

MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
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Ref. No. MERC/FAC/2020-21/E-Letter

Date: 20 April, 2020

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 approvals of BEST Undertaking's Fuel Adjustment Charges (FAC) for the period from July, 2018 to September, 2018, October, 2018 to December, 2018 and January, 2019 to March, 2019.

Reference: BEST Undertaking's submissions for post-facto approvals of FAC for the period from July, 2018 to September, 2018, October, 2018 to December, 2018 and January, 2019 to March, 2019.

Sir,

Upon vetting the FAC calculations for the month of July, 2018 to September, 2018, October, 2018 to December, 2018 and January, 2019 to March, 2019, 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:

Month	Jul, 2018	Aug, 2018	Sept, 2018
FAC allowed (Rs. Crore)	9.08	25.94	29.01

Month	Oct, 2018	Nov, 2018	Dec, 2018
FAC allowed (Rs. Crore)	11.59	5.55	13.18

Month	Jan, 2018	Feb, 2018	Mar, 2018
FAC allowed (Rs. Crore)	22.52	21.65	(11.81)



The above approved FAC amounts have been adjusted in the final True up of FY 2018-19 under the MERC (Multi Year Tariff) Regulations, 2015 vide Order dated 30 March, 2020 in Case No. 324 of 2019. Hence, there is no financial impact of the same and no further action is required to be taken by BEST.

In the MYT order for the 4th Control period, Commission has given dispensation with regards to FAC mechanism. The Commission has also issued the detail guidelines/formats vide letter No. MERC/Tech/FAC/dated 20 April, 2020, for claiming the FAC and the same requires prior approval.

BEST Undertaking is directed to comply with the guidelines dated 20 April, 2020 for all the future submissions on FAC

Yours faithfully,



(Prafulla Varhade)
Director (EE)

Encl: Annexure A: Detailed Vetting Report for the period of July, 2018 to September, 2018.
Annexure B: Detailed Vetting Report for the period of October, 2018 to December, 2018.
Annexure C: Detailed Vetting Report for the period of January, 2019 to March, 2019.



**POST FACTO APPROVAL FOR FAC FOR THE MONTH OF JULY, 2018 TO
SEPTEMBER, 2018**

Subject: Post facto approval of BEST Undertaking's Fuel Adjustment Charges (FAC) for the period from July, 2018 to September, 2018.

Reference: BEST Undertaking's submission vide Letter 19 dated December, 2018 for post-facto approval of FAC for the period from July, 2018 to September, 2018.

1. FAC submission by BEST Undertaking:

1.1 BEST Undertaking has submitted FAC submissions for the month of July, 2018 to September, 2018 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.

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 On 12 September, 2018, the Commission has issued Tariff Order for BEST Undertaking, (Case No.203 of 2017) for Mid-Term Review, including Truing-up of FY 2015-16 and FY 2016-17, provisional Truing-up for FY 2017-18, and revised Aggregate Revenue Requirement and Tariff for FY 2018-19 to FY 2019-20. Revised Tariff has been made applicable from 1 September, 2018.

2.3 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.



- 2.4 Vide FAC vetting Report dated 4 January, 2017, the Commission accorded prior approval of the FAC for the month of October, 2016.
- 2.5 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 19 December, 2018, BEST Undertaking has filed FAC submissions for the month of July, 2018 to September, 2018 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 (Jul -18) (MU)	Actual (Aug-18) (MU)
	(I)	(II=I/12)	(III)	(IV)
LT Category				
LT - I (A) Residential-BPL	0.29	0.02	0.00	0.00
LT - I (B) Residential	2,052.53	171.04	153.85	174.81
LT - II (A) Commercial	942.40	78.53	67.67	77.15
LT - II (B) Commercial	227.93	18.99	17.64	17.61
LT - II (C) Commercial	405.47	33.79	31.26	31.16
LT - III (A) Industrial	43.48	3.62	3.26	3.66
LT - III (B) Industrial	100.71	8.39	7.54	7.83
LT - IV PWW	1.85	0.15	0.65	0.61
LT - V Adv & Hoardings	1.93	0.16	0.11	0.12
LT - VI St. Lighting	28.10	2.34	1.85	1.99
LT - VII (A) Temp-Religious	3.49	0.29	0.00	0.01
LT - VII (B) Temp-Others	44.56	3.71	1.27	1.26
LT - VIII Crematorium	1.36	0.11	0.13	0.13
LT - IX (A) Public Service	42.31	3.53	4.95	4.85
LT - IX (B) Public Service Others	185.65	15.47	14.14	14.29
HT Category				



Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual (Jul -18) (MU)	Actual (Aug-18) (MU)
	(I)	(II=I/12)	(III)	(IV)
HT - I Industry	200.72	16.73	11.28	13.60
HT - II Commercial	364.01	30.33	23.51	20.82
HT - III Grp. Housing (Residential)	32.21	2.68	2.68	2.60
HT - IV PWW	34.25	2.85	4.39	3.29
HT-V Railways, Metro & Monorail	-	-	0.17	0.18
HT-VI (A) Public Service	11.92	0.99	2.30	2.29
HT-VI (B) Public Service-Others	136.30	11.36	14.57	14.29
HT-VII Temporary Supply	7.83	0.65	1.75	2.00
Total Energy Sale	4,869.30	405.78	364.97	394.55

Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual (Sept -18) (MU)
	(I)	(II=I/12)	(V)
LT Category			
LT - I (A) Residential-BPL	0.35	0.03	0.01
LT - I (B) Residential	2,071.07	172.59	189.79
LT - II (A) Commercial	925.40	77.12	82.07
LT - II (B) Commercial	214.83	17.90	17.22
LT - II (C) Commercial	369.48	30.79	29.91
LT - III (A) Industrial	43.91	3.66	3.86
LT - III (B) Industrial	89.35	7.45	7.46
LT - IV PWW	6.82	0.57	0.59
LT - V Adv & Hoardings	1.62	0.14	0.13
LT - VI St. Lighting	21.84	1.82	1.97
LT - VII (A) Temp-Religious	0.21	0.02	0.00
LT - VII (B) Temp-Others	32.15	2.68	1.28
LT - VIII Crematorium	1.89	0.16	0.12
LT - IX (A) Public Service	58.06	4.84	4.69
LT - IX (B) Public Service Others	167.23	13.94	13.80
LT - X (A) Pumpsets	-	-	-



Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual (Sept -18) (MU)
	(I)	(II=I/12)	(V)
LT - X (B) Others	-	-	-
LT - XI Electric Vehicle Charging Stations	-	-	-
HT Category			
HT - I Industry	137.90	11.49	12.94
HT - II Commercial	269.41	22.45	19.68
HT - III Grp.Housing (Residential)	32.33	2.69	2.57
HT - IV PWW	38.17	3.18	2.95
HT-V (A) Railways, Metro & Monorail	-	-	-
HT-V (B) Railways, Metro & Monorail	2.28	0.19	0.17
HT-VI (A) Public Service	26.44	2.20	2.20
HT-VI (B) Public Service-Others	166.88	13.91	13.20
HT-VII Temporary Supply	14.78	1.23	1.75
HT-VIII Electric Vehicle (EV) Charging Stations	-	-	-
Total Energy Sale	4,692.38	391.03	408.39

3.2 The total monthly sales for the months of July and August, 2018 are 364.97 MUs and 394.55 MUs respectively as compared to MYT approved monthly sales of 405.78 MUs. While the total monthly sale for the month of September, 2018 is 408.39 MUs as compared to MTR approved monthly sales of 391.03 MUs. The major variation was observed in LT – I (B) Residential, LT – II (A) Commercial and HT – I Industry due to seasonal variation during the respective period.

4. Cost of Power Purchase

4.1 BEST Undertaking does not own or operate any generating stations. Accordingly, BEST Undertaking is required to procure 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.



4.2 The following Table shows the variation in average power purchase cost (APPC) (Rs/kWh) for the month of July, 2018 to September, 2018 as compared to average power purchase cost approved in Tariff Orders dated 28 October, 2016 and 12 September, 2018.

Particulars	Tariff Order Dated 28.10.2016			Actual for Jul, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G	3,792.04	1,525.96	4.02	289.03	127.50	4.41
RE Sources	316.62	327.41	10.34	8.25	9.33	11.31
Traders	1,265.63	445.45	3.52	33.44	14.02	4.19
Total Monthly Variations of prior period Accounted for July-2018 to Aug-2018*	-	-	-	12.30	3.93	3.19
Total	5,374.29	2,298.82	4.28	343.03	154.78	4.51

Particulars	Tariff Order Dated 28.10.2016			Actual for Aug, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G	3,792.04	1,525.96	4.02	315.64	137.65	4.36
RE Sources	316.62	327.41	10.34	8.28	28.61	34.53
Traders	1,265.63	445.45	3.52	39.46	16.66	4.22
Total Monthly Variations of prior period Accounted for July-2018 to Aug-2018*	-	-	-	(5.60)	(0.61)	1.08
Total	5,374.29	2,298.82	4.28	357.78	182.32	5.10

Particulars	Tariff Order Dated 12.09.2018	Actual for Sept, 2018
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	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G	3,521.45	1,530.85	4.35	345.43	153.40	4.44
TPC-G Past Revenue Gap/(Surplus)		(95.15)				
RE Sources	706.48	258.47	3.66	7.63	13.82	18.11
Traders	917.14	329.25	3.59	46.49	20.28	4.36
Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be received for FY 2016-17)	-	81.44	-	(19.75)	(4.06)	2.05
Total	5,145.07	2,104.86	4.09	379.81	183.44	4.83

* "Total monthly variations of prior period accounted for July, 2018 to September, 2018" are the expenses claimed against the provisional FBSM bills, reimbursement charges, revision of energy bills and supplementary bills for prior period.

- 4.3 The Commission has scrutinised detailed bills/invoices for all of the power purchase sources in order to verify the claim of BEST with regards to average power purchase cost for the months of July to September, 2018. The Commission has verified the Net Purchase, Variable Cost, Fixed Charge and the Power Purchase Cost from the relevant bills/invoices received for all purchasing sources.
- 4.4 With regards to TPC-G, it was observed that BEST Undertaking has purchased 289.03 MUs, 315.64 MUs and 345.43 MUs of energy during the months of July, August and September, 2018. Further, during the month of July, 2018 the availability and PLF of TPC-G's Unit 5 and Unit 7 were observed as 82.06% & 55.11% and 67.97% & 58.04% respectively which were comparatively lower than that of the other months of Q2 of FY 2018-19. Furthermore, the PLF of Unit 5 during the month of August, 2018 was also observed lower i.e., 69.51% although the availability of plant during the same period was 100%. Due to this the total net purchase from TPC-G were observed lower mainly in the month of July and August, 2018. The Commission has sought for clarification against the same. In response to which TPC-G stated that the PLF of Unit 5 was lower mainly on account of forced outages in view of



boiler tube leakage and maintenance of support structure of coal conveyor. Further, the lower PLF of Unit 5 and Unit 7 were also due to scheduled planned outage of the Units during the respective months.

