

**BEFORE THE HONOURABLE KERALA STATE
ELECTRICITY REGULATORY COMMISSION**

at its office at C.V. Raman Pillai Road, Vellayambalam,
Thiruvananthapuram.

FILING NO /2018

CASE No.

IN THE MATTER OF:

Filing of petition on 'Proposals to recover the additional cost incurred during the period January 2018 to March 2018 over approved level on Generation and Power Purchase due to variation in cost of fuel, from all consumers including Bulk Consumers and other Licensees through fuel surcharge.

AND

IN THE MATTER OF:

Kerala State Electricity Board Limited, Vydyuthi Bhavanam, Pattom,
Thiruvananthapuram

Applicant

**Deputy Chief Engineer (Commercial Planning)
with full powers of Chief Engineer
Kerala State Electricity Board Limited**

Affidavit verifying the application for filing the 'Proposals to recover the additional cost incurred during the period January 2018 to March 2018 over approved level on Generation and Power Purchase due to variation in cost of fuel, from all consumers including Bulk Consumers and other Licensees through fuel surcharge.

I, B.Pradeep, son of Sri.P.Balachandran, aged 52 years residing at Vipanchika, Anayara P.O., Thiruvananthapuram do solemnly affirm and state as follows:

I am the **Deputy Chief Engineer (Commercial & Planning) with full powers of Chief Engineer** of the Kerala State Electricity Board Limited, Vydyuthi Bhavanam, Pattom, Thiruvananthapuram, and the petitioner in the above matter and I am duly authorized by the Board to make this affidavit on its behalf. I solemnly affirm at Thiruvananthapuram on this the 4th day of June 2018 that the contents of the above petition are true to my information, knowledge and belief. I believe that no part of it is false and no material has been concealed there from.

Deponent

**Deputy Chief Engineer (Commercial & Planning)
with full powers of Chief Engineer**
Kerala State Electricity Board
Limited,
Vydyuthi Bhavanam,
Pattom
Thiruvananthapuram -
695 004

VERIFICATION

I, the above named deponent, solemnly affirm at Thiruvananthapuram on this, the 4th day of June, 2018 that the contents of the affidavit are true to my information, knowledge and belief, that no part of it is false and that no material has been concealed there from.

Deponent

**Deputy Chief Engineer (Commercial & Planning)
with full powers of Chief Engineer**
Kerala State Electricity Board
Limited

Vydyuthi Bhavanam,
Pattom
Thiruvananthapuram -
695 004.

Solemnly affirmed and signed before me.

Advocate and Notary

**BEFORE THE HONOURABLE KERALA STATE
ELECTRICITY REGULATORY COMMISSION**

IN THE MATTER OF: **Proposal to recover the additional cost incurred during the period January 2018 to March 2018 over approved level on Generation and Power Purchase due to variation in cost of fuel, from all consumers including Bulk Consumers and other Licensees.**

PETITIONER: **Kerala State Electricity Board Limited
Vydyuthi Bhavanam, Pattom,
Thiruvananthapuram - 695 004**

The petitioner, KSEBL, respectfully submits this petition based on the following provisions of the KSERC (Terms and Conditions for Determination of Tariff) Regulations, 2014 notified as per No. 787/SEA/2011/KSERC dated 14th November 2014.

- I. As per Regulation 88 of the Tariff Regulations 2014, KSEBL is eligible to recover the additional liability on account of variation in actual fuel cost over approved level through fuel surcharge at the rates approved by the Hon'ble Commission. Regulation 88 (5) of KSERC Tariff Regulations, 2014 stipulates that "*Every Distribution business/licensee shall, within thirty days after the close of each quarter, submit to the Commission an application with all relevant details required for the*

approval of the amount of fuel surcharge to be adjusted from the consumers and of the rate and period of such adjustment”.

- II.** Further, Honourable Commission in the tariff order dated 17.04.2017 has directed that KSEB Ltd shall submit regularly, at specified intervals, application for approval of fuel surcharge and also submit proposals for passing on the impact of change in hydro-thermal mix as per provisions of the Tariff Regulations, 2014.
- III.** As per order dated 17.04.2017 Honorable Commission had approved the power purchase cost of KSEBL as Rs.7339.34 crore and the quantum of generation and power purchase as 25292.45 MU, for the year 2017-18. Honourable Commission vide order dated 24.01.2018 on petition OA 16/2017 has approved the monthly schedule submitted by KSEBL vide additional submission dated 29.11.2017. Hence KSEBL has prepared this petition based on the variation in fuel cost from the approved quantum & cost from approved sources for the fourth quarter.
- IV.** There has been considerable change in the actual per unit variable cost of power purchase for fourth quarter, from various sources, over the approved level on account of changes in the price of primary fuel, secondary fuel and changes in calorific value of fuel.
- V.** As per Regulation 88 (2) of Tariff regulation 2014, (Fuel surcharge formula), fuel surcharge is the amount approved by the Commission to enable the distribution licensee to pass through to the consumer the additional expenditure/savings due to
 - I. the difference between the actual cost of fuel and the cost of fuel approved in Aggregate Revenue Requirement by the Commission for the generation of electricity in the generating stations owned by the distribution business/licensee; and
 - II. the difference on account of the change in cost of fuel, between the actual cost of power purchase and the cost of power purchase as approved by the Commission in the Aggregate Revenue Requirement.
- VI.** As the fuel surcharge Regulation allows only the additional liability/savings due to variation in cost of fuel in the power

purchase cost to pass through to the consumers, KSEBL has been preparing the fuel surcharge petitions based on the additional expenditure/savings due to variation in fuel cost from approved sources. Fuel surcharge petition is mainly for the thermal power stations having two part tariff structure in which the fuel cost component is met through the variable cost of two part tariff. Further Honourable Commission in the order dated 24.01.2017 on Petition No. OA 16/2017 has clearly specified that as per the Regulation-88 of the Tariff Regulations, 2014, there is no provision to factor the additional liability on short term power purchase on account of increase in short term power purchase rate over approved level. Thus Regulation-88 of Tariff Regulations 2014 does not provide to factor the additional liability on short term power purchase on account of increased rates over approved level. Hence KSEBL has not included short term power purchase from exchanges, power transfer through deviation settlement mechanism and swap while calculating additional liability as per Fuel Surcharge Regulations.

