

महाराष्ट्र विद्युत नियामक आयोग

Maharashtra Electricity Regulatory Commission



Ref. No. MERC/FAC/20172018/3006

Date: 05 June, 2017

To.

The General Manager,

The Brihanmumbai Electric Supply and Transport Undertaking,

BEST Bhavan, BEST Marg,

Post Box No. 192, Mumbai 400 001

Subject:

Post facto approval of BEST Undertaking's Fuel Adjustment Charges (FAC) for

the period of October 2016 to December 2016.

Reference:

BEST' Undertaking's submissions vide letter no. CER/MERC/43/2017 dated 21

March, 2017 for post-facto approval of FAC for the period from October, 2016 to

December, 2016

Sir,

Upon vetting the FAC calculations for the months of October 2016 to December 2016 as mentioned in the above reference, the Commission has accorded post facto approval to BEST undertaking for charging FAC to its consumers as shown in the table below:

Particulars		Oct. 2016	Nov. 2016	Dec. 2016
Standalone FAC (Rs. Crore)	A	(8.28)	(4.79)	7.75
Instalment of unrecovered part of recalculated FAC for the period of April to September, 2016* (Rs. Crore)	В	38.66	38.32	37.98
Net FAC allowed (Rs. Crore)	C=A+B	30.38	33.53	45.73
Carried forward on account of FAC cap	D	0	0	2.10
Net FAC allowed for recovery (Rs. Crore)	E=C-D	30.38	33.53	43.02

^{*}Allowed vide FAC vetting Report dated 4 January, 2017.

The above approval of FAC is subject to the final True up of FY 2016-17 under the MERC (Multi Year Tariff) Regulations, 2015.

BEST has computed adjustment factor for December, 2016 by considering FAC amount actually recovered in the billing month of January, 2017, which is not in line with the Regulations. BEST is directed to compute the adjustment factor for subsequent months strictly in line with the MERC MYT Regulations, 2015.

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Further, in accordance with Commission's directive in MYT Order dated 28 October, 2016, BEST Undertaking is directed to improve its billing system so that details required for computation of FAC on 'n-2' basis are made available.

Yours faithfully,

(Dr. Rajendra Ambekar) Executive Director

Encl: Annexure A: Detailed Vetting Report for the period of October 2016 to December 2016.

Cc as enclosed:

Names and Addresses of Institutional Consumer Representatives

Prayas Energy Group, Amrita Clinic, Athawale Corner, Lakdipool-Karve Road Junction, Deccan Gymkhana, Karve Road, Pune 411 004.	The President, Mumbai Grahak Panchayat, Grahak Bhavan, Sant Dynyaneshwar Marg, Behind Cooper Hospital, Vile Parle (West), Mumbai 400 056.
The General Secretary, Thane Belapur Industries Association, Plot No.P-14, MIDC, Rabale Village, PO Ghansoli, Navi Mumbai 400 7001	The President, Vidarbha Industries Association, 1st floor, Udyog Bhawan, Civil Lines, Nagpur 440 001.
Maharashtra Chamber of Commerce, Industry & Agriculture, Oricon House, 6th Foor, 12 K. Dubash Marg, Fort, Mumbai- 400 001, (Nashik Branch) E-mail: maccia.nsk@gmail.com	Chamber of Marathwada Industries and Agriculture, Bajaj Bhavan, P-2, MIDC Area, Station Road, Aurangabad - 431 005

POST FACTO APPROVAL FOR FAC CHARGES FOR THE MONTHS OF OCTOBER 2016 TO DECEMBER 2016

Subject: Post facto approval of BEST Undertaking's Fuel Adjustment Charges (FAC) for

the period of October 2016 to December 2016.

Reference: BEST' Undertaking's submissions vide letter no. CER/MERC/43/2017 dated 21

March, 2017 for post-facto approval of FAC for the period from October, 2016

to December, 2016

1. FAC submission by BEST Undertaking:

1.1 BEST Undertaking has submitted FAC submissions for the months of October 2016 to December 2016 as referred above. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by BEST Undertaking, the Commission has accorded post facto approval for the FAC amount to be charged in the billing months of January 2017 to March 2017.