- 4.5 This has led BEST Undertaking to purchase the required power from the Traders for the concerned period. Even though the PLF was lower for the above month, the entire monthly fixed cost was payable as the cumulative plant availability was above the normative availability of 85% in line with Regulation 48.3 of MYT Regulations. This has resulted into fixed cost spread over lower net generation increasing average power purchase price from these Units and thus impacting the APPC.
- 4.6 The APPC for TPC-G, which generates power on Imported Coal, Domestic Natural Gas (under APM mechanism), Oil (LSHS) and imported RLNG has been worked out at Rs. 4.41/ kWh, Rs. 4.36/ kWh and Rs. 4.44/ kWh respectively for months of July, August, September, 2018. This is higher than that of MYT approved rate, i.e., Rs. 4.02/ kWh for the months of July and August, 2018 and MTR approved rate of Rs. 4.35/ kWh for the month of September, 2018. The variation is mainly on account of steep increase in average price of fuel during the respective months. The landed cost of coal as claimed by TPC-G for the month of July and August, 2018 is Rs. 7266/MT and 7380/MT respectively which is around 35% to 45% higher than that of MYT approved value of Rs. 5003/MT. The landed cost of coal claimed for the month of September, 2018 is Rs. 7848/MT which is around 9.7 % higher as compared to MTR approved rate of Rs. 7154/MT.
- 4.7 The Commission has sought for coal purchase bills along with the supporting invoices of other coal handling charges and duties considered for all the months of Q2 of FY 2018-19. The Commission has also sought reasoning for such a steep increase in coal price during the respective months. In response to above queries, TPC-G submitted the sample coal bills for the month of July, 2018. With regards to increase in the fuel TPC-G stated that due to demand supply position of the global coal market there is a steep increase in the average price of imported coal from January, 2018 onwards. The Commission has scrutinised the sample bills submitted and computed the purchase price of coal as shown in Table below:

Date	Quantity MT	Freight Rate (USD/MT)	BAF Correction (USD)	Freight Charges (USD)	Total Freight Charges (USD)	Unit Price FOB (USD/MT)	Total Adjustment (CV, TM, Ash, Sulphur) (USD/MT)	Adjusted Unit Price (USD/MT)	Total Coal Cost (USD)	Total Coal Purchasing Cost (USD)	Average (USD/MT)
	A	B	C	D=A*B	E=C+D	F	G	H=F+G	I=A*H	J=I+E	K=J/A
07-Jul-18	50109	10.15	43,094	5,08,606	5,51,700	75.66	1.7	77.36	38,76,432	44,28,132	
13-Jul-18	48485	10.15	41,212	4,92,123	5,33,335	74.97	-4.05	70.92	34,38,556	39,71,891	
21-Jul-18	51100	10.15	40,369	5,18,665	5,59,034	74.97	-4.35	70.62	36,08,682	41,67,716	
29-Jul-18	49200	10.15	44,280	4,99,380	5,43,660	69.18	0.98	70.16	34,51,872	39,95,532	
29-Jul-18	51303	10.15	46,173	5,20,725	5,66,898	75.67	1.7	77.37	39,69,313	45,36,211	
Total	250197				27,54,627				1,83,44,856	2,10,99,483	84.33



- 4.8 From the Table above the basic purchase cost of imported coal including freight during the month of July, 2018 as per sample bills submitted worked out at USD 84.33/MT. Considering the dollar conversion rate as Rs. 69.65/USD effective for the month of July as per the notification issued by Central Board of Indirect Taxes and Customs, the purchase price of imported coal in Indian currency stands at Rs. 5874/MT. Other coal handling charges such as insurance, handling and wharfage charges, taxes and duties, clean energy cess and other miscellaneous charges have been considered as per the corresponding average charges prevailing during the last fiscal year i.e., FY 2017-18. Accordingly, the total landed cost of coal arrived at around Rs.7600/MT. However, as the coal consumed during the respective months pertains to the actual coal inventory as well as the purchased coal available in the coal yard, there is variation in the cost as computed above and as considered by TPC-G.
- 4.9 Further, with regards to steep increase in coal prices over international market the Commission has observed that as TPC-G mainly procures imported coal from Indonesian market. The coal reference price i.e., Harga Batubara Acuan or HBA index for Indonesian coal set by Ministry of Energy and Mineral Resources (Indonesia) were trending at almost 6-year high during the respective months of Q2 of FY 2018-19. Due to such skyrocketed price, the average purchase price of coal has increased.
- 4.10 The sources of Renewable Energy (RPS) include - Welspun Energy Maharashtra Ltd., Spark Green Energy, Sahyadri Renewable Energy Pvt. Ltd., Krishna Valley Power Pvt. Ltd., GRETA Energy Ltd., A.A. Energy, Lokmangal Agro Ltd. and Manas Agro Ind and Infra Ltd. The Commission has verified the net units (MUs) Purchased and the corresponding charges for the Q2 months, i.e., July to September, 2018, from the bills/invoices submitted. The Commission has also verified the billing units (MUs) from the joint ABT Meter reading certified by MSETCL and the concerned Utility.
- 4.11 The Commission in its MYT Order has approved the APPC from RPS inclusive of REC cost for FY 2018-19 as Rs. 10.34/kWh. As compared to this MYT approved rate the APPC from RPS inclusive of REC cost for the months of July and August worked out as Rs. 11.34 /kWh and Rs. 34.53 /kWh respectively. The APPC is higher mainly in the month of August as BEST Undertaking as purchased REC of worth Rs. 22.68 Crore in August while REC of worth Rs. 3.55 Crore in July, 2018 in order to fulfil its RPO obligation. This purchase of REC mainly in the month of August is higher as compared to monthly approved REC procurement of Rs.7.22 Crore. Due to this the total power purchase cost has increased which has spread over lower net purchase and thus impacting APPC. The Commission has sought clarification against such a high purchase of REC. In response to which BEST Undertaking stated that it has purchased the aforesaid REC considering scenario of lesser availability of REC on Power exchange for further period and in order to fulfil the cumulative RPO obligation for FY 2018-19.



4.12 Further, the Commission in its MTR Order has approved the APPC from RPS as Rs. 3.66/kWh considering that the requirement towards the solar/non-solar RPO target would be purchased by BEST Undertaking through some other solar/non-solar RE generator at the generic tariff applicable for the FY 2018-19. As compared to this MTR approved rate, the APPC for RPS worked out at Rs. 18.11/kWh. The variation is mainly as BEST Undertaking has purchased solar REC of Rs. 1.97 Crore and non-solar REC of worth 6.22 Crore during the respective period. This has resulted into increase in power purchase cost being spread over lower net purchase thus impacting APPC. In response to clarification sought against the same BEST Undertaking stated that it has long term PPA with M/s Welspun Energy Maharashtra Pvt. Ltd. for procurement of solar energy. It is expected that around 31.5 MU of solar energy will be generated under this contract however, this long term tied up is not sufficient to meet the solar RPO of BEST for FY 2018-19. Further, the non-solar RE generators with whom BEST Undertaking has long term tied up, has not commissioned the project as per the agreement and will not supply non-solar energy to BEST Undertaking in FY 2018-19. Therefore, in accordance with Regulation 7.2 of MERC (RPO-REC) Regulations, 2016 BEST Undertaking has purchased the aforesaid REC. The relevant provision of MERC (RPO-REC) Regulations, 2016 is reproduced below;

“Every 'Obligated Entity' may meet its RPO target by way of own generation or procurement of power from RE developer or by way of purchase from other licensee or by way of purchase of renewable energy certificate or by way of combination of any of the above options.”

4.13 BEST Undertaking further stated that, the MTR Order was issued on 12 September, 2018 i.e., almost by the close of H1 of FY 2018-19. It is very difficult for BEST Undertaking to purchase RE Power immediately, to comply with the Order in FY 2018-19. Further, as per Competitive Bidding Guidelines issued by Ministry of Power, Bidder has to give at least 21 to 25 months' time for commissioning of the plant. While BEST Undertaking will shortly initiate the process of Competitive Bidding to purchase Solar and Non solar Power, it will not be available for FY 2018-19. In view of the inability to purchase RE requirement of FY 2018-19 at such short notice, BEST Undertaking shall have to purchase RECs to meet its RPO.

4.14 BEST Undertaking further submitted that, in its Judgment dated 20 April, 2015 in O.P. No. 1, 2 and 4 of 2013 and IA No. 291 and 420 of 2013, the APTEL has given the following among other directions regarding RPO compliance;

“28... ii) ...If the distribution licensee is not able to tie up procurement of renewable energy to meet the RPO target, it may plan to purchase RECs to meet its RPO target as per the provisions of the Regulations. Advance planning of REC purchase will give opportunity to the distribution licensees/other obligated entities to purchase REC when the market conditions are more favorable to them... “



- 4.15 Also, it is observed from REC registry that sufficient RECs are not available on the platform of Power Exchange. Hence BEST Undertaking has decided to purchase solar and non-solar RECs from the first half of FY 2018-19 when the market clearing price of RECs are comparatively low. Based on above, the Commission has considered the respective amount towards REC purchase in this FAC approval. The Commission has accordingly verified the respective amount from the Certificate and obligation report of power exchange submitted by BEST Undertaking.
- 4.16 Bilateral Power Purchase (Traders) sources for the months of July to September, 2018, mainly include PTC India Ltd., Mittal Processor Pvt. Ltd., MSEDCL and IEX. The average price of power from Traders during the months of July to September, 2018 were Rs. 4.19/kWh, Rs. 4.22 /kWh and Rs. 4.36 /kWh respectively which is higher than that of MYT approved price of Rs. 3.52 /kWh applicable for the month of July and August and MTR approved rate of Rs. 3.59 /kWh applicable from the month of September, 2018. The Commission has asked BEST Undertaking whether the power from Traders have been procured competitively through transparent bidding. In response to this BEST Undertaking stated that, it has purchased power from Traders after inviting e-tender, in line with MoP guidelines on short term competitive bidding, on DEEP e-portal and Letter of Intent was placed with them as per price discovered in said bidding process. BEST has also submitted the snap shot of Bid Sheet from DEEP e-portal showing the quoted price and details of generating stations from where power is intended to be supplied.
- 4.17 It was observed that the BEST Undertaking has made adjustment in the Total Power Purchase on account of “Total Monthly Variation of prior period” for the months of July to September, 2018. The monthly variation as mentioned above is mainly on account weekly provisional FBSM bills received from MSLDC for prior period, Debit/Credit note for refund towards reimbursement of Open Access Charges, etc. The Commission has verified the Net Pool Imbalance Charges and the corresponding units (MUs) claimed by BEST from the letter issued by Maharashtra State Power Committee and found to be in order.
- 4.18 Therefore, the key reasons for increase in APPC are impact of steep increase in fuel price, impact on fixed cost per unit due to lower net generation and PLF during Aug and Sept, 2018, purchase of REC for meeting accumulated RPO and adjustment towards monthly variation related to FBSM and other settlements. Accordingly, the Commission allows the average power purchase cost of **Rs. 4.51/kWh** for the month of July, 2018, **Rs. 5.10/kWh** for the month of August, 2018 and **Rs. 4.83/kWh** for the month of September, 2018 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 cost for the month as shown in above Table. The same has been compared with the average power purchase cost



approved by the Commission in Tariff Orders dated 28 October, 2016 and 12 September, 2018 and arrived at differential per unit rate at which ZFAC is to be passed on to the consumers.