- VII.** An abstract of comparison of approved variable cost and actual from approved sources and the additional liability due to the variation as per fuel surcharge regulations is given in the **Table 1** below.

Table - 1 - Comparison of approved and actual variable cost at exbus of various sources					
SI No	Source	Approved	Actuals (Rs/ kWh)		
		(Rs/ kWh)	Jan-18	Feb-18	Mar-18
Central Generating Stations					
1	NTPC-RSTPS Stage I & II	2.63	2.51	2.48	2.49
2	NTPC-RSTPS Stage III	2.69	2.47	2.43	2.43
3	Talcher	1.48	1.53	1.56	1.76
4	Simhadri TPS Stage II	2.73	2.92	2.82	2.78
5	NLC-Stage-1	2.42	2.96	2.92	2.93
6	NLC-Stage-II	2.42	2.96	2.92	2.93
7	NLC I Expansion	2.28	2.70	2.71	2.72
8	NLC II Expansion	2.3	2.71	2.70	2.71
9	Vallur STPS	2.07	2.93	3.08	3.10
10	NTPL	2.09	3.31	3.26	3.30

11	NTPC Kudgi	2.69	3.63	3.63	4.02
Independent Power Producers					
12	RTPS	2.30	2.14	2.61	2.51
13	Mejia	2.3	2.23	2.19	2.48
14	Maithon I	2.00	1.94	1.98	2.01
15	Maithon II	2.00	1.94	1.98	2.01
16	Jindal	0.81	1.24	1.24	1.26
17	Jhabua	1.66	1.85	1.87	1.86
18	BALCO	1.00	1.13	1.15	1.15

VIII. The summary of additional liability for fourth quarter as per fuel surcharge regulations is given in table below.

Table 2 Additional liability for the fourth quarter							
Source	Energy procurement			Per unit cost		Add liability	
	Approved quantity	Actual	Admissible as per regulation	Approved	Actual	Actual	Admissible as per regulation
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
CGS	2164.80	2248.48	2028.26	2.14	2.37	58.36	52.37
IPPs I	1462.25	1420.31	1312.03	1.62	1.76	18.71	17.57
Total	3627.05	3668.79	3340.29	1.92	2.13	77.07	69.94

IX. Honourable Commission may please note that KSEBL has incurred an additional liability of Rs 77.07 crore for purchasing 3668.79 MU of energy from various approved sources during the fourth quarter of financial year 2017-18. Out of which Rs. 69.94 core is admissible additional liability as per regulations. Details in this regard as per the provisions of fuel surcharge formula specified in 'Annexure X' to Tariff Regulations, 2014, are furnished in **Annexure I**. A summary of additional financial liability/savings during the period from January 2018 to March 2018 is furnished in **Annexure II**.

X. During the processing of fuel surcharge petitions of previous quarters, the Honourable Commission has sought various details such as actual monthly power purchase cost of the corresponding quarters, additional liability incurred after accounting short term purchase, invoices of corresponding

quarter etc. Hence KSEBL is furnishing below the corresponding details pertaining to the fourth quarter.

- XI.** Honourable Commission vide tariff order dated 17.04.2017 has approved power purchase of 1946.98 MU annually through short term markets at an average rate of Rs 4.00 per unit and transmission charges 0.33 per unit at Kerala periphery. As the rate in exchanges and other short term procurements is all inclusive of transmission charges, the rate approved by Honourable Commission is taken as Rs 4.33 per unit for short term purchases.
- XII.** Honourable Commission may please note that KSEBL had entered into long term contracts with various IPPs under DBFOO mechanism for buying 865 MW of power. Out of this, Honorable Commission approved 415 MW of Power from M/s Jindal India Pvt Ltd (200 MW), M/s Jhabua Power Ltd (115 MW) and M/s BALCO (100 MW). Hon'ble Commission is yet to adopt the rate for 450 MW of power contracted through DBFOO basis given in Table 3 below for the year 2017-18, and sought certain clarification from Government of India and Government of Kerala on some issues. However, since the purchase of power was indispensable, out of the above 450 MW KSEBL availed 350 MW of power from October 2017 onwards, after properly intimating the compelling circumstances to Hon'ble Commission and Government of Kerala. Government of Kerala vide order 21.10.2017 has given permission to draw the contracted power with effect from 01.10.2017 and further ordered that final orders in the matter shall be issued in due course. Honourable Commission vide letter dated 22.12.2017 has accorded sanction to draw contracted power through DBFOO from 01.10.2017 onwards in view of State Government order.

Table-3	
Name of generator	Quantum contracted
Jindal Power Ltd Bid-2,	150 MW
Jhabua Power Ltd-Bid 2	100 MW
Jindal India thermal power Limited	100 MW
East cost energy Pvt Ltd	100 MW
Total	450 MW

XIII. While issuing tariff order for 2017-18, Hon'ble Commission has not considered the quantum of power from the above sources and instead has approved purchase of power from short term market. Thus, the quantum purchased from the above contracts of 350 MW on DBFOO basis is compared with the energy approved through short term contracts. Hence for calculating the additional liability on account of power purchase from the above sources, the rate of power purchase at Kerala periphery including transmission charges and losses is taken as Rs 4.33 per unit which was approved by Honourable Commission for short term purchases. The summary of additional liability on account of power purchase from Jindal India Power Limited-PSA II, Jhabua Power Ltd-PSA II, Jindal India Thermal Power Ltd amounts to Rs 3.09 crores is given below.

Table 4 Summary of additional liability on account of power purchase from Jindal Jhabua and JITPL contracted under Bid 2 through DBFOO basis

Month	Energy purchased at Kerala periphery			Rate of power purchase at Kerala periphery		Additional Liability	
	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Jan-18		237.97	237.97	4.33	4.31	-0.47	-0.47
Feb-18		187.10	187.10	4.33	4.53	3.67	3.67
Mar-18		179.26	179.26	4.33	4.32	-0.11	-0.11
Total		604.33	604.33	4.33	4.38	3.09	3.09

The station wise details are given in para 4 of **Annexure I**.