2. Background

- 2.1 On 28 October, 2016, the Commission has issued Tariff Order for BEST Undertaking, (Case No. 33 of 2016) for truing-up of Aggregate Revenue Requirement (ARR) for FY 2012-13 to FY 2014-15, provisional truing-up of FY 2015-16 and ARR and Tariff for FY 2016-17 and FY 2019-20. Revised Tariff has been made applicable from 1 October 2016.
- 2.2 Vide its letter dated 15 November, 2016, the Commission communicated the excel formats for filing of FAC submissions to all Distribution Licensees. The Commission also directed all Distribution Licensees to submit FAC computations, including details pertaining to variation in fuel cost of generators for the approval of the Commission.
- 2.3 Vide FAC vetting Report dated 4 January, 2017, the Commission accorded prior approval to the FAC for the month of October, 2016.
- 2.4 In terms of MERC (MYT) Regulations, 2015 a Distribution Licensee is required to obtain post facto approval of the Commission on a quarterly basis for FAC charges. Accordingly, vide its letter dated 21 March, 2017, BEST Undertaking has filed FAC submissions for the months of October, 2016 to December, 2016 for post facto approval. The Commission has scrutinized the submissions provided by BEST Undertaking and has also verified the fuel and power purchase bills provided along with its submissions.

3. Energy Sales of the Licensee

3.1 The net energy sales within licence area as submitted by BEST Undertaking in the FAC submission and as approved by the Commission are as shown in the table below.

Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual (Oct-16) (MU)	Actual (Nov-16) (MU)	Actual (Dec-16) (MU)
	(I)	(II=I/12)	(III)	(IV)	(V)
LT Category					
LT - I (A) Residential-BPL	0.24	0.02	0.01	0.00	0.00
LT - I (B) Residential	1,974.48	164.54	157.10	143.29	119.11
LT - II (A) Commercial	909.57	75.80	72.20	65.45	56.73
LT - II (B) Commercial	226.20	18.85	17.52	16.89	16.94
LT - II (C) Commercial	408.10	34.01	30.24	28.28	28.41
LT - III (A) Industrial	43.23	3.60	3.72	3.44	3.18
LT - III (B) Industrial	99.50	8.29	7.71	6.97	7.39
LT - IV PWW	1.81	0.15	0.54	0.53	0.55
LT - V Adv & Hoardings	1.76	0.15	0.15	0.14	0.14
LT - VI St. Lighting	28.10	2.34	2.54	2.57	2.71
LT - VII (A) Temp-Religious	2.69	0.22	0.21	0.08	0.00
LT - VII (B) Temp-Others	41.73	3.48	3.38	3.26	3.00
LT - VIII Crematorium	1.32	0.11	0.13	0.12	0.12
LT - IX (A) Public Service	33.30	2.78	5.03	4.04	4.01
LT - IX (B) Public Service Others	160.01	13.33	10.32	12.51	12.21
HT Category					
HT - I Industry	179.98	15.00	11.56	11.51	11.77
HT - II Commercial	344.87	28.74	25.07	23.63	23.86
HT - III Grp. Housing (Residential)	32.08	2.67	2.69	2.48	2.51
HT - IV PWW	30.71	2.56	3.11	2.73	2.78
HT-V Railways, Metro & Monorail	-	-	0.21	0.19	0.19
HT-VI (A) Public Service	11.29	0.94	2.14	1.96	1.90
HT-VI (B) Public Service- Others	129.13	10.76	13.06	12.42	12.22
HT-VII Temporary Supply	7.80	0.65	0.76	0.73	0.74
Total Energy Sale	4,667.90	388.99	369.41	343.23	310.47