5.2 The following Table shows the ZFAC worked out by the Commission on account of difference in fuel and power purchase cost for the month of July, 2018 to September, 2018.

S. No.	Particulars	Units	Jul, 2018	Aug, 2018	Sept, 2018
1	Average power purchase cost approved by the Commission	Rs./kWh	4.28	4.28	4.09
2	Actual average power purchase cost	Rs./kWh	4.51	5.10	4.83
3	Change in average power purchase cost (=2 -1)	Rs./kWh	0.23	0.82	0.74
4	Net Power Purchase	MU	343.03	357.78	379.81
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	8.05	29.28	28.06

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

6.1 Adjustment factor for over recovery/under recovery (B) for the period of July, 2018 to September, 2018, the adjustment factor to be added/reduced is as below;

S. No.	Particulars	Units	Jul, 2018	Aug, 2018	Sept, 2018
1.1	Incremental cost allowed to be recovered in Month n-4	Rs. Crore	10.39	(16.27)	27.97
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	9.26	(13.07)	27.02
1.3	(over-recovery)/under-recovery (=1.1 - 1.2)	Rs. Crore	1.13	(3.20)	0.94
2.0	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit for previous month	Rs. Crore	-	-	-
3.0	Adjustment factor for over-recovery/under-recovery (1.3+2.0)	Rs. Crore	1.13	(3.20)	0.94

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

7.1 The following Table shows the month wise interest rate and amount worked out as Carrying cost for under/over recovery for the month of July, 2018 to September, 2018.



S. No.	Particulars	Units	Jul, 2018	Aug, 2018	Sept, 2018
1	Adjustment factor for over-recovery/under-recovery	Rs. Crore	1.13	(3.20)	0.94
2	Applicable Interest rate	%	9.75	9.75	9.95
3	Carrying cost for over-recovery/under-recovery	Rs. Crore	0.01	(0.03)	0.01

7.2 For the month of July, 2018 it was observed that BEST Undertaking has considered the interest rate as 8.45% plus 150 bps, i.e., 9.95%, which has been worked out as per prevailing SBI MCLR rate pertaining to the month of September. However, the Commission notes that the applicable interest rate should be corresponding to the month during which FAC is computed. Hence, the Commission has rectified the said error and considered the applicable interest rate as 9.75% for the months of July, 2018 which is based on applicable SBI MCLR rate prevailing during the respective months plus 150 basis points. However, there is a minimal net refund impact of Rs. 1884 because of aforesaid error. The same is not being directed to refund as the same is a small amount and can be adjusted while Truing up for the respective year.

8. Disallowance due to excess Distribution Loss

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 Jul-18	Actual up to Aug-18
1	Net Energy input at Distribution Voltages	MU	5,163.62	1,772.76	2,175.87
2	Energy sales (metered) at Distribution voltages	MU	4,869.30	1,649.39	2,043.94
3	Distribution Loss (=1-2)	MU	294.32	123.38	131.93
4	Distribution Loss as % of net energy input (=3/1)	%	5.70%	6.96%	6.06%
5	Excess Distribution Loss =[Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	5.10	1.47
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	0.11	0.11

S.No.	Particulars	Units	Approved in Tariff Order	Actual up to Sept-18
1	Net Energy input at Distribution Voltages	MU	4,976.02	2,576.15
2	Energy sales (metered) at Distribution voltages	MU	4,692.38	2,452.33
3	Distribution Loss (=1-2)	MU	283.64	123.82
4	Distribution Loss as % of net energy input (=3/1)	%	5.70%	4.81%
5	Excess Distribution Loss =[Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	-
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	-

8.3 As seen from the above Table, cumulative distribution loss is 6.96% for the month of July, 2018 and 6.06% for August, 2018 which are higher than the approved Distribution Loss of 5.70%. Hence, there are 5.10 MU and 1.47 MU disallowance on account of excess distribution loss for the months of July, 2018 and August, 2018. Whereas cumulative distribution loss is 4.81% for the month of September, 2018 which is lesser than the approved Distribution Loss of 5.70%. Hence, there is no disallowance on account of excess distribution loss for the months of September, 2018.



9. Summary of Allowable ZFAC

9.1 The summary of the FAC amount as approved by the Commission for the month of July, 2018 to September, 2018 which is allowed to be recovered in the billing month of October, 2018 to December, 2018 is as shown in the Table below:

S. No.	Particulars	Units	Jul, 2018	Aug, 2018	Sept, 2018
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	8.05	29.28	28.06
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	0.01	(0.03)	0.01
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	1.13	(3.20)	0.94
1.4	ZFAC = F+C+B	Rs. Crore	9.19	26.05	29.01
2.0	Calculation of FAC Charge				
2.1	Energy Sales within the License Area	MU	364.97	394.55	408.39
2.2	Excess Distribution Loss	MU	5.10	1.47	-
2.3	ZFAC per kWh	Rs./kWh	0.25	0.66	0.71
2.4	Cap at 20% of variable component of tariff	Rs./kWh	1.17	1.17	1.01
2.5	FAC Charge allowable (Minimum of 2.3 and 2.4)	Rs./kWh	0.25	0.66	0.71
3.0	Recovery of FAC				
3.1	Allowable FAC [(2.1 x 2.5)/10]	Rs. Crore	9.19	26.05	29.01
3.2	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.5)/10]	Rs. Crore	0.11	0.11	-
4.0	Total FAC based on category wise and slab wise allowed to be recovered	Rs. Crore	9.08	25.94	29.01
5.0	Carried forward FAC for recovery during future period (1.4-3.2-4)	Rs. Crore	-	-	0.20

9.2 It can be seen from the above Table that standalone FAC for the months of July to September, 2018 is Rs. 9.08 Crore, Rs. 25.94 Crore and Rs. 29.01 Crore respectively. Based on total energy sales, FAC per unit has been working out as Rs. 0.25/kWh, Rs. 0.66/kWh and Rs. 0.71/kWh for the months of July to September, 2018 respectively. Further, the Regulation 10.9 of MYT Regulations, 2015 specifies as:



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:

- 9.3 As the FAC per unit computed is already lower than the 20% cap specified in Regulation as shown in Table above, hence, there is no restriction triggered with regards to such ceiling for all the months of Q2 of FY 2018-19.

10. Recovery from Consumers:

- 10.1 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....”

- 10.2 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 ZFAC in absolute terms on considering category wise per unit FAC worked out and category wise actual sales for the month of July, 2018 to September, 2018.

10.3 The variation in FAC in absolute terms is due to formula error of ZFAC computed on per unit basis. The variation however is taken care in the adjustment factor of subsequent months.

10.4 The following Table shows per unit ZFAC to be charged to the consumers of BEST Undertaking for the billing month of October, 2018 to December, 2018.

S. No.	Consumer categories	Slab	ZFAC to be levied in billing month of Oct' 2018	ZFAC to be levied in billing month of Nov' 2018	ZFAC to be levied in billing month of Dec' 2018
			Rs./kWh	Rs./kWh	Rs./kWh
(A)	LT Category				
1	LT - I (A) Residential-BPL	0 - 30	0.08	0.20	0.20
2	LT - I (B) Residential	0 - 100	0.10	0.27	0.29
3		101 - 300	0.18	0.48	0.58
4		301 - 500	0.26	0.69	0.82
5		> 501	0.32	0.85	0.96
6	LT - II (A) Commercial	0 - 500	0.30	0.78	0.80
7		> 500			
8	LT - II (B) Commercial	all units	0.29	0.77	0.84
9	LT - II (C) Commercial	all units	0.31	0.82	0.86
10	LT - III (A) Industrial	0 - 500	0.28	0.73	0.73
11		> 500			
12	LT - III (B) Industrial	> 20 KW	0.27	0.71	0.77
13	LT - IV PWW	all units	0.26	0.68	0.78
14	LT - V Adv & Hoardings	all units	0.41	1.09	1.28
15	LT - VI St. Lighting	all units	0.26	0.69	0.79
16	LT - VII (A) Temp-Religious	all units	0.16	0.43	0.55
17	LT - VII (B) Temp-Others	all units	0.31	0.81	1.02
18	LT - VIII Crematorium	all units	0.18	0.49	0.58
19	LT - IX (A) Public Service	all units	0.26	0.68	0.76
20	LT - IX (B) Public Service Others	all units	0.28	0.73	0.79



S. No.	Consumer categories	Slab	ZFAC to be levied in billing month of Oct' 2018	ZFAC to be levied in billing month of Nov' 2018	ZFAC to be levied in billing month of Dec' 2018
			Rs./kWh	Rs./kWh	Rs./kWh
21	LT - X (A) Agriculture- Pumpsets				0.40
22	LT - X (B) Agriculture-Others				0.55
(B)	HT Category				
23	HT - I Industry	all units	0.27	0.73	0.81
24	HT - II Commercial	all units	0.29	0.76	0.86
25	HT - III Grp.Housing (Residential)	all units	0.23	0.61	0.70
26	HT - IV PWW	all units	0.25	0.66	0.77
27	HT-V Railways, Metro & Monorail	all units	0.24	0.64	0.74
28	HT-VI (A) Public Service	all units	0.25	0.66	0.78
29	HT-VI (B) Public Service-Others	all units	0.28	0.74	0.83
30	HT-VII Temporary Supply	all units	0.29	0.78	0.93

ANNEXURE B

Detailed Vetting Report

Date: 20 April, 2020

**POST FACTO APPROVAL FOR FAC FOR THE MONTH OF OCTOBER, 2018 TO
DECEMBER, 2018**



Subject: Post facto approval of BEST Undertaking's Fuel Adjustment Charges (FAC) for the period from October, 2018 to December, 2018.

Reference: BEST Undertaking's submission for post-facto approval of FAC for the period from October, 2018 to December, 2018.