XIV. KSEBL has purchased 106.93 MU from short term market through exchanges and by means of power transfer through deviation settlement mechanism. The month wise details are given in the table below.

Table 5 Details of procurement from Short-term market and traders

Source	January			February			March		
	Quantum	Rate	Amount	Quantum	Rate	Amount	Quantum	Rate	Amount
	MU	Rs/unit	Rs in crores	MU	Rs/unit	Rs in crores	MU	Rs/unit	Rs in crores
IEX	0.00	0.00	0.00	0.23	4.80	0.11	11.29	5.24	5.91
PXIL	0.00	0.00	0.00	0.00	0.00	0.00	2.25	6.36	1.43

DSM	19.83	1.90	3.76	32.64	2.38	7.77	40.70	1.94	7.88
Total	19.83	1.90	3.76	32.87	2.40	7.88	54.23	2.81	15.22

*Quantum and rate at Kerala periphery

- XV.** The quantum and rate of short term purchases from power exchanges and power transfer through deviation settlement mechanism at Kerala periphery is taken and the same is compared with rate of power purchase @ Rs 4.33 per unit approved by the Honorable Commission for purchase through short term contracts at Kerala periphery. This rate is inclusive of transmission charges as the rate of purchase through exchanges and short term market is inclusive of transmission charges. The additional liability due to variation in power purchase rate on account of short term purchase from exchanges/DSM is given in table below.

Table 6 - Additional liability on account of variation in short term power purchase rate				
	Actual Quantum	Approved rate	Actual rate	Additional liability
Month	MU	Rs/kWh	Rs/kWh	Rs in crores
Jan-18	19.83	4.33	1.90	-4.82
Feb-18	32.87	4.33	2.40	-6.36
Mar-18	54.23	4.33	2.81	-8.26
Total	106.93	4.33	2.71	-19.44

- XVI.** In addition to the above, KSEBL had entered into agreement with GMRETL for availing supply of 100MW from 8.00 hrs to 17.00 hrs from November 2017 to March 2018 through swap arrangement and the power returnable at 100 % energy from 16th June 2018 to 30th September 2018 with time duration from 00.00 hrs to 4.00 hrs and 22.00 hrs to 24 hrs. This matter was already intimated to the Honourable Commission vide letter dated 01.01.2018. KSEBL has availed 79.08 MU during the period from January 2018 to March 2018 through this arrangement.
- XVII.** An overarching agreement was signed among all Southern Regional constituents including KSEBL on 17.08.2017 for optimum harnessing of Renewable Energy without endangering the grid security. KSEBL vide letter dated 25.09.2017 has sought approval for overarching agreement and sanction for making transactions

with SR constituents as per the frame work of overarching agreement. KSEBL availed 1.15 MU from KPTCL through overarching agreement signed between Southern States for optimum utilization of surplus power at competitive rates. The bills of energy purchased through overarching agreement are not received yet.

- XVIII.** Further, Hon'ble Commission had not given approval for scheduling power from RGCCPP for the year 2017-18 vide tariff order dated 17.04.2017. But as per power purchase agreement KSEBL is bound to pay fixed charges. KSEBL has incurred Rs 51.78 crore towards fixed charges remitted to RGCCPP for the fourth quarter. It is humbly submitted that power purchase cost being an uncontrollable cost, Hon'ble Commission may kindly allow this at the time of truing up.
- XIX.** KSEBL had scheduled a gross generation of 1.15 MU from BDPP and KDPP during February & March in order to meet the demand of the State. Hon'ble Commission may kindly allow this at the time of truing up.
- XX.** Honourable Commission may please note that the hydro generation for fourth quarter is lesser by 678.88 MU due to poor inflow during south west monsoon, demand lowered by 716 MU, which in turn moderated the power purchase from various sources including the short term purchase. The comparison of generation and power purchase between actual and approved by Honourable Commission is given in the table below. It may please be noted that the additional liability due to variation in power purchase due to variation in demand and short term purchase is to be considered at the time of truing up as per prevailing Regulations.

Table 7 Comparison of Approved vs Actual quantum of Generation and Power purchase in MU			
Particulars	Approved	Actual	Deviation
Hydro	2088.22	1409.33	-678.88
Generation from other sources	0.00	4.13	4.13
Small IPP	22.94	26.71	3.77
CGS	2752.60	2699.26	-53.34
IPPs outside State	1402.94	1927.29	524.36
Short-term	613.95	187.16	-426.79
Power purchase Total	4792.43	4840.	48

		43	
External sale		88.83	88.83
Demand of State	6880.64	6165.06	-715.58

XXI. The month wise actual power purchase cost for the fourth quarter is given in table below.

Table 8 Monthly power purchase cost for fourth quarter						
Month	Total quantum at Kerala periphery (MU)		Total Power Purchase cost (Rs in crores)		Rate of Power purchase (Rs per unit)	
	Approved	Actual	Approved	Actual	Approved	Actual
Power purchase						
Jan-18	1651.13	1,658.53	643.94	672.58		4.06
Feb-18	1490.20	1,558.78	581.18	637.79		4.09
Mar-18	1651.09	1,623.11	643.93	647.95		3.99
Sub total for fourth quarter	4792.43	4840.43	1869.05	1958.32	3.90	4.05
Gen from BDPP & KDPP for fourth quarter	0.00	1.15	0	0.77	0	6.63
Total	4792.43	4841.58	1869.05	1959.08	3.90	4.05

XXII. It is prayed that Honourable Commission may approve the additional liability of Rs 69.94 crore for the fourth quarter of financial year 2017-18 as per fuel surcharge regulations and allow KSEBL to recover this additional cost as fuel surcharge from all categories of consumers including bulk consumers/licensees @ 13 paise per unit as per the regulations from July 2018 onwards. The details of calculation are furnished in **Annexure III**. The monthly invoices of various sources is enclosed as **Annexure IV**.