4. Cost of Power Purchase

- 4.1 BEST Undertaking does not own or operate any generating stations. BEST Undertaking is procuring power from outside sources in order to fulfil the demand of its consumers. The following are the list of sources from which BEST Undertaking procures power to meet its demand.
 - a) Purchases from Tata Power Company Ltd. (TPC-G)
 - b) Renewable energy procurement(RPS)
 - c) Bilateral contracts and decrements to the imbalance pool.
 - d) Unscheduled Interchanges (Interstate UI)
- 4.2 The following tables show the variation in average power purchase cost (Rs/kWh) for the month of October, 2016 to December, 2016 as compared to average power purchase cost approved in Tariff Order dated 28 October, 2016:

	Tariff O	Tariff Order Dated 28.10.2016			Actual for October, 2016			
Particulars	Purchase	Cost Rs. Crore	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost		
			Rs/kWh	MU	Rs. Crore	Rs/kWh		
TPC-G	3819	1599	4.19	328	126	3.84		
RE Sources	174	197	11.32	21	20	9.32		
Traders	1169	412	3.52	69	22	3.14		
Other	-	-	-	45	22	4.99		
Total	5163	2207	4.28	464	190	4.10		

	Actual for November, 2016			Actual for December, 2016			
Particulars	Net Purchase Cost		Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost	
	MU Rs. Cron	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh	
TPC-G	309	123	3.98	287	120	4.21	
RE Sources	23	21	9.19	25	22	8.87	
Traders	29	9	3.15	69	22	3.14	
Other	31	9.35	3.05	14	7.06	5.02	
Total	392	163	4.15	395	171	4.34	

4.3 The Commission allows the average power purchase cost of Rs. 4.10/kWh for the month of October 2016, Rs. 4.15/kWh for the month of November 2016 and Rs. 4.34/kWh for the month of December 2016 as shown in the table above.

5. FAC on account of fuel and power purchase cost (F)

- 5.1 The Commission has worked out the average power purchase costs for the months as shown in above tables. The same has been compared with the average power purchase cost approved by the Commission in Tariff Order dated 28 October 2016 and arrived at differential per unit rate at which Z_{FAC} is to be passed on to the consumers.
- 5.2 The following table shows the Z_{FAC} worked out by the Commission on account of difference in fuel and power purchase cost for the months of October, 2016 to December 2016

S. No.	Particulars	Units	Oct. 2016	Nov. 2016	Dec. 2016
1	Average power purchase cost approved by the Commission	Rs./kWh	4.28	4.28	4.28
2	Actual average power purchase cost	Rs./kWh	4.10	4.15	4.34
3	Change in average power purchase cost (=2 -1)	Rs./kWh	(0.18)	(0.12)	0.06
4	Net Power Purchase	MU	463.65	391.48	395.06
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	(8.28)	(4.79)	2.49

6. Adjustment for over recovery/under recovery (B)

6.1 After adjustment for over-recovery/under recovery (B), the adjustment factor to be added / reduced is as below:

S. No.	Particulars	Units	Oct. 2016	Nov. 2016	Dec. 2016
1.1	Incremental cost allowed to be recovered in Month n-4	Rs. Crore	-	-	30.38
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	-	-	25.16
1.3 Adjustment factor for over-recovery/under-recovery (1.2 - 1.1)		Rs. Crore	-	-	5.23

- 6.2 It is observed that BEST has computed adjustment factor for December, 2016 by considering FAC amount actually recovered in the billing month of January, 2017. This is not in line with the Regulations and accordingly, BEST was enquired to provide proper justification for the same. BEST in its response, submitted that while computing FAC for the month of December, 2017 (recoverable in billing month of March, 2017), actual recovery report for January, 2017 was available. Therefore, in order to reduce the impact of carrying cost on the consumers, BEST has utilized actually recovered values in January, 2017 for computing the adjustment factor of December, 2016.
- 6.3 The Commission is of the view that computation of adjustment factor for December, 2016 as submitted by BEST is not in accordance with the Regulations as there was no actual recovery in that month. Accordingly, BEST is directed to compute the adjustment factor for subsequent months strictly in line with the MERC MYT Regulations, 2015. Further, BEST should compute any under/over-recovery due to this erroneous computation of adjustment factor and give effect of the same in upcoming months' FAC calculations.