1. FAC submission by BEST Undertaking:

1.1 BEST Undertaking has submitted FAC submissions for the month of October, 2018 to December, 2018 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 month of January, 2018 to March, 2018.

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 On 12 September, 2018, the Commission has issued Tariff Order for BEST Undertaking, (Case No.203 of 2017) for Mid-Term Review, including Truing-up of FY 2015-16 and FY 2016-17, provisional Truing-up for FY 2017-18, and revised Aggregate Revenue Requirement and Tariff for FY 2018-19 to FY 2019-20. Revised Tariff has been made applicable from 1 September, 2018.

2.3 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.

2.4 Vide FAC vetting Report dated 4 January, 2017, the Commission accorded prior approval of the FAC for the month of October, 2016.

2.5 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, BEST Undertaking has filed FAC submissions for the month of October, 2018 to December, 2018 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 -18) (MU)	Actual (Nov-18) (MU)	Actual (Dec-18) (MU)
	(I)	(II=I/12)	(III)	(IV)	(V)
LT Category					
LT - I (A) Residential-BPL	0.35	0.03	0.01	0.01	0.01
LT - I (B) Residential	2,071.07	172.59	194.11	170.37	144.68
LT - II (A) Commercial	925.40	77.12	82.30	74.67	66.77
LT - II (B) Commercial	214.83	17.90	19.78	17.42	15.77
LT - II (C) Commercial	369.48	30.79	34.60	30.51	27.30
LT - III (A) Industrial	43.91	3.66	3.94	3.69	3.54
LT - III (B) Industrial	89.35	7.45	8.28	7.21	7.53
LT - IV PWW	6.82	0.57	0.59	0.54	0.54
LT - V Adv & Hoardings	1.62	0.14	0.13	0.13	0.13
LT - VI St. Lighting	21.84	1.82	1.94	1.74	1.73
LT - VII (A) Temp-Religious	0.21	0.02	0.00	0.00	0.01
LT - VII (B) Temp-Others	32.15	2.68	1.15	1.05	0.98
LT - VIII Crematorium	1.89	0.16	0.12	0.12	0.13
LT - IX (A) Public Service	58.06	4.84	5.19	4.44	3.97
LT - IX (B) Public Service Others	167.23	13.94	15.46	13.02	11.89
LT - X (A) Pumpsets	-	-	-	-	-
LT - X (B) Others	-	-	-	-	-
LT - XI Electric Vehicle Charging Stations	-	-	-	-	-
HT Category					



Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual (Oct -18) (MU)	Actual (Nov-18) (MU)	Actual (Dec-18) (MU)
	(I)	(II=I/12)	(III)	(IV)	(V)
HT - I Industry	137.90	11.49	16.46	15.18	14.27
HT - II Commercial	269.41	22.45	20.03	18.02	16.66
HT - III Grp.Housing (Residential)	32.33	2.69	2.85	2.56	2.26
HT - IV PWW	38.17	3.18	2.85	2.65	2.61
HT-V (A) Railways, Metro & Monorail	-	-	-	-	-
HT-V (B) Railways, Metro & Monorail	2.28	0.19	0.19	0.19	0.18
HT-VI (A) Public Service	26.44	2.20	2.40	2.11	1.85
HT-VI (B) Public Service-Others	166.88	13.91	14.34	13.03	12.10
HT-VII Temporary Supply	14.78	1.23	2.15	2.14	2.07
HT-VIII Electric Vehicle (EV) Charging Stations	-	-	-	-	-
Total Energy Sale	4,692.38	391.03	428.87	380.81	336.97

3.2 The total monthly sales for the months of October, November and December, 2018 is 428.87 MUs, 380.81 MUs and 336.97 MUs as compared to monthly approved MTR sale of 391.03 MUs. The major variation was observed in LT – I (B) Residential, LT – II (A) Commercial and HT – I Industry due to seasonal variation during the respective period.

4. Cost of Power Purchase

4.1 BEST Undertaking does not own or operate any generating stations. Accordingly, BEST Undertaking is required to procure 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.

- d) Purchases from Tata Power Company Ltd. (TPC-G)
- e) Renewable energy procurement(RPS)
- f) Bilateral contracts and decrements to the imbalance pool.



4.2 The following Table shows the variation in average power purchase cost (APPC) (Rs/kWh) for the month of October, 2018 to December, 2018 as compared to average power purchase cost approved in Tariff Orders dated 12 September, 2018.

Particulars	Tariff Order Dated 12.09.2018			Actual for October, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G	3,521.45	1,530.85	4.35	349.65	153.87	4.40
TPC-G Past Revenue Gap/(Surplus)		(95.15)			(15.96)	
RE Sources	706.48	258.47	3.66	8.01	5.90	7.37
Traders	917.14	329.25	3.59	82.91	41.92	5.06
Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be received for FY 2016-17)	-	81.44	-	(43.49)	(11.03)	2.54
Total	5,145.07	2,104.86	4.09	397.08	174.70	4.40

Particulars	Tariff Order Dated 12.09.2018			Actual for November, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G	3,521.45	1,530.85	4.35	292.21	128.94	4.41



Particulars	Tariff Order Dated 12.09.2018			Actual for November, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G Past Revenue Gap/(Surplus)		(95.15)			(15.92)	
RE Sources	706.48	258.47	3.66	7.68	5.63	7.33
Traders	917.14	329.25	3.59	26.39	11.88	4.50
Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be received for FY 2016-17)	-	81.44	-	(43.29)	(7.28)	1.68
Total	5,145.07	2,104.86	4.09	282.99	123.25	4.36

Particulars	Tariff Order Dated 12.09.2018			Actual for December, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G	3,521.45	1,530.85	4.35	297.07	128.12	4.31
TPC-G Past Revenue Gap/(Surplus)		(95.15)			(15.88)	
RE Sources	706.48	258.47	3.66	7.50	10.02	13.36
Traders	917.14	329.25	3.59	11.53	5.10	4.43
*Total Variation of Prior period (O/C provision for payment of FBSM Bills &	-	81.44	-	(14.52)	7.03	(4.84)



Standby Energy Bills to be received for FY 2016-17)						
Total	5,145.07	2,104.86	4.09	301.58	134.40	4.46

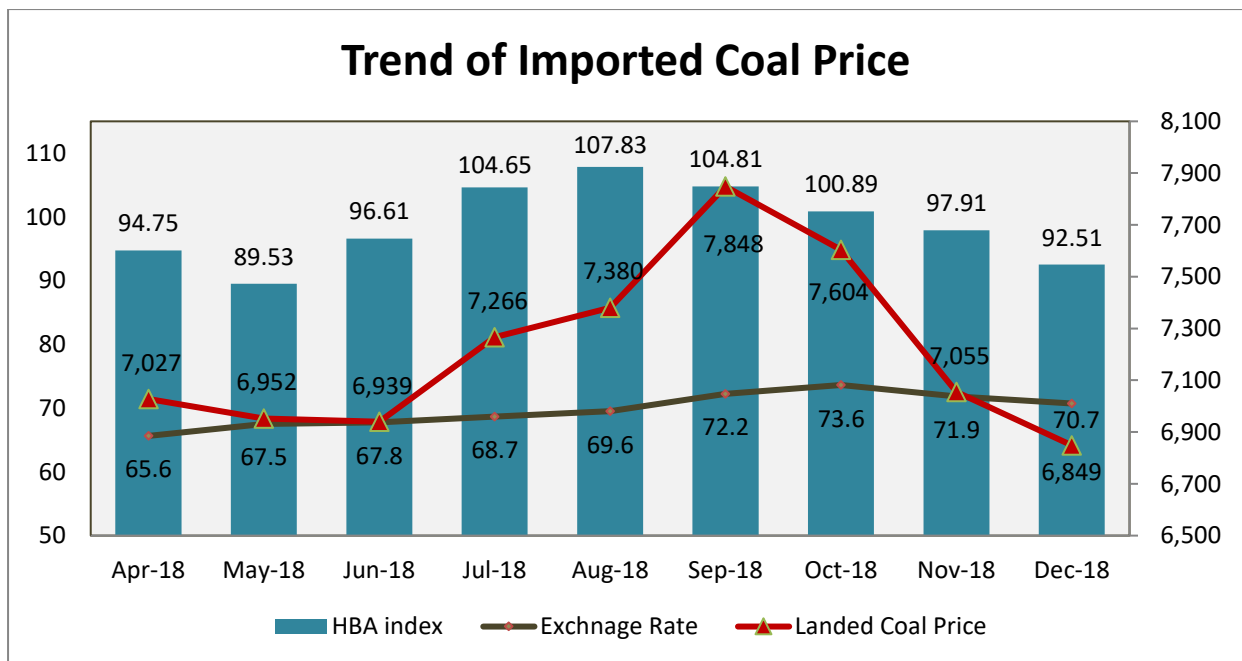
**Total monthly variations of prior period accounted for October, 2018 to December, 2018"are the expenses claimed against the provisional FBSM bills, reimbursement charges, revision of energy bills and supplementary bills for prior period.*

- 4.3 The Commission has scrutinised detailed bills/invoices for all of the power purchase sources in order to verify the claim of BEST with regards to average power purchase cost for the months of October, 2018 to December, 2018. The Commission has verified the Net Purchase, Variable Cost, Fixed Charge and the Power Purchase Cost from the relevant bills/invoices received for all purchasing sources.
- 4.4 With regards to TPC-G, BEST Undertaking has purchased 349.65 MUs, 292.21 MUs and 297.07 MUs of energy during the months of October, November and December, 2018. The quantum of power purchase mainly in the month of November and December, 2018 was observed lower as compared to the month of October, which can be contributed to the low PLF of TPC-G's Unit 5. The PLF of Unit 5 during the November and December was 68.44% and 64.77% whereas in the month of October it was 85.92%. TPC-G stated that the PLF was comparatively lower mainly due to low system demand. The lower PLF has resulted into lower generation and thus lower purchase during the aforesaid period. TPC-G further stated that although the PLF of Unit 5 is low, the availability of all generating station were above 98% during Q3 months.
- 4.5 TPC-G has submitted the monthly cumulative availability of each of thermal and hydro generating stations from April 2018 to December, 2018. The Commission has verified the monthly cumulative availability as submitted and observed that the cumulative availability of each generating station were above target availability of 85% as specified in MYT Regulations. Accordingly, in line with Regulation 48.3 of MYT Regulations, the entire monthly fixed cost was payable as the cumulative plant availability was above the normative availability of 85%. This has resulted into fixed cost spread over lower net generation increasing average power purchase price from these Units and thus impacting the APPC.
- 4.6 The APPC for TPC-G, which generates power on Imported Coal, Domestic Natural Gas (under APM mechanism), Oil (LSHS) and imported RLNG has been worked out at Rs. 4.40/ kWh, Rs. 4.41/ kWh and Rs. 4.31/ kWh for months of October, November and December 2018 respectively as compared to MTR approved rate of Rs. 4.35/ kWh. The APPC is marginally higher (by approx. Rs. 0.06/kWh) mainly in the month of October and November whereas it is marginally lower (by approx. Rs. 0.04/kWh) in the month of December, 2018. The variation is mainly on account of fixed charge payment as explained in para above and



also due to variation in average price of fuel during the respective months. The landed cost of coal for energy charge computation as claimed by TPC-G for the month of October, November and December, 2018 is Rs. 7604/MT and 7054/MT 6848/MT as compared to MTR approved rate of Rs. 7154/MT. The actual landed price in the month of October is higher as compared to MTR approved rate, which is due to steep increase in the imported coal price from January, 2018 onwards primarily attributed to demand supply position of the global coal market. However, during the Q3 months of FY 2018-19 the prices of coal in international market have shown downward trend and consequently the decline in landed price have been observed. TPC-G further stated that average price of coal purchased during Q3 months (Rs. 7201/MT) is lower than the average price of coal during Q2 months (Rs. 7527/MT) of FY 2018-19.