PRAYER

KSEBL humbly prays before this Hon'ble Commission that,

- (a) The additional financial liability incurred by KSEBL, amounting to Rs 69.94 crore, due to the variation in power purchase cost resulting from the variation in cost of fuel for the period from January to March 2018 for the procurement/generation of energy from various thermal sources as per fuel

surcharge regulations as detailed in **Annexure I & II** to this petition may kindly be approved.

- (b) This approved additional cost may kindly be allowed to be recovered from consumers including bulk consumers and other licensees as fuel surcharge, as per the Regulation 88 of KSERC Tariff Regulations, 2014 from July 2018 onwards @ 13 paise per unit.

**Deputy Chief Engineer (Commercial & Planning)
with full powers of Chief Engineer**

**Acc: 1. Formats 1 to 4
2. Annexure I, II & III**

Formats

**Format I- Details of Energy Billed for retail sale
from Jan-March 2018(Provisional)**

1	Energy sales with in the State	Actual s
(a)	Total energy sales to LT, HT and EHT consumers (excl. sales to bulk consumers/ other Licensees) (MU)	5165.3 5
(b)	Sale to bulk consumers/ other licensees (MU)	157.23
(c)	Total energy sales (MU)	5322.5 8
2	Energy Input (Excluding External losses) (MU)	6165. 06
3	T & D Losses (Internal) (%)	13.67

Details of energy billed for retail sale for fourth quarter			
Month	Retail Sales (MU)	T&D loss(%)	Energy Input(MU)
	Actual	Actual	Actual
January	1719.31	13.83	1995.36
February	1647.11	13.48	1903.84
March	1956.15	13.67	2265.85
Total	5322.58	13.67	6165.06

Format -II		Month wise details of generation from own sources										
Month	Energy Generation (MU)	Aux. Consumption (MU)	Net Generation (MU)	Station Heat Rate (kCal/kWh)	Calorific value of fuel (Kcal/kg)	Quantity of fuel used			Price of fuel			
				LSHS	LSHS	Diesel (litre)	LSHS (MT)	Lube Oil (Litre)	Diesel (Rs/Litre)	LSHS (MT)	Lube Oil (Rs/Litre)	
Jan-18												
BDPP	0.00	0.06	0.06									
KDPP	0.00	0.33	0.33		10272.21	0.00	0.00	0.00	49.12	25791.66	117.65	
Feb-18												
BDPP	0.00	0.05	0.05									
KDPP	0.09	0.34	0.26	1984.62	10272.21	3398.00	16.83	764.00	49.12	25791.66	117.65	
Mar-18												
BDPP	0.15	0.06	0.08	3381.48	10605.00	21671.00	20.44	2517.00	43.36	27352.00	142.00	
KDPP	0.92	0.45	0.47	2023.32	10272.21	6074.00	181.63	715.00	49.12	25791.66	117.65	

Format-III Month Wise Details of Purchase of Energy (claiming for fuel surcharge cost)			
Source	Energy Purchase (MU) at generator bus	Variable Cost (Rs/kWh)	Total variable cost (Rs.Cr)

	Actual (A)	Approved ('B)	Actual (C)	Approved ('D)	Actual (E=A* C)	Approved (F=B*D)
January 2018						
Central Generating Stations (CGS)						
RSTPS I & II	100.23	145.37	2.51	2.63	25.19	38.20
RSTPS III	32.68	36.57	2.47	2.69	8.07	9.84
Talcher Stage-II	291.39	254.63	1.53	1.48	44.70	37.63
Simhadri TPS Stage II	57.10	54.41	2.92	2.73	16.67	14.86
NLC Stage-I	26.63	31.80	2.96	2.42	7.89	7.69
NLC Stage-II	49.25	45.43	2.96	2.42	14.58	10.98
NLC 1 Expansion	28.92	37.06	2.70	2.28	7.82	8.46
NLC II Expansion	36.62	35.15	2.71	2.30	9.92	8.07
Vallur STPS	16.96	29.89	2.93	2.07	4.97	6.19
NTPL	29.65	43.44	3.31	2.09	9.80	9.09
Kudgi	19.83	19.27	3.63	2.69	7.19	5.19
Total CGS	689.2 5	733.02	2.27	2.13	156.8 0	156.19
Power Purchase through Long Term contracts with generators outside the State						
DVC Reghunathpur	8.23	28.87	2.14	2.30	1.76	6.64
DVC Mejia	44.24	59.92	2.23	2.30	9.84	13.78
Maithon power-1, ER	94.15	88.69	1.94	2.00	18.30	17.74
Maithon power-2 ,ER	94.26	88.69	1.94	2.00	18.32	17.74
JPL STAGE2 -DBFOO	129.03	114.35	1.24	0.81	16.00	9.30
Jhabhua- SGPLNLR, TPCL DBFOO	81.28	66.06	1.85	1.66	15.04	10.94
BALCO-DBFOO	61.85	57.07	1.13	1.00	6.99	5.69
Total LTA	513.0 5	503.66	1.68	1.62	86.26	81.83
Total	1202. 30	1236.6 9	2.02	1.92	243.0 6	238.02
February 2018						
Central Generating Stations (CGS)						
RSTPS I & II	144.42	131.30	2.48	2.63	35.77	34.50
RSTPS III	32.47	33.03	2.43	2.69	7.88	8.89
Talcher Stage-II	257.69	229.99	1.56	1.48	40.20	33.99
Simhadri TPS Stage II	51.82	49.14	2.82	2.73	14.63	13.42
NLC Stage-I	31.05	28.72	2.92	2.42	9.07	6.94
NLC Stage-II	45.69	41.04	2.92	2.42	13.35	9.92
NLC 1 Expansion	37.56	33.47	2.71	2.28	10.17	7.64
NLC II Expansion	20.82	31.75	2.70	2.30	5.63	7.29
Vallur STPS	16.30	27.00	3.08	2.07	5.03	5.59
NTPL	36.11	39.24	3.26	2.09	11.77	8.21
Kudgi	35.38	34.81	3.63	2.69	12.84	9.37
Total CGS	709.3 1	679.49	2.35	2.15	166.3 4	145.76