7. Carrying Cost for over recovery/under recovery (B)

7.1 Carrying/ Holding cost for under/ over recovery has been granted at approved interest rate for the eligible amount viz. the difference between the normative actual variable cost of power procurement and approved cost of power procurement for the respective months. The following Table shows the month wise interest rate and amount worked out as Carrying/ Holding cost for under/ over recovery for the months of October, 2016 to December, 2016.

Month	Oct, 2016	Nov, 2016	Dec, 2016
Adjustment Factor (Rs. Crore)	-	_ r	5.23
Applicable Interest Rate	10.80%	10.80%	10.80%
Carrying/ Holding cost for under/ over recovery (Rs. Crore)	-	-	0.05

8. <u>Disallowance due to excess Distribution Loss</u>

8.1 Regulation 10.8 of MYT Regulations, 2015 provides for FAC amount to be reduced in case the actual distribution loss for the month exceeds the approved distribution loss. The relevant extract is reproduced as follows.

"10.8 The total ZFAC recoverable as per the formula specified above shall be recovered from the actual sales in terms of "Rupees per kilowatt-hour":

Provided that, in case of unmetered consumers, the ZFAC shall be recoverable based on estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission:

Provided further that, where the actual distribution losses of the Distribution Licensee exceed the level approved by the Commission, the amount of ZFAC corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total ZFAC recoverable"

8.2 The following table provides the comparison of approved and actual distribution loss and disallowance due to excess distribution loss if any.

S. No.	Particulars	Units	Approved in Tariff Order	Actual up to Oct-16	Actual up to Nov-16	Actual up to Dec-16
1	Net Energy input at Distribution Voltages	MU	4,960.57	2,905.69	3,263.08	3,622.42
2	Energy sales at Distribution voltages	MU	4,667.90	2,726.82	3,070.05	3,380.52
3	Distribution Loss (=1-2)	MU	292.67	178.86	193.03	241.90
4	Distribution Loss as % of net energy input (=3/1)	%	5.90%	6.16%	5.92%	6.68%
5	Excess Distribution Loss =[Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	_	1.02	0.06	2.80
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	-	-	0.02

8.3 As seen from the above table, cumulative distribution loss for the month of October 2016 to December, 2016 is higher than the approved distribution loss of 5.90%. Accordingly, appropriate deductions have been made towards the excess distribution loss for the month of December, 2016. The Commission however, has not worked out any disallowance on account of excess distribution loss for the months of October 2016 and November 2016 since the FAC for these months is Negative.

9. Recalculation of FAC based for the period April to September 2016:

9.1 In its vetting report dated 28th December 2016 for the month of July to September, 2016, the Commission has directed BEST Undertaking as follows:

- "10.3 Since, FAC for the period of April 2016 to September 2016 has been calculated based on the power purchase cost approved for FY 2015-16 in the prevailing Tariff Order dated 28 August, 2013, BEST is directed to recalculate FAC for this period after considering the power purchase cost approved for FY 2016-17 in Tariff Order dated 28 October, 2016. BEST shall adjust the resultant FAC amount which remains to be recovered / refunded in next FAC billing process..."
- 9.2 In compliance of above, BEST Undertaking vide email dated 30 December 2016 submitted recomputed FAC for the month of April to September, 2016 after comparing actual power purchase expenses with approved expenses for FY 2016-17 in Tariff Order dated 28 October, 2016. As per this submission FAC of Rs 113.94 Crore is yet to be recovered from the consumers for this period. BEST has proposed to recover this amount in three equal instalments with carrying cost.
- 9.3 The Commission has scrutinised submission of BEST and found that FAC of Rs 113.94 Crore is yet to be recovered from the consumers for the period of April to September, 2016. Allowing recovery of such amount in a month will adversely impact the consumers. Hence, the Commission vide FAC vetting Report dated 4 January, 2017 allows BEST Undertaking to levy Rs. 113.94 Crore to its consumers in three equal instalments with carrying cost.
- 9.4 The Commission has considered three instalments of Rs. 37.98 Crore (1/3rd of the total amount) for the months of October, 2016 to December, 2016 along with carrying cost of Rs. 0.68 Crore and Rs. 0.34 Crore for month of October and November, 2016 respectively.