4.7 TPC-G mainly procures imported coal from Indonesian market. The coal reference price is i.e., Harga Batubara Acuan or HBA index for Indonesian coal which is set by Ministry of Energy and Mineral Resources (Indonesia). The Commission has sought for prevailing HBA index during the aforesaid period along with the detailed computation of FOB price at which the coal has been procured by TPC-G. From the data submitted by TPC-G, it can be observed that the HBA index was floating from around 89.53 to 107.83 during last few quarters which is almost 6-year high. However, a slight downward trend is observed during the present quarter. The graph below shows the trend of HBA index, dollar exchange rate and landed coal price as considered by TPC-G for energy charge calculations from Q1 of FY 2018-19 to present quarter i.e., Q3 of FY 2018-19.



4.8 The Commission has also sought for coal purchase bills along with the supporting invoices of other coal handling charges and duties considered for all the months of Q3 of FY 2018-



19. The Commission has scrutinised the sample bills submitted and computed the purchase price of coal from sample bills for the month of October as shown in Table below:

Date	Quantity MT	Unit Price FOB (USD/MT)	Freight Rate (USD/MT)	Freight Rate (USD/MT)	Total Coal Cost (USD)	Average (USD/MT)
	A	B	C	D=B+C	E=A*D	F=E/A
06-Oct-18	63360	70.41	10.15	80.56	51,04,282	80.56
07-Oct-18	56860	65.97	10.15	76.12	43,28,183	76.12
08-Oct-18	60060	65.76	10.15	75.91	45,59,155	75.91
09-Oct-18	56528	64.89	10.15	75.04	42,41,861	75.04
10-Oct-18	60341	65.55	10.15	75.7	45,67,814	75.70
Total	297149				2,28,01,294	76.73

4.9 From the Table above the basic purchase cost of imported coal including freight during the month of October, 2018 as per sample bills submitted worked out at USD 76.73/MT. Considering the dollar conversion rate as Rs. 74.45/USD effective for the month of October as per the notification issued by Central Board of Indirect Taxes and Customs, the purchase price of imported coal in Indian currency stands at Rs. 5712.81/MT. Other coal handling charges such as insurance, handling and wharfage charges, taxes and duties, clean energy cess and other miscellaneous charges have been considered as per the corresponding average charges prevailing during the last fiscal year i.e., FY 2017-18. Accordingly, the total landed cost of coal arrived at around Rs.7446.81 /MT. Further, as the coal purchase during a month is generally not utilised in the same month, hence, there is a variation in above computed coal price vis-à-vis coal price as considered by TPC-G for energy charge calculations. The cost of coal for energy charge computation pertains to coal consumed during the respective months which is arrived based on the actual cost of coal inventory as well as the purchased coal cost received in the coal yard.

4.10 The Commission has sought for detailed computation and methodology for booking the coal consumption cost. In response to this, TPC-G stated that the total coal consumption cost is calculated by SAP system on the basis of Moving Average Price Method by adding the purchases during the month in the opening inventory stock. The closing inventory is then obtain by deducting the coal consumed form the total of opening inventory and purchases during the respective month. TPC-G has submitted the sample calculations arriving at coal consumption cost along with the SAP screenshot supporting its calculations. Apart from above the Commission has also sought for third party sampling report for GCV verifications. TPC-G has submitted the third party sampling certificate issued by Bureau Veritas for the respective period. The Commission has verified the document submitted and found to be in order.



- 4.11 The sources of Renewable Energy (RPS) include - Welspun Energy Maharashtra Ltd., Spark Green Energy, Sahyadri Renewable Energy Pvt. Ltd., Krishna Valley Power Pvt. Ltd., GRETA Energy Ltd., A.A. Energy, Lokmangal Agro Ltd. and Manas Agro Ind and Infra Ltd. The Commission has verified the net units (MUs) Purchased and the corresponding charges for the Q3 months, i.e., October to December, 2018, from the bills/invoices submitted. The Commission has also verified the billing units (MUs) from the joint ABT Meter reading certified by MSETCL and the concerned Utility.
- 4.12 The Commission in its MYT Order has approved the APPC from RPS inclusive of REC cost for FY 2018-19 as Rs. 10.34/kWh. Further, in the MTR Order, as against, REC purchase (REC for RPO compliance + short term power for energy requirement) proposed by BEST, the Commission has considered shortfall in RE procurement to be met through power purchase from new RE sources at the generic tariff rate (Rs. 2.72/kWh for solar and Rs. 2.87 / kWh for non-solar i.e. wind) approved in RE Tariff Order for FY 2018-19. Accordingly, the Commission in its MTR Order has approved the APPC from RPS as Rs. 3.66/kWh.
- 4.13 In this present quarter, BEST Undertaking has purchased 8.01 MUs, 7.68 MUs and 7.50 MUs from RPS at a cost of Rs. 5.90 Crore, Rs. 5.63 Crore and Rs. 10.02 Crore respectively during the month of October, November and December, 2018. The cost of purchase mainly in the month of December is higher as compared to other months as BEST Undertaking has purchased Non-Solar REC of Rs. 4.50 Crore during the said month. Accordingly, the APPC for the said month is also higher as compared to other months. The APPC from RPS sources is Rs. 7.37/kWh, Rs. 7.33/kWh and Rs. 13.36/kWh during the month of October, November and December, 2018 respectively as compared to MTR approved rate of Rs. 3.66/kWh. The reason for such high APPC than that of MTR was mainly due to absence of cheaper new solar/non-solar source which the Commission had considered while working out APPC in MTR Order envisaging the same to be procured by BEST Undertaking during FY 2018-19.
- 4.14 Upon clarification sought for absence of power from new solar/non-solar RE generators, BEST Undertaking in its previous submission had contended that the MTR Order was issued on 12 September, 2018 i.e., almost by the close of H1 of FY 2018-19. It is very difficult for BEST Undertaking to purchase RE Power immediately, to comply with the Order in FY 2018-19. Further, as per Competitive Bidding Guidelines issued by Ministry of Power, Bidder has to give at least 21 to 25 months' time for commissioning of the plant. While BEST Undertaking will shortly initiate the process of Competitive Bidding to purchase Solar and Non solar Power, it will not be available for FY 2018-19. In view of the inability to purchase RE requirement of FY 2018-19 at such short notice, BEST Undertaking shall have to purchase RECs to meet its RPO. Accordingly, due to the absence of less costlier new approved solar/non-solar sources in the total RPS portfolio, the actual weighted average power purchase cost have driven towards costlier approved sources (mainly M/s Welspun



Energy Maharashtra Pvt. Ltd with approved cost of Rs. 8.56/kWh) thus, impacted the APPC.

- 4.15 With regards to REC purchase, BEST Undertaking had stated that its long term tied up PPA is not sufficient to meet its solar RPO. Further, the non-solar RE generators with whom BEST Undertaking has long term tied up, has not commissioned the project as per the agreement and will not supplied non-solar energy to BEST Undertaking in FY 2018-19. Therefore, it had purchased REC which is in accordance with Regulation 7.2 of MERC (RPO-REC) Regulations, 2016 BEST Undertaking has purchased the aforesaid REC. The relevant provision of MERC (RPO-REC) Regulations, 2016 is reproduced below;

“Every 'Obligated Entity' may meet its RPO target by way of own generation or procurement of power from RE developer or by way of purchase from other licensee or by way of purchase of renewable energy certificate or by way of combination of any of the above options.”

- 4.16 BEST Undertaking in its previous submission in order to support its REC Purchase had also stated that, in its Judgment dated 20 April, 2015 in O.P. No. 1, 2 and 4 of 2013 and IA No. 291 and 420 of 2013, the APTEL has given the following among other directions regarding RPO compliance;

“28... ii) ...If the distribution licensee is not able to tie up procurement of renewable energy to meet the RPO target, it may plan to purchase RECs to meet its RPO target as per the provisions of the Regulations. Advance planning of REC purchase will give opportunity to the distribution licensees/other obligated entities to purchase REC when the market conditions are more favorable to them... “

- 4.17 Therefore, the Commission based on above has considered the respective amount towards REC purchase in this FAC approval. The Commission has also verified the respective amount and cost of RE purchases during the aforesaid period from the bills and documents as submitted by BEST Undertaking.

- 4.18 Bilateral Power Purchase (Traders) sources for the months of October to December, 2018, mainly include PTC India Ltd., Kreate Energy Pvt. Ltd., TPTCL, Dhariwal Infrastructure, Jhabua Power Ltd. and IEX. The average power purchase price from Traders during the months of October to December, 2018 were Rs. 5.06/ kWh, Rs. 4.50 /kWh and Rs. 4.43 /kWh respectively which is higher than the MTR approved rate of Rs. 3.59 /kWh. The MTR approved rate of Rs. 3.59/kWh was based on previous year trend of bilateral purchase average. Further, as the prices of short term power have shot up on DEEP e-portal and Power exchanges market due to unfavourable demand supply positions, BEST Undertaking on 2 January 2019 had filed a Petition under Regulation 21 of MERC (Multi Year Tariff) Regulations 2015 seeking approval for purchase of Bilateral power above Average rate approved for FY 2018-19. Taking cognizance of the reasons contended by BEST



Undertaking in the said petition, the Commission in Case No. 5 of 2019 has increased the ceiling rate for purchase of short term power to an average rate of Rs. 4.50/kWh. Further, as the BEST has purchase the short power through competitive bidding, on DEEP e-portal, the Commission allows the short term power as submitted by BEST.