Power Purchase through Long Term contracts with generators outside the State						
DVC Reghunathpur	8.59	26.08	2.61	2.30	2.24	6.00
DVC Mejia	58.80	54.12	2.19	2.30	12.89	12.45
Maithon power-1, ER	92.50	80.11	1.98	2.00	18.31	16.02
Maithon power-2 ,ER	92.50	80.11	1.98	2.00	18.31	16.02
JPL STAGE2 -DBFOO	106.30	103.29	1.24	0.81	13.19	8.40
Jhabhua- SGPLNLR, TPCL DBFOO	54.98	59.67	1.87	1.66	10.28	9.88
BALCO-DBFOO	55.36	51.55	1.15	1.00	6.37	5.14
Total LTA	469.02	454.92	1.74	1.62	81.58	73.91
Total	1178.33	1134.41	2.10	1.94	247.92	219.67
March 18						
Central Generating Stations (CGS)						
RSTPS I & II	163.11	145.37	2.49	2.63	40.61	38.20
RSTPS III	42.74	36.57	2.43	2.69	10.38	9.84
Talcher Stage-II	297.46	254.63	1.76	1.48	52.47	37.63
Simhadri TPS Stage II	54.61	54.41	2.78	2.73	15.18	14.86
NLC Stage-I	42.70	31.80	2.93	2.42	12.51	7.69
NLC Stage-II	62.03	45.43	2.93	2.42	18.17	10.98
NLC I Expansion	45.45	37.06	2.72	2.28	12.34	8.46
NLC II Expansion	17.01	35.15	2.71	2.30	4.60	8.07
Vallur STPS	25.87	29.89	3.10	2.07	8.02	6.19
NTPL	49.65	43.44	3.30	2.09	16.40	9.09
Kudgi	49.29	38.54	4.02	2.69	19.81	10.37
Total CGS	849.92	752.29	2.48	2.15	210.51	161.37
Power Purchase through Long Term contracts with generators outside the State						
DVC Reghunathpur	8.77	28.87	2.51	2.30	2.20	6.64
DVC Mejia	66.62	59.92	2.48	2.30	16.52	13.78
Maithon power-1, ER	98.50	88.69	2.01	2.00	19.77	17.74
Maithon power-2 ,ER	98.50	88.69	2.01	2.00	19.77	17.74
JPL STAGE2 -DBFOO	71.82	114.35	1.26	0.81	9.05	9.30
Jhabhua- SGPLNLR, TPCL DBFOO	64.98	66.06	1.86	1.66	12.12	10.94
BALCO-DBFOO	29.06	57.07	1.15	1.00	3.34	5.69
Total LTA	438.24	503.66	1.89	1.62	82.77	81.83
Total	1288.17	1255.96	2.28	1.94	293.28	243.21

ANNEXURE I

DETAILS OF ADDITIONAL LIABILITY

1. Details of Power Purchases - Energy procurement from Central Generating Stations during the period January to March 2018

Table 1 - Central Generating Stations							
Month	Energy purchased at ex bus			Variable cost of power Purchase at ex bus		Additional Liability	
	Approve d	Actual	Admissib le for FPA	Approve d	Actual	Actual	Admissibl e
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
1.1 NTPC-RSTPS Stage I & II							
Jan-18	145.37	100.23	100.23	2.63	2.51	-1.15	-1.15
Feb-18	131.30	144.42	131.30	2.63	2.48	-2.17	-1.98
Mar-18	145.37	163.11	145.37	2.63	2.49	-2.24	-2.00
Total	422.05	407.77	376.91	2.63	2.49	-5.56	-5.12
1.2 NTPC-RSTPS Stage III							
Jan-18	36.57	32.68	32.68	2.69	2.47	-0.73	-0.73
Feb-18	33.03	32.47	32.47	2.69	2.43	-0.86	-0.86
Mar-18	36.57	42.74	36.57	2.69	2.43	-1.12	-0.96
Total	106.16	107.89	101.72	2.69	2.44	-2.71	-2.55
1.3 NTPC Talcher-II STPS							
Jan-18	254.63	291.39	254.63	1.48	1.53	1.64	1.43
Feb-18	229.99	257.69	229.99	1.48	1.56	2.12	1.89
Mar-18	254.63	297.46	254.63	1.48	1.76	8.51	7.29
Total	739.24	846.5	739.24	1.48	1.62	12.27	10.61

		4					
1.4 NLC - TPS - II Stage 1							
Jan-18	31.80	26.63	26.63	2.42	2.96	1.45	1.45
Feb-18	28.72	31.05	28.72	2.42	2.92	1.57	1.45
Mar-18	31.80	42.70	31.80	2.42	2.93	2.19	1.63
Total	92.32	100.38	87.15	2.42	2.94	5.21	4.53
1.5 NLC-TPS-II Stage-2							
Jan-18	45.43	49.25	45.43	2.42	2.96	2.68	2.48
Feb-18	41.04	45.69	41.04	2.42	2.92	2.31	2.08
Mar-18	45.43	62.03	45.43	2.42	2.93	3.19	2.33
Total	131.91	156.96	131.91	2.42	2.94	8.18	6.89
Month	Energy purchased at ex bus			Variable cost of power purchase at ex bus		Additional Liability	
	Approved	Actual	Admissible for FPA	Approved	Actual	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
1.6 NLC-TPS-I Expansion							
Jan-18	37.06	28.92	28.92	2.28	2.70	1.22	1.22
Feb-18	33.47	37.56	33.47	2.28	2.71	1.60	1.42
Mar-18	37.06	45.45	37.06	2.28	2.72	1.97	1.61
Total	107.59	111.93	99.45	2.28	2.71	4.79	4.25
1.7 NLC-TPS-II Expansion							
Jan-18	35.15	36.62	35.15	2.30	2.71	1.52	1.46
Feb-18	31.75	20.82	20.82	2.30	2.70	0.85	0.85
Mar-18	35.15	17.01	17.01	2.30	2.71	0.70	0.70
Total	102.06	74.45	72.98	2.30	2.71	3.07	3.01
1.8 NTPC Simhadri TPS - Stage II							
Jan-18	54.41	57.10	54.41	2.73	2.92	1.07	1.02
Feb-18	49.14	51.82	49.14	2.73	2.82	0.48	0.45
Mar-18	54.41	54.61	54.41	2.73	2.78	0.27	0.27
Total	157.96	163.53	157.96	2.73	2.84	1.82	1.74
1.9 Vallur STPS							
Jan-18	29.89	16.96	16.96	2.07	2.93	1.45	1.45
Feb-18	27.00	16.30	16.30	2.07	3.08	1.65	1.65
Mar-18	29.89	25.87	25.87	2.07	3.10	2.67	2.67