10. Summary of Allowable ZFAC

10.1 The summary of the FAC amount as approved by the Commission for the month of October, 2016 to December, 2016 which is allowed to be recovered in the billing month of January, 2017 to March, 2017 is as shown in the Table below.

S. No.	Particulars	Units	Oct-16	Nov-16	Dec-16
1.0	Calculation of ZFAC				
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	(8.28)	(4.79)	2.49
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	-	-	0.05
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	-	-	5.23
1.4	ZFAC = F+C+B	Rs. Crore	(8.28)	(4.79)	7.77

S. No.	Particulars	Units	Oct-16	Nov-16	Dec-16
1.5	Instalments of recalculated net FAC amount of Rs. 113.94 Crore for April to Sept-2016 (with Carrying cost)	Rs. Crore	38.66	38.32	37.98
1.6	Net ZFAC for the months of Oct, 2016 to Dec, 2016	Rs. Crore	30.38	33.53	45.75
2.0	Calculation of FAC Charge				
2.1	Energy Sales within the License Area	MU	369.41	343.23	310.47
2.2	Excess Distribution Loss	MU	-	_	2.80
2.3	ZFAC per kWh	Rs./kWh	0.82	0.98	1.46
3.0	Recovery of FAC				
3.1	Allowable FAC [(2.1 x 2.5)/10]	Rs. Crore	30.38	33.53	45.75
3.2	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.5)/10]	Rs. Crore	-	-	0.02
4.0	Total FAC based on category wise and slab wise allowed to be recovered	Rs. Crore	30.38	33.53	43.02
4.1	Carried forward FAC for recovery during future period (3.1-3.2-4.0)	Rs. Crore	-	-	2.10

11. Recovery from Consumers:

11.1 Regulation 10.9 of MERC MYT Regulations, 2015 provides for methodology of recovery of FAC charge from each category of consumers. The relevant extract is reproduced as below.

"10.9 The ZFAC per kWh for a particular Tariff category/sub-category/consumption slab shall be computed as per the following formula:—

 $ZFAC\ Cat\ (Rs/kWh) = [ZFAC\ /\ (Metered\ sales\ +\ Unmetered\ consumption\ estimates\ +\ Excess\ distribution\ losses)]\ *\ k\ *\ 10,$

Where:

ZFAC Cat = ZFAC component for a particular Tariff category/sub-category/consumption slab in 'Rupees per kWh' terms;

k = Average Billing Rate / ACOS;

Average Billing Rate = Average Billing Rate for a particular Tariff category/sub-category/ consumption slab under consideration in 'Rupees per kWh' as approved by the Commission in the Tariff Order:

Provided that the Average Billing Rate for the unmetered consumers shall be based on the estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission:

ACOS = Average Cost of Supply in 'Rupees per kWh' as approved for recovery by the Commission in the Tariff Order:

Provided that the monthly ZFAC shall not exceed 20% of the variable component of Tariff or such other ceiling as may be stipulated by the Commission from time to time:

Provided further that any under-recovery in the ZFAC on account of such ceiling shall be carried forward and shall be recovered by the Distribution Licensee over such future period as may be directed by the Commission..."

- 11.2 The Commission has worked out FAC per unit for each category of consumer based on the formula provided in the above Regulations. The Commission observed that there is an under recovery of Z_{FAC} in absolute terms on considering category wise per unit FAC worked out and category wise actual sales for the months of October 2016 to December 2016.
- 11.3 The variation in FAC in absolute terms is due to formula error of Z_{FAC} computed on per unit basis. The variation however is taken care in the adjustment factor of subsequent months.
- 11.4 The following table shows per unit Z_{FAC} to be charged to the consumers of BEST Undertaking for the billing month of January 2017 to March 2017.