- 4.19 BEST Undertaking has made adjustment in the Total Power Purchase on account of “Total Monthly Variation of prior period” for the months of October to December, 2018. The monthly variation as mentioned above is mainly on account weekly provisional FBSM bills received from MSLDC for prior period, Debit/Credit note for refund towards reimbursement of Open Access Charges, payment of balance GST amount on REC purchased through trading on PXIL etc. The Commission has verified the Net Pool Imbalance Charges and the corresponding units (MUs) claimed by BEST from the letter issued by Maharashtra State Power Committee and found to be in order. The Commission has also verified the other charges as claimed by BEST from the bills and invoices submitted and found to be in order.
- 4.20 Therefore, the key reasons for increase in APPC are impact of increase in fuel price, impact on fixed cost per unit due to lower net generation and PLF, purchase of REC for meeting accumulated RPO, absence of new RE sources in RPS portfolio, increased in short term purchase rate and adjustment towards monthly variation related to FBSM and other settlements. Accordingly, the Commission allows the average power purchase cost of **Rs. 4.40/kWh** for the month of October, 2018, **Rs. 4.36/kWh** for the month of November, 2018 and **Rs. 4.46/kWh** for the month of December, 2018 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 cost for the month as shown in above Table. The same has been compared with the average power purchase cost approved by the Commission in Tariff Orders dated 12 September, 2018 and arrived at differential per unit rate at which ZFAC is to be passed on to the consumers.
- 5.2 The following Table shows the ZFAC worked out by the Commission on account of difference in fuel and power purchase cost for the month of October, 2018 to December, 2018.

S. No.	Particulars	Units	Oct, 2018	Nov, 2018	Dec, 2018
1	Average power purchase cost approved by the Commission	Rs./kWh	4.09	4.09	4.09
2	Actual average power purchase cost	Rs./kWh	4.40	4.36	4.46



S. No.	Particulars	Units	Oct, 2018	Nov, 2018	Dec, 2018
3	Change in average power purchase cost (=2 -1)	Rs./kWh	0.31	0.26	0.37
4	Net Power Purchase	MU	397.08	282.99	301.58
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	12.26	7.47	11.02

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

6.1 Adjustment factor for over recovery/under recovery (B) for the period of October, 2018 to December, 2018, the adjustment factor to be added/reduced is as below;

S. No.	Particulars	Units	Oct, 2018	Nov, 2018	Dec, 2018
1.1	Incremental cost allowed to be recovered in Month n-4	Rs. Crore	9.08	25.94	29.01
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	9.94	27.85	26.87
1.3	(over-recovery)/under-recovery (=1.1 - 1.2)	Rs. Crore	(0.86)	(1.91)	2.14
2.0	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit for previous month	Rs. Crore	0.20	-	-
3.0	Adjustment factor for over-recovery/under-recovery (1.3+2.0)	Rs. Crore	(0.66)	(1.91)	2.14

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

7.1 The following Table shows the month wise interest rate and amount worked out as Carrying cost for under/over recovery for the month of October, 2018 to December, 2018.

S. No.	Particulars	Units	Oct, 2018	Nov, 2018	Dec, 2018
1	Adjustment factor for over-recovery/under-recovery	Rs. Crore	(0.66)	(1.91)	2.14
2	Applicable Interest rate	%	10.00	10.00	10.05
3	Carrying cost for over-recovery/under-recovery	Rs. Crore	(0.01)	(0.02)	0.02

8. Disallowance due to excess Distribution Loss



- 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-18	Actual up to Nov-18	Actual up to Dec-18
1	Net Energy input at Distribution Voltages	MU	5,163.62	3,045.61	3,448.90	3,792.18
2	Energy sales (metered) at Distribution voltages	MU	4,869.30	2,881.20	3,262.01	3,598.98
3	Distribution Loss (=1-2)	MU	294.32	164.40	186.89	193.20
4	Distribution Loss as % of net energy input (=3/1)	%	5.70%	5.40%	5.42%	5.09%
5	Excess Distribution Loss = [Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	-	-	-
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	-	-	-

- 8.3 As seen from the above Table, cumulative distribution loss is 5.40% for the month of October, 2018 and 5.42% for November, 2018 and 5.09% for the month of December, 2018. The cumulative distribution losses are observed lower than the approved Distribution Loss of 5.70%. Hence, there is no disallowance on account of excess distribution loss.

9. Summary of Allowable ZFAC



9.1 The summary of the FAC amount as approved by the Commission for the month of October, 2018 to December, 2018 which is allowed to be recovered in the billing month of January, 2018 to March, 2018 is as shown in the Table below:

S. No.	Particulars	Units	Oct, 2018	Nov, 2018	Dec, 2018
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	12.26	7.47	11.02
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	(0.01)	(0.02)	0.02
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	(0.66)	(1.91)	2.14
1.4	ZFAC = F+C+B	Rs. Crore	11.59	5.55	13.18
2.0	Calculation of FAC Charge				
2.1	Energy Sales within the License Area	MU	428.87	380.81	336.97
2.2	Excess Distribution Loss	MU	-	-	-
2.3	ZFAC per kWh	Rs./kWh	0.27	0.15	0.39
2.4	Cap at 20% of variable component of tariff	Rs./kWh	1.01	1.01	1.01
2.5	FAC Charge allowable (Minimum of 2.3 and 2.4)	Rs./kWh	0.27	0.15	0.39
3.0	Recovery of FAC				
3.1	Allowable FAC [(2.1 x 2.5)/10]	Rs. Crore	11.59	5.55	13.18
3.2	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.5)/10]	Rs. Crore	-	-	-
4.0	Total FAC based on category wise and slab wise allowed to be recovered	Rs. Crore	11.59	5.55	13.18
5.0	Carried forward FAC for recovery during future period (1.4-3.2-4)	Rs. Crore	-	-	-

9.2 It can be seen from the above Table that standalone FAC for the months of October to December, 2018 is Rs. 11.59 Crore, Rs. 5.55 Crore and Rs. 13.18 Crore respectively. Based on total energy sales, FAC per unit has been working out as Rs. 0.27/kWh, Rs. 0.15/kWh and Rs. 0.39/kWh for the months of October to December, 2018 respectively. Further, the Regulation 10.9 of MYT Regulations, 2015 specifies as:

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:



9.3 As the FAC per unit computed is already lower than the 20% cap specified in Regulation as shown in Table above, hence, there is no restriction triggered with regards to such ceiling for all the months of Q3 of FY 2018-19.

10. Recovery from Consumers:

10.1 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....”

10.2 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 ZFAC in absolute terms on considering category wise per unit FAC worked out and category wise actual sales for the month of October, 2018 to December, 2018.



- 10.3 The variation in FAC in absolute terms is due to formula error of ZFAC computed on per unit basis. The variation however is taken care in the adjustment factor of subsequent months.
- 10.4 The following Table shows per unit ZFAC to be charged to the consumers of BEST Undertaking for the billing month of January, 2019 to March, 2019.



S. No.	Consumer categories	Slab	ZFAC to be levied in billing month of January' 2019	ZFAC to be levied in billing month of February' 2019	ZFAC to be levied in billing month of March' 2019
			Rs./kWh	Rs./kWh	Rs./kWh
(A)	LT Category				
1	LT - I (A) Residential-BPL	0 - 30	0.10	0.05	0.14
2	LT - I (B) Residential	0 - 100	0.12	0.07	0.18
3		101 - 300	0.22	0.12	0.32
4		301 - 500	0.31	0.17	0.45
5		> 501	0.36	0.20	0.53
6	LT - II (A) Commercial	0 - 500	0.30	0.16	0.44
7	LT - II (B) Commercial	> 500	0.32	0.17	0.46
8	LT - II (C) Commercial	all units	0.33	0.18	0.48
9	LT - III (A) Industry	all units	0.28	0.15	0.40
10	LT - III (B) Industry	0 - 500	0.29	0.16	0.42
11	LT - IV PWW	> 500	0.30	0.16	0.43
12	LT - V Advertisement & Hoardings	> 20 KW	0.49	0.26	0.71
13	LT - VI Street Lights	all units	0.30	0.16	0.43
14	LT - VII (A) Temp-Religious	all units	0.21	0.11	0.30
15	LT - VII (B) Temp-Others	all units	0.39	0.21	0.56
16	LT - VIII Crematorium & Burial Grounds	all units	0.22	0.12	0.32
17	LT - IX (A) Public Service	all units	0.29	0.16	0.42
18	LT - IX (B) Public Service Others	all units	0.30	0.16	0.43
19	LT - X (A) Agriculture- Pumpsets	all units	0.15	0.08	0.22
20	LT - X (B) Agriculture-Others	all units	0.21	0.11	0.30
21	LT - XI Electric Vehicle (EV) Charging Stations	all units	-	-	-
(B)	HT Category				
22	HT - I Industry	all units	0.31	0.17	0.44
23	HT - II Commercial	all units	0.33	0.18	0.47
24	HT - III Group Housing	all units	0.27	0.14	0.39
25	HT - IV PWW	all units	0.29	0.16	0.42
26	HT-V (A) Railways, Metro & Monorail (110/132 kV)	all units	-	-	-
27	HT-V (B) Railways, Metro & Monorail (33kV)	all units	0.28	0.15	0.41
28	HT-VI (A) Public Service	all units	0.30	0.16	0.43



29	HT-VI (B) Public Service-Others	all units	0.32	0.17	0.46
30	HT-VII Temporary Supply	all units	0.35	0.19	0.51

ANNEXURE C
Detailed Vetting Report
Date: 20 April, 2020

POST FACTO APPROVAL FOR FAC FOR THE MONTH OF JANUARY, 2019 TO MARCH, 2019

Subject: Post facto approval of BEST Undertaking's Fuel Adjustment Charges (FAC) for the period from January, 2019 to March, 2019.

Reference: BEST Undertaking's submission for post-facto approval of FAC for the period from January, 2019 to March, 2019.

1. FAC submission by BEST Undertaking:

1.1 BEST Undertaking has submitted FAC submissions for the month of January, 2019 to March, 2019 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 month of April, 2018 to June, 2018.

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 On 12 September, 2018, the Commission has issued Tariff Order for BEST Undertaking, (Case No.203 of 2017) for Mid-Term Review, including Truing-up of FY 2015-16 and FY 2016-17, provisional Truing-up for FY 2017-18, and revised Aggregate Revenue Requirement and Tariff for FY 2018-19 to FY 2019-20. Revised Tariff has been made applicable from 1 September, 2018.

2.3 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.



2.4 Vide FAC vetting Report dated 4 January, 2017, the Commission accorded prior approval of the FAC for the month of October, 2016.