Total	86.78	59.13	59.13	2.07	3.05	5.77	5.77
1.10 NTPL							
Jan-18	43.44	29.65	29.65	2.09	3.31	3.59	3.59
Feb-18	39.24	36.11	36.11	2.09	3.26	4.21	4.21
Mar-18	43.44	49.65	43.44	2.09	3.30	6.01	5.26
Total	126.12	115.40	109.20	2.09	3.29	13.81	13.06
1.11 NTPL KUDGI							
Jan-18	19.27	19.83	19.27	2.69	3.63	1.85	1.80
Feb-18	34.81	35.38	34.81	2.69	3.63	3.32	3.27
Mar-18	38.54	49.29	38.54	2.69	4.02	6.54	5.11
Total	92.62	104.50	92.62	2.69	3.81	11.71	10.18

2. Details of Power Purchases - Energy procurement from Private Generators Outside the State during the period January to March 2018

Table 2 - Private Generators Outside the State							
Month	Energy purchased at ex bus			Variable cost of power Purchase at ex bus		Additional Liability	
	Approved	Actual	Admissible for FPA	Approved	Actual	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
2.1 Maithon Power Ltd (150 MW) - Contract I							
Jan-18	88.69	94.15	88.69	2.00	1.94	-0.53	-0.50
Feb-18	80.11	92.50	80.11	2.00	1.98	-0.19	-0.17
Mar-18	88.69	98.50	88.69	2.00	2.01	0.07	0.06
Total	257.50	285.14	257.50	2.00	1.98	-0.65	-0.60
2.2 Maithon Power Ltd (150 MW) - Contract II							
Jan-18	88.69	94.26	88.69	2.00	1.94	-0.53	-0.50
Feb-18	80.11	92.50	80.11	2.00	1.98	-0.19	-0.17
Mar-18	88.69	98.50	88.69	2.00	2.01	0.07	0.06

Total	257.50	285.26	257.50	2.00	1.98	-0.65	-0.60
2.3 Jindal Power Limited (200 MW)							
Jan-18	114.35	129.03	114.35	0.81	1.24	5.50	4.88
Feb-18	103.29	106.30	103.29	0.81	1.24	4.54	4.42
Mar-18	114.35	71.82	71.82	0.81	1.26	3.21	3.21
Total	331.99	307.14	289.46	0.81	1.25	13.25	12.50
2.4 Jhabua Power Limited (115 MW)							
Jan-18	66.06	81.28	66.06	1.66	1.85	1.57	1.28
Feb-18	59.67	54.98	54.98	1.66	1.87	1.18	1.18
Mar-18	66.06	64.98	64.98	1.66	1.86	1.35	1.35
Total	191.79	201.24	186.02	1.66	1.86	4.10	3.81
Month	Energy purchased at ex bus			Variable cost of power Purchase at ex bus		Additional Liability	
	Approved	Actual	Admissible for FPA	Approved	Actual	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
2.5 BALCO - (DBFOO)							
Jan-18	57.07	61.85	57.07	1.00	1.13	0.82	0.76
Feb-18	51.55	55.36	51.55	1.00	1.15	0.85	0.79
Mar-18	57.07	29.06	29.06	1.00	1.15	0.45	0.45
Total	165.70	146.27	137.69	1.00	1.14	2.12	1.99
2.6 DVC Mejia (100 MW)							
Jan-18	59.92	44.24	44.24	2.30	2.23	-0.33	-0.33
Feb-18	54.12	58.80	54.12	2.30	2.19	-0.64	-0.58
Mar-18	59.92	66.62	59.92	2.30	2.48	1.20	1.08
Total	173.96	169.66	158.29	2.30	2.31	0.23	0.16
2.7 DVC RTPS (50 MW)							

Jan-18	28.87	8.23	8.23	2.30	2.14	-0.13	-0.13
Feb-18	26.08	8.59	8.59	2.30	2.61	0.26	0.26
Mar-18	28.87	8.77	8.77	2.30	2.51	0.18	0.18
Total	83.81	25.59	25.59	2.30	2.42	0.32	0.32

3 Summary of total additional liability for the fourth quarter

The summary of additional liability as per fuel surcharge regulations is given below.

Table 3 Summary of additional liability as per fuel surcharge regulations						
Source	Approved energy procurement	Actual Energy procurement	Per unit cost		Actual Additional liability	Admissible Additional liability
	(MU)	(MU)	Approved Rate	Actual rate		
			(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Central Generating Stations (CGS)						
RSTPS I & II	422.05	407.77	2.63	2.49	-5.56	-5.12
RSTPS III	106.16	107.89	2.69	2.44	-2.71	-2.55
Talcher Stage-II	739.24	846.54	1.48	1.62	12.27	10.61
Simhadri TPS Stage II	157.96	163.53	2.73	2.84	1.82	1.74
NLC Stage-I	92.32	100.38	2.42	2.94	5.21	4.53
NLC Stage-II	131.91	156.96	2.42	2.94	8.18	6.89
NLC 1 Expansion	107.59	111.93	2.28	2.71	4.79	4.25
NLC II Expansion	102.06	74.45	2.30	2.71	3.07	3.01
Vallur STPS	86.78	59.13	2.07	3.05	5.77	5.77

