	0.00	5.19	0.00	-5.19	0.00	0.48	-0.47	-5.66
TASHIDENG HE	0.00	0.00	0.00	12.57	0.00	-12.57	3.22	0.81	2.41	-10.15
NTPC -NER	0.00	0.00	0.00	3.83	0.00	-3.83	0.00	0.00	0.00	-3.83
NEEPCO STN\$	0.00	0.00	0.00	0.00	0.00	0.00	0.81	5.21	-4.41	-4.41
ONGC PALATAN	43.68	0.00	-43.68	0.00	0.00	0.00	0.00	0.00	0.00	-43.68

Source: NLDC

* in case of a state, the entities which are "selling" also include generators connected to state grid and the entities which are "buying" also include open access consumers.

** (-) indicates sale and (+) indicates purchase,

*** Total net includes net of transactions through bilateral, power exchange and DSM

Figure 7: Bilateral Contracts executed by Traders in March, 2018

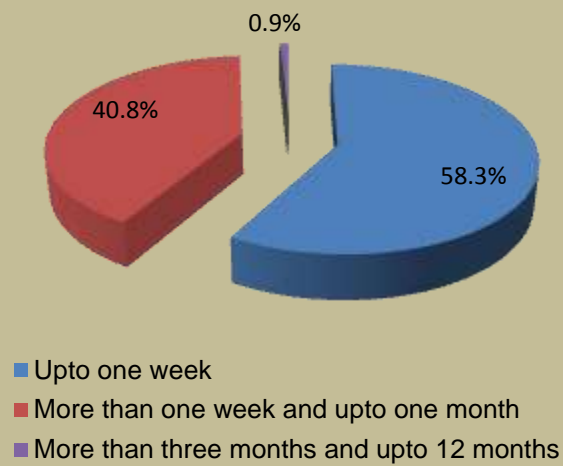


Figure-8: Forward Curve based on Prices of Bilateral Contracts

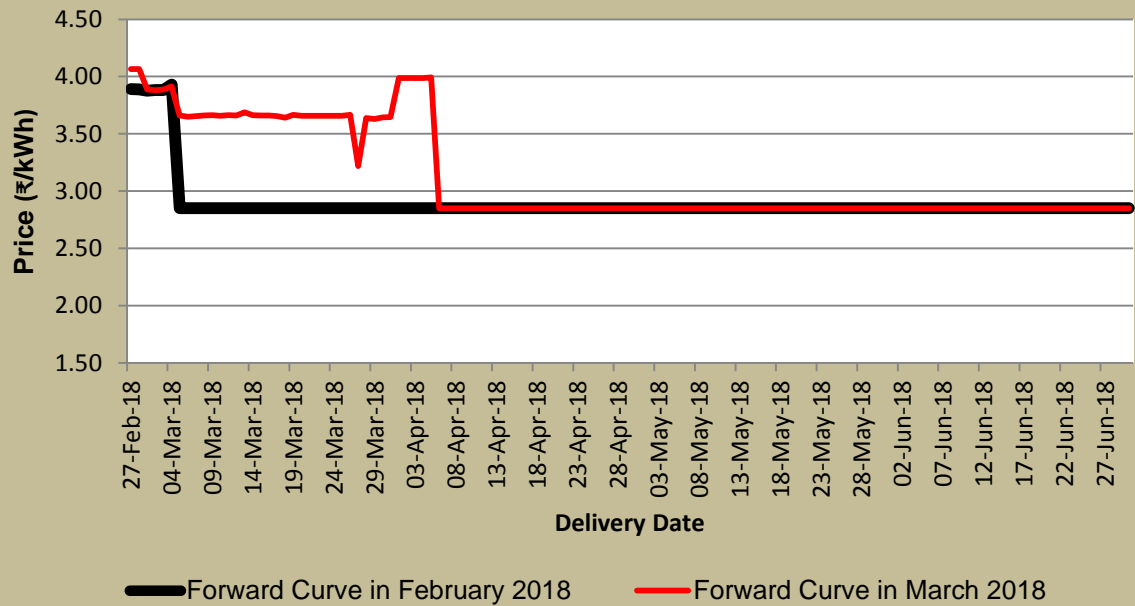


Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTIONED THROUGH POWER EXCHANGES, FEBRUARY 2018			
Sr.No.	Details of REC Transactions	IEX	PXIL
		Non-Solar	Non Solar
A	Volume of Buy Bid	390158	1968238
B	Volume of Sell Bid	1966018	2820156
C	Ratio of Buy Bid to Sell Bid Volume	0.20	0.70
D	Market Clearing Volume (MWh)	390158	1968238
E	Market Clearing Price (₹/MWh)	1500	1500

Source: IEX and PXIL

Note 1: 1 REC = 1 MWh

Note 2:	<i>Forbearance and Floor Price w.e.f 1st March 2015</i>		
	Type of REC	Floor Price (₹/MWh)	Forbearance Price (₹/MWh)
	Non-Solar	1500.00	3300.00