2.5 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, BEST Undertaking has filed FAC submissions for the month of January, 2019 to March, 2019 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 (Jan-19) (MU)	Actual (Feb-19) (MU)	Actual (Mar-19) (MU)
	(I)	(II=I/12)	(III)	(IV)	(V)
LT Category					
LT - I (A) Residential-BPL	0.35	0.03	0.01	0.01	0.00
LT - I (B) Residential	2,071.07	172.59	115.94	130.64	148.15
LT - II (A) Commercial	925.40	77.12	56.77	64.42	67.55
LT - II (B) Commercial	214.83	17.90	14.70	13.85	16.71
LT - II (C) Commercial	369.48	30.79	25.75	23.98	29.12
LT - III (A) Industrial	43.91	3.66	3.56	3.72	3.70
LT - III (B) Industrial	89.35	7.45	6.92	6.47	7.29
LT - IV PWW	6.82	0.57	0.53	0.39	0.41
LT - V Adv & Hoardings	1.62	0.14	0.13	0.14	0.12
LT - VI St. Lighting	21.84	1.82	1.64	1.61	1.54
LT - VII (A) Temp-Religious	0.21	0.02	0.00	0.00	0.01
LT - VII (B) Temp-Others	32.15	2.68	0.79	0.73	0.91
LT - VIII Crematorium	1.89	0.16	0.13	0.12	0.13
LT - IX (A) Public Service	58.06	4.84	3.77	3.56	4.45



Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual (Jan-19) (MU)	Actual (Feb-19) (MU)	Actual (Mar-19) (MU)
	(I)	(II=I/12)	(III)	(IV)	(V)
LT - IX (B) Public Service Others	167.23	13.94	11.04	10.21	12.67
LT - X (A) Pumpsets	-	-	-	-	-
LT - X (B) Others	-	-	-	-	-
LT - XI Electric Vehicle Charging Stations	-	-	0.01	0.02	0.02
HT Category					
HT - I Industry	137.90	11.49	14.05	12.79	14.55
HT - II Commercial	269.41	22.45	16.32	15.31	18.03
HT - III Grp.Housing (Residential)	32.33	2.69	2.12	1.91	2.31
HT - IV PWW	38.17	3.18	2.56	2.28	2.52
HT-V (A) Railways, Metro & Monorail	-	-	-	-	-
HT-V (B) Railways, Metro & Monorail	2.28	0.19	0.16	0.15	0.18
HT-VI (A) Public Service	26.44	2.20	1.87	1.65	2.00
HT-VI (B) Public Service-Others	166.88	13.91	11.25	9.76	12.59
HT-VII Temporary Supply	14.78	1.23	1.68	1.20	1.12
HT-VIII Electric Vehicle (EV) Charging Stations	-	-	-	-	-
Total Energy Sale	4,692.38	391.03	291.69	304.92	346.08

3.2 The total monthly sales for the months of January, February and March 2019 is 291.69 MUs, 304.92 MUs and 346.08 MUs as compared to monthly approved MTR sale of 391.03 MUs. The major variation was observed in LT – I (B) Residential, LT – II (A) Commercial and HT – I Industry due to seasonal variation during the respective period.

4. Cost of Power Purchase

4.1 BEST Undertaking does not own or operate any generating stations. Accordingly, BEST Undertaking is required to procure 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.



- g) Purchases from Tata Power Company Ltd. (TPC-G)
- h) Renewable energy procurement(RPS)
- i) Bilateral contracts and decrements to the imbalance pool.

4.2 The following Table shows the variation in average power purchase cost (APPC) (Rs/kWh) for the month of January, 2019 to March, 2019 as compared to average power purchase cost approved in Tariff Orders dated 12 September, 2018.

Particulars	Tariff Order Dated 12.09.2018			Actual for January, 2019		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G	3,521.45	1,530.85	4.35	237.74	102.95	4.33
TPC-G Past Revenue Gap/(Surplus)		(95.15)			(15.84)	
RE Sources	706.48	258.47	3.66	8.71	6.41	7.36
Traders	917.14	329.25	3.59	73.45	31.92	4.35
Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be received for FY 2016-17)	-	81.44	-	(118.61)	(23.19)	1.96
Total	5,145.07	2,104.86	4.09	201.30	102.25	5.08



Particulars	Tariff Order Dated 12.09.2018			Actual for February, 2019		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G	3,521.45	1,530.85	4.35	278.35	122.27	4.39
TPC-G Past Revenue Gap/(Surplus)		(95.15)			(15.80)	
RE Sources	706.48	258.47	3.66	8.49	15.67	18.45
Traders	917.14	329.25	3.59	19.55	9.66	4.94
Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be received for FY 2016-17)	-	81.44	-	(7.99)	10.27	(12.86)
Total	5,145.07	2,104.86	4.09	298.40	142.08	4.76

Particulars	Tariff Order Dated 12.09.2018			Actual for March, 2019		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G	3,521.45	1,530.85	4.35	330.68	129.08	3.90
TPC-G Past Revenue Gap/(Surplus)	-	(95.15)	-	-	(15.75)	-
RE Sources	706.48	258.47	3.66	8.09	7.62	9.42
Traders	917.14	329.25	3.59	35.61	17.89	5.02
*Total Variation of Prior period (O/C provision for payment of	-	81.44	-	35.46	15.31	4.32



FBSM Bills & Standby Energy Bills to be received for FY 2016-17)						
Total	5,145.07	2,104.86	4.09	409.84	154.14	3.76

**Total monthly variations of prior period accounted for January, 2019 to February, 2019"are the expenses claimed against the provisional FBSM bills, reimbursement charges, revision of energy bills and supplementary bills for prior period.*

- 4.3 The Commission has scrutinised detailed bills/invoices for all of the power purchase sources in order to verify the claim of BEST with regards to average power purchase cost for the months of January, 2019 to March, 2019. The Commission has verified the Net Purchase, Variable Cost, Fixed Charge and the Power Purchase Cost from the relevant bills/invoices received for all purchasing sources.
- 4.4 With regards to TPC-G, BEST Undertaking has purchased 237.74 MUs, 278.35 MUs and 330.68 MUs of energy during the months of January, February and March, 2019. The quantum of power purchase mainly in the month of January, 2019 was observed lower as compared to the months of February and March, 2019. The reason for such lower purchase can be contributed to the low PLF and availability of TPC-G's Unit 5. The PLF and availability of Unit 5 during the month of January was 39.66% and 25.38% respectively. TPC-G stated that the availability of Unit 5 was low due to planned outage of around 18.5 days during the said month however; the availability of Unit 5 during other months of Q4 was above normative. Further, the low system demand during the aforesaid period has resulted into lower PLF and consequently lower net generation.
- 4.5 Even though the availability was lower as mentioned in para above, the entire monthly fixed cost was payable in line with Regulation 48.3 of MYT Regulations, as the cumulative plant availability was above the normative availability of 85%. This has resulted into fixed cost spread over lower net generation increasing average power purchase price from these Units and thus impacting the APPC. Further, TPC-G has submitted the monthly cumulative availability of each of thermal and hydro generating stations from April 2018 to March, 2019 as shown below;

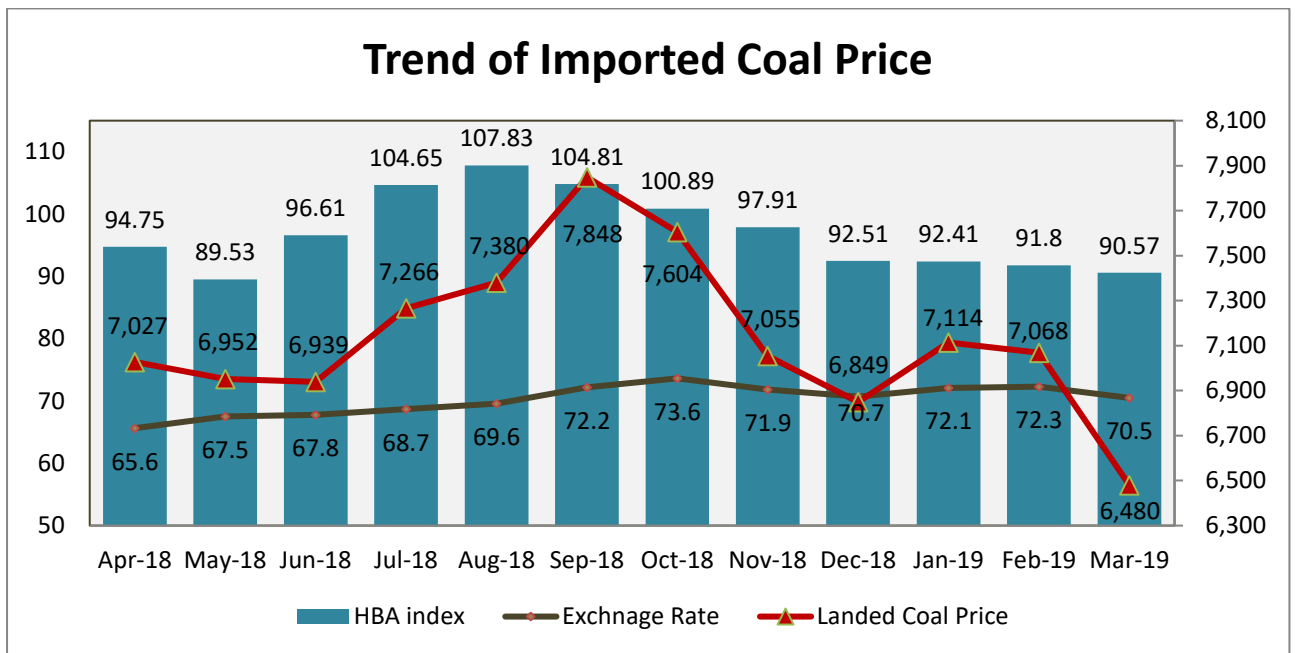


Unit 5 (Thermal)	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Monthly Availability	99.71%	98.96%	93.51%	82.06%	100.00%	100.00%	97.74%	98.45%	100.00%	39.66%	100.00%	100.00%
Cummulative Availability	99.71%	99.33%	97.41%	93.51%	94.96%	94.38%	96.16%	96.44%	96.91%	91.11%	91.90%	91.11%
Unit 7 (Thermal)	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Monthly Availability	100.00%	100.00%	100.00%	67.97%	94.94%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cummulative Availability	100.00%	100.00%	100.00%	92.03%	92.62%	87.58%	94.79%	95.46%	96.00%	96.43%	96.74%	96.43%
Unit 8 (Thermal)	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Monthly Availability	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	96.10%	98.96%	100.00%	100.00%	100.00%
Cummulative Availability	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.85%	99.75%	99.82%	99.87%	99.82%
Bhira (Hydro)	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Monthly Availability	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	95.70%	100.00%	93.45%	98.92%
Cummulative Availability	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.52%	99.56%	99.04%	99.34%
Bhivpuri (Hydro)	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Monthly Availability	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cummulative Availability	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Khopoli (Hydro)	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
Monthly Availability	100.00%	98.92%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cummulative Availability	100.00%	99.45%	99.63%	99.73%	99.78%	99.82%	99.84%	99.86%	99.88%	99.89%	99.90%	99.91%