NTPL	126.12	115.40	2.09	3.29	13.81	13.06
NTPC Kudgi	92.62	104.50	2.69	3.81	11.71	10.18
Total CGS	2164.80	2248.48	2.14	2.37	58.36	52.37
Private IPPs outside the State						
DVC RTPS	83.81	25.59	2.30	2.42	0.32	0.32
DVC Mejia	173.96	169.66	2.30	2.31	0.23	0.16
Maithon Power Ltd-I	257.50	285.14	2.00	1.98	-0.65	-0.60
Maithon Power Ltd-II	257.50	285.26	2.00	1.98	-0.65	-0.60
Jindal Power ltd(DBFOO)-PSA I	331.99	307.14	0.81	1.25	13.25	12.50
Jhabua Power Ltd(DBFOO)- PSA I	191.79	201.24	1.66	1.86	4.10	3.81
BALCO	165.70	146.27	1.00	1.14	2.12	1.99
Total LTA	1462.25	1420.31	1.62	1.76	18.71	17.57
Total	3627.05	3668.79	1.92	2.13	77.07	69.94

4 Details of other power purchases :- Energy procurement through DBFOO contracts under Bid 2

4.1 The details of power purchase from JindalPower Ltd 150 MW,Jhabua Power Ltd 100 MW,Jindal India Thermal Power Ltd which was contracted under bid 2 are given below.

Table 4.1 Power procurement details for power contracted through DBFOO basis under Bid 2 not approved by the Commission vide suomotu order

Month	Jindal Power Ltd (150 MW)			Jhabua Power Ltd (100 MW)			JITPL (100 MW)		
	Energy purchased at Kerala periphery	Rate of power purchase *	Total Power purchase cost	Energy purchased at Kerala periphery	Rate of power purchase *	Total Power purchase cost	Energy purchased at Kerala periphery	Rate of power purchase *	Total Power purchase cost
	MU	Rs/unit	Rs in crores	MU	Rs/unit	Rs in crores	MU	Rs/unit	Rs in crores
Jan-18	96.70	4.36	42.19	70.68	4.39	31.04	70.59	4.16	29.34
Feb-18	79.60	4.41	35.07	47.90	5.02	24.02	56.54	4.70	26.58
Mar-18	55.87	3.96	22.13	56.54	4.70	26.58	66.86	4.31	28.80

Total	232.17	4.28	99.39	175.11	4.66	81.65	193.98	4.37	84.72
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***Rate of power purchase at Kerala periphery**

4.2 While issuing tariff order for 2017-18, Hon'ble Commission has not considered the quantum of power from the above sources and instead has approved purchase of power from short term market. Thus, the quantum purchased from the above contracts of 350 MW on DBFOO basis is compared with the energy approved through short term contracts. The rate of purchase at Kerala periphery inclusive of transmission charges and losses is taken for arriving the additional liability form the above generators contracted through DBFOO basis.

4.3 The additional liability on account of the purchase from above generators is detailed in the table below.

Table 4.2 - Additional liability on account of the purchase from above generators					
Month	Energy purchased at generator bus		Rate at Kerala periphery		Additional Liability (Rs. Cr)
	Approved	Actual	Approved	Actual	
	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	
4.2.1 Jindal Power Ltd-PSA-II-150 MW					
Jan-18		96.70	4.33	4.36	0.32
Feb-18		79.60	4.33	4.41	0.60
Mar-18		55.87	4.33	3.96	-2.06
Total	211.47*	232.17	4.33	4.28	-1.14
4.2.2 Jhabua Power Ltd-100 MW					
Jan-18		70.68	4.33	4.39	0.43
Feb-18		47.90	4.33	5.02	3.28
Mar-18		56.54	4.33	4.70	2.10
Total	191.01*	175.11	4.33	4.66	5.82
4.2.3 Jindal India Thermal Power Ltd-100 MW					
Jan-18		70.59	4.33	4.16	-1.23
Feb-18		59.60	4.33	4.29	-0.21
Mar-18		66.86	4.33	4.31	-0.15
Total	211.47	197.0	4.33	4.25	-1.59

	*	4			
*Quantum of power purchase through short term markets approved by Honourable Commission					

4.4 Additional liability on account of power purchase from above stations, amounts to Rs 3.09 crores, as detailed in table 4.3 below.

Table 4.3 Summary of additional liability on account of power purchase from Jindal Jhabua and JITPL contracted under Bid 2 through DBFOO basis

Month	Energy purchased at Kerala periphery			Rate of power purchase at Kerala periphery		Addl Liability	
	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Jan-18		237.97	237.97	4.33	4.31	-0.47	-0.47
Feb-18		187.10	187.10	4.33	4.53	3.67	3.67
Mar-18		179.26	179.26	4.33	4.32	-0.11	-0.11
Total		604.33	604.33	4.33	4.38	3.09	3.09

5 Details of procurement from Short-term market

Table 5.1 Details of procurement from Short-term market and traders

Source	January			February			March		
	Quantum	Rate	Amount	Quantum	Rate	Amount	Quantum	Rate	Amount
	MU	Rs/unit	Rs in crores	MU	Rs/	Rs in crores	MU	Rs/unit	Rs in crores
IEX	0.00	0.00	0.00	0.23	4.80	0.11	11.29	5.24	5.91
PXIL	0.00	0.00	0.00	0.00	0.00	0.00	2.25	6.36	1.43
DSM	19.83	1.90	3.76	32.64	2.38	7.77	40.70	1.94	7.88
Total	19.83	1.90	3.76	32.87	2.40	7.88	54.23	2.81	15.22

5.1 KSEBL has purchased 106.93 MU from short term market through exchanges and by means of power transfer through deviation settlement mechanism. The monthwise details are given below

*Quantum and rate at Kerala periphery

5.2 The quantum and rate of short term purchases from power exchanges, power transfer through deviation settlement mechanism and swap at Kerala periphery is taken and the same is compared with rate of power purchase @ Rs 4.33 per unit

approved by the Commission for purchase through short term contracts at Kerala periphery. This rate is inclusive of transmission charges as the rate of purchase through exchanges and short term market is inclusive of transmission charges. The additional liability due to variation in power purchase rate on account of short term purchase from exchanges/dsm is given in table below.