S. No.	Consumer Category	Slabs	ZFAC to be levied in billing month of Jan'17 (Rs./kWh)	ZFAC to be levied in billing month of Feb'17 (Rs./kWh)	ZFAC to be levied in billing month of Mar'17 (Rs./kWh)
(A)	LT Category				
1	LT - I (A) Residential-BPL	0 - 30	0.20	0.20	0.20
2	LT - I (B) Residential	0 - 100	0.34	0.40	0.40
		101 - 300	0.60	0.71	0.89
		301 - 500	0.84	0.99	1.41
		> 501	1.01	1.20	1.70
3	LT - II (A) Commercial	0 - 500	0.97	1.15	1.52
	21 11 (11)	> 500	1.02	1.21	1.72
4	LT - II (B) Commercial	all units	0.99	1.18	1.60
5	LT - II (C) Commercial	all units	1.04	1.24	1.74
6	LT - III (A) Industrial	0 - 500	0.87	1.03	1.38
	2 ()	> 500	0.93	1.11	1.57

S. No.	Consumer Category	Slabs	ZFAC to be levied in billing month of Jan'17 (Rs./kWh)	ZFAC to be levied in billing month of Feb'17 (Rs./kWh)	ZFAC to be levied in billing month of Mar'17 (Rs./kWh)
7	LT - III (B) Industrial	> 20 KW	0.87	1.04	1.38
8	LT - IV PWW	all units	0.86	1.02	1.40
9	LT - V Adv & Hoardings	all units	1.43	1.70	2.22
10	LT - VI St. Lighting	all units	0.85	1.00	1.32
11	LT - VII (A) Temp- Religious	all units	0.49	0.58	0.76
12	LT - VII (B) Temp-Others	all units	1.08	1.28	1.81
13	LT - VIII Crematorium	all units	0.58	0.69	0.94
14	LT - IX (A) Public Service	all units	0.84	1.00	1.42
15	LT - IX (B) Public Service Others	all units	0.91	1.08	1.53
16	LT – X (A) Agriculture - pumpsets	all units	*	*	*
17	LT – X (A) Agriculture - others	all units	*	*	*
(B)	HT Category				
16	HT - I Industry	all units	0.90	1.07	1.52
17	HT - II Commercial	all units	0.99	1.18	1.67
18	HT - III Grp. Housing (Residential)	all units	0.71	0.84	1.19
19	HT - IV PWW	all units	0.85	1.01	1.43
20	HT-V Railways, Metro & Monorail	all units	0.74	0.89	1.26
21	HT-VI (A) Public Service	all units	0.84	0.99	1.41
22	HT-VI (B) Public Service- Others	all units	0.94	1.11	1.58
23	HT-VII Temporary Supply	all units	0.98	1.16	1.65

^{*}There is no consumer under this category. FAC can be calculated once ABR based on actual sales is available.

12. Time lag in levying FAC to the consumers:

12.1 FAC formula in MYT Regulations, 2015 provides time lag of two months in recovering FAC from the consumers. However, on account of delay in submitting proposal for prior approval of FAC for the month of October, 2016, the Commission vide its vetting report dated 4 January, 2017 has allowed BEST for levying FAC to its consumers for the month of October 2016 in the billing month of January 2017. Thereafter, BEST Undertaking has continued same time lag in levying FAC to the consumers on account of delay is getting details of actual energy sales to the consumers.

12.2 The Commission in its Tariff Order dated 28 October, 2016 in Case No. 33 of 2016 has directed BEST to improve its billing system for reducing time lag as follows:

"It is expected that the Distribution Licensee conduct its operations in the most economical and efficient manner. As regards the generation of bills, BEST needs to improve its process from metering to billing as the time gaps resulting from the present system of batch processing and related modalities has a significant impact on its cash flows. The Commission directs BEST to submit an analysis of the present system and the time taken, along with details of the actions taken to improve its metering, billing and collection cycles and to reduce the time gaps in respect of different consumer categories. The Commission shall review BEST's metering, billing and collection cycles on this basis at the time of the MTR and assess whether any avoidable excess IoWC is arising from inefficiencies in its processes."

In view of above directive of the Commission, BEST is required to improve its billing system so that details required for computation of FAC on 'n-2' basis are made available.