- 4.6 As it can be seen from the figure above, that cumulative availability of all generating stations were above normative availability of 85%, therefore, in line with Regulation 48.3 of MYT Regulations, 2015, the Commission has allowed recovery of full monthly fixed cost during the aforesaid period.
- 4.7 The APPC for TPC-G, which generates power on Imported Coal, Domestic Natural Gas (under APM mechanism), Oil (LSHS), imported RLNG and hydro has been worked out at Rs. 4.33/ kWh, Rs. 4.39/ kWh and Rs. 3.90/ kWh for months of January, February and March 2019 respectively as compared to MTR approved rate of Rs. 4.35/ kWh. The APPC is observed lower in the month of January and March, 2019, whereas it was marginally higher in the month of February, 2019. The variation is mainly on account of fixed charge payment as explained in para above and also due to variation in average price of fuel during the respective months. The landed cost of coal for energy charge computation as claimed by TPC-G for the month of January, February and March, 2019 is Rs. 7114/MT and 7068/MT 6480/MT which is lower than the MTR approved rate of Rs. 7154/MT.
- 4.8 The APPC is marginally higher by approx. Rs. 0.04/kWh mainly in the month of February, 2019 whereas it is marginally lower by approx. Rs. 0.02/kWh and Rs. 0.45/kWh in the month of January and March, 2019 respectively. The variation is mainly on account of fixed charge payment impact as explained in para above and also due to variation in average price of fuel during the respective months. The landed cost of coal for energy charge computation as claimed by TPC-G for the month of January, February and March, 2019 is Rs. 7114/MT and 7068/MT 6480/MT as compared to MTR approved rate of Rs. 7154/MT. These actual landed price during the above period is lower as compared to MTR approved rate which is attributed to demand supply position of the global coal market. The prices of coal in international market which is linked to HBA index have shown downward trend during the above period and hence, the decline in landed price have been observed.



4.9 TPC-G mainly procures imported coal from Indonesian market. The coal reference price as mentioned above is i.e., Harga Batubara Acuan or HBA index for Indonesian coal which is set by Ministry of Energy and Mineral Resources (Indonesia). The Commission has sought for prevailing HBA index during the aforesaid period along with the detailed computation of FOB price at which the coal has been procured by TPC-G. From the data submitted by TPC-G, it can be observed that the HBA index was floating from around 89.53 to 107.83 during last few quarters which is almost 6-year high. However, a slight downward trend is observed from the previous quarter. The graph below shows the trend of HBA index, dollar exchange rate and landed coal price as considered by TPC-G for energy charge calculations from Q1 of FY 2018-19 to present quarter i.e., Q4 of FY 2018-19.



4.10 The Commission has also sought for coal purchase bills along with the supporting invoices of other coal handling charges and duties considered for all the months of Q4 of FY 2018-19. The Commission has scrutinised the sample bills submitted and computed the purchase price of coal from sample bills for the month of February as shown in Table below:

Date	Quantity MT	Unit Price FOB (USD/MT)	Frieght Rate (USD/MT)	Frieght Rate (USD/MT)	Total Coal Cost (USD)	Average (USD/MT)
	A	B	C	D=B+C	E=A*D	F=E/A
11-Feb-19	63200	63.96	8.88	72.84	46,03,488	72.84
14-Feb-19	62200	63.65	8.97	72.62	45,16,964	72.62
Total	125400				91,20,452	72.73



- 4.11 From the Table above the basic purchase cost of imported coal including freight during the month of February, 2019 as per sample bills submitted worked out at USD 72.73/MT. Considering the dollar conversion rate as Rs. 72.30/USD effective for the month of February as per the notification issued by Central Board of Indirect Taxes and Customs, the purchase price of imported coal in Indian currency stands at Rs. 5258.44/MT. Other coal handling charges such as insurance, handling and wharfage charges, taxes and duties, clean energy cess and other miscellaneous charges have been considered as per the corresponding average charges prevailing during the last fiscal year i.e., FY 2017-18. Accordingly, the total landed cost of coal arrived at around Rs.7058.44 /MT. Further, as the coal purchase during a month is generally not utilised in the same month, hence, there is a variation in above computed coal price vis-à-vis coal price as considered by TPC-G for energy charge calculations. The cost of coal for energy charge computation pertains to coal consumed during the respective months which is arrived based on the actual cost of coal inventory as well as the purchased coal cost received in the coal yard.
- 4.12 The Commission has sought for detailed computation and methodology for booking the coal consumption cost. In response to this, TPC-G earlier stated that the total coal consumption cost is calculated by SAP system on the basis of Moving Average Price Method by adding the purchases during the month in the opening inventory stock. The closing inventory is then obtain by deducting the coal consumed form the total of opening inventory and purchases during the respective month. Apart from above the Commission has also sought for third party sampling report for GCV verifications. TPC-G has submitted the third party sampling certificate issued by Bureau Veritas for the respective period. The Commission has verified the document submitted and found to be in order.
- 4.13 The sources of Renewable Energy (RPS) include - Welspun Energy Maharashtra Ltd., Spark Green Energy, Sahyadri Renewable Energy Pvt. Ltd., Krishna Valley Power Pvt. Ltd., GRETA Energy Ltd., A.A. Energy, Lokmangal Agro Ltd. and Manas Agro Ind and Infra Ltd. The Commission has verified the net units (MUs) Purchased and the corresponding charges for the Q4 months, i.e., January to March, 2019, from the bills/invoices submitted. The Commission has also verified the billing units (MUs) from the joint ABT Meter reading certified by MSETCL and the concerned Utility.
- 4.14 The Commission in its MYT Order has approved the APPC from RPS inclusive of REC cost for FY 2018-19 as Rs. 10.34/kWh whereas in its MTR Order it was approved as Rs. 3.66/kWh which was exclusive of REC. In the MTR Order, as against, REC purchase (REC for RPO compliance + short term power for energy requirement) proposed by BEST, the Commission has considered shortfall in RE procurement to be met through power purchase from new RE sources at the generic tariff rate (Rs. 2.72/kWh for solar and Rs. 2.87 / kWh for non-solar i.e. wind) approved in RE Tariff Order for FY 2018-19. Accordingly, the Commission in its MTR Order has approved the APPC from RPS as Rs. 3.66/kWh.



4.15 In this present quarter, BEST Undertaking has purchased 8.71 MUs, 8.49 MUs and 8.09 MUs from RPS at a cost of Rs. 6.41 Crore, Rs. 15.67 Crore and Rs. 7.62 Crore respectively during the month of January, February and March, 2019. The APPC from RPS sources is Rs. 7.36/kWh, Rs. 18.45/kWh and Rs. 9.42/kWh during the month of January, February and March, 2019 respectively as compared to MTR approved rate of Rs. 3.66/kWh. The APPC is higher mainly on account two reasons;

1. Absence of new cheaper sources of power as envisaged to be purchased by BEST in the MTR Order.
2. Purchase of REC (Solar and Non-Solar) during aforesaid period

4.16 Upon clarification sought for absence of power from new solar/non-solar RE generators, BEST Undertaking in its submission had contended that the MTR Order was issued on 12 September, 2018 i.e., almost by the close of H1 of FY 2018-19. It is very difficult for BEST Undertaking to purchase RE Power immediately, to comply with the Order in FY 2018-19. Further, as per Competitive Bidding Guidelines issued by Ministry of Power, Bidder has to give at least 21 to 25 months' time for commissioning of the plant. While BEST Undertaking will shortly initiate the process of Competitive Bidding to purchase Solar and Non solar Power, it will not be available for FY 2018-19. In view of the inability to purchase RE requirement of FY 2018-19 at such short notice, BEST Undertaking shall have to purchase RECs to meet its RPO. Accordingly, due to the absence of less costlier new approved solar/non-solar sources in the total RPS portfolio, the actual weighted average power purchase cost have driven towards costlier approved sources (mainly M/s Welspun Energy Maharashtra Pvt. Ltd with approved cost of Rs. 8.56/kWh) thus, impacted the APPC.

4.17 With regards to REC purchase, BEST Undertaking had stated that its long term tied up PPA is not sufficient to meet its solar RPO. Further, the non-solar RE generators with whom BEST Undertaking has long term tied up, has not commissioned the project as per the agreement and will not supplied non-solar energy to BEST Undertaking in FY 2018-19. Therefore, it had purchased REC which is in accordance with Regulation 7.2 of MERC (RPO-REC) Regulations, 2016 BEST Undertaking has purchased the aforesaid REC. The relevant provision of MERC (RPO-REC) Regulations, 2016 is reproduced below;

“Every 'Obligated Entity' may meet its RPO target by way of own generation or procurement of power from RE developer or by way of purchase from other licensee or by way of purchase of renewable energy certificate or by way of combination of any of the above options.”

4.18 BEST Undertaking in its previous submission in order to support its REC Purchase had also stated that, in its Judgment dated 20 April, 2015 in O.P. No. 1, 2 and 4 of 2013 and IA No. 291 and 420 of 2013, the APTEL has given the following among other directions regarding RPO compliance;



“28... ii) ...If the distribution licensee is not able to tie up procurement of renewable energy to meet the RPO target, it may plan to purchase RECs to meet its RPO target as per the provisions of the Regulations. Advance planning of REC purchase will give opportunity to the distribution licensees/other obligated entities to purchase REC when the market conditions are more favorable to them... “

- 4.19 Therefore, the Commission based on above has considered the respective amount towards REC purchase in this FAC approval. The Commission has also verified the respective amount and cost of RE purchases during the aforesaid period from the bills and documents as submitted by BEST Undertaking.
- 4.20 Bilateral Power Purchase (Traders) sources for the months of January to March, 2019, mainly include PTC India Ltd., Kreate Energy Pvt. Ltd., TPTCL and IEX. BEST Undertaking has purchased bilateral power during aforesaid period after inviting e-tender through Ministry of Power's DEEP e-portal, in line with MoP guidelines on short term competitive bidding. BEST Undertaking has submitted NIT, Bid document as well as reverse auction result as a documentary evidence for bilateral purchase.
- 4.21 The average power purchase price from Traders during the months of January to March, 2019 were Rs. 4.35/ kWh, Rs. 4.94 /kWh and Rs. 5.02 /kWh respectively which is higher than the MTR approved rate of Rs. 3.59 /kWh. The MTR approved rate of Rs. 3.59/kWh was based on previous year trend of bilateral purchase average. Further, as the prices of short term power have shot up on DEEP e-portal and Power exchanges market due to unfavourable demand supply positions, BEST Undertaking on 2 January 2019 had filed a Petition under Regulation 21 of MERC (Multi Year Tariff) Regulations 2015 seeking approval for purchase of