Table 5.2 - Additional liability on account of variation in short term power purchase rate				
	Actual Quantum	Approved rate	Actual rate	Additional liability
Month	MU	Rs/kWh	Rs/kWh	Rs in crores
Jan-18	19.83	4.33	1.90	-4.82
Feb-18	32.87	4.33	2.40	-6.36
Mar-18	54.23	4.33	2.81	-8.26
Total	106.93	4.33	2.71	-19.44

5.3 Thus the total additional liability from approved sources after considering short term purchase (on account of change in variable cost for CGS and IPPs and variation in power purchase cost in case of short term purchase) is given in table below.

Table 6				
Source	Approved Quantum in MU*	Actual Quantum in MU*	Actual Additional liability (Rs in crores)	Admissible additional liability if IPPs II & short term is considered (Rs in crores)
CGS	2164.80	2248.48	58.36	52.37
IPPs I**	1462.25	1420.31	18.71	17.57
IPPs II***	604.33	604.33	3.09	3.09
Short term market (exchanges, DSM)	106.93	106.93	-19.44	-19.44
Total	4338.32	4380.06	60.72	53.59

* Quantum at exbus for CGS and IPPs I, Quantum at Kerala periphery for IPPs II and short term market

**IPPs approved by suomotu order dated 17.04.2017

*** IPPs such as Jindal Power Ltd, Jhabua Power Ltd, Jindal India Thermal Power Ltd

5.4 In addition to the above, KSEBL availed 79.15 MU during the fourth quarter through swap arrangement and 1.15 MU from KPTCL through overarching agreement signed between Southern States for optimum utilization of surplus power at competitive rates.

5.5 The total power purchase cost for the year 2017-18 viz-a-viz that approved by the Honorable Commission is enclosed as Annexure V.

ANNEXURE II

Source	Approved energy procurement	Actual Energy procurement	Per unit cost		Actual Addition al liability on account of variation in power purchase cost (Rs. Cr)	Admissib le Addition al liability on account of variation in power purchase cost (Rs. Cr)
			Approv ed Rate	Actual rate		
	(MU)	(MU)	(Rs/kW h)	(Rs/k Wh)		
CGS						
RSTPS I & II	422.05	407.77	2.63	2.49	-5.56	-5.12
RSTPS III	106.16	107.89	2.69	2.44	-2.71	-2.55
Talcher Stage-II	739.24	846.54	1.48	1.62	12.27	10.61
Simhadri TPS Stage II	157.96	163.53	2.73	2.84	1.82	1.74
NLC Stage-I	92.32	100.38	2.42	2.94	5.21	4.53
NLC Stage-II	131.91	156.96	2.42	2.94	8.18	6.89
NLC 1 Expansion	107.59	111.93	2.28	2.71	4.79	4.25
NLC II Expansion	102.06	74.45	2.30	2.71	3.07	3.01
Vallur STPS	86.78	59.13	2.07	3.05	5.77	5.77
NTPL	126.12	115.40	2.09	3.29	13.81	13.06
NTPC Kudgi	92.62	104.50	2.69	3.81	11.71	10.18
Sub Total	2164.80	2248.48	2.14	2.37	58.36	52.37
Private IPPs outside the State						
DVC RTPS	83.81	25.59	2.30	2.42	0.32	0.32
DVC Mejia	173.96	169.66	2.30	2.31	0.23	0.16
Maithon Power Ltd-I, ER	257.50	285.14	2.00	1.98	-0.65	-0.60
Maithon Power Ltd-II, ER	257.50	285.26	2.00	1.98	-0.65	-0.60

Jindal Power Ltd(DBFOO)-PSA I	331.99	307.14	0.81	1.25	13.25	12.50
Jhabua Power Ltd(DBFOO)-PSA I	191.79	201.24	1.66	1.86	4.10	3.81
BALCO	165.70	146.27	1.00	1.14	2.12	1.99
Sub Total	1462.25	1420.31	1.62	1.76	18.71	17.57
Total	3627.05	3668.79	1.92	2.13	77.07	69.94

Annexure-III

Rate of Fuel Surcharge in Paise per unit	
Particulars	Quantum
Amount of Fuel Surcharge (F) in crores	69.94
Energy billed for Retail sale to whole consumers for the first quarter (E) in MU	5322.58
Energy billed for domestic consumers having monthly consumption less than 20 units and connected load below 20W during the third quarter in MU	0.19
Energy billed for Retail sale to consumers other than the domestic consumers with connected load less than 500 W and monthly consumption below 20 units consumers for third quarter (E) in MU	5322.39
Rate of fuel surcharge in Paise per unit	13.141
Rounded to 13 Paise per unit	

Annexure V

Provisional details of Total Power Purchase Cost for 2017-18

SI No	Source	Amount (Rs.Cr)
I	Central Generating Stations	
	NTPC including RGCCPP	1875.55
	NLC	712.48
	MAPP	36.39
	NPCIL-KAIGA	207.48
	NPCIL-Kudamkulam	445.41
	APCPL	0.01
	NTECL-Vallur	133.62
	NTPL-Tuticorin	229.44
	Subtotal	3640.38
II	Wind, Small Hydro & Solar IPPs inside the State	90.88
III	Private IPPs outside the State	
	Maithon Power Ltd	673.13
	Damodar Valley Corporation	269.01
	Jindal Power Ltd	814.99
	Jhabua Power Ltd	510.95
	BALCO	133.85
	Jindal India Thermal Power Ltd	172.38
	Sub total	2574.33
IV	PTC	144.01
V	TPTCL	48.81
VI	GMRETL	2.26
VII	POSOCO-Deviation settlement mechanism	125.12
VIII	Power exchange	238.82
IX	Transmission charges- PGCIL	543.00
X	Swap* (133 MU @ Rs 3.90 per unit)	51.82
XI	BSES #	11.84
XII	KPTCL	0.57
	Total	7471.83

	Total Power purchase cost approved by the Commission for the year 2017-18	7339.35
<p>*Energy received under swap arrangement from HPPC is to be returned during 2018-19 and is valued at average power purchase cost approved for 2017-18, for the purpose of arriving the total power purchase cost for 2017-18.</p> <p># Power purchase cost of 62.12 MU scheduled from BSES during May & June is arrived at average UI rate of corresponding months and is subject to the final order of Honourable Commission on IA no 8 of 2017 on petition no. 34 of 2015.</p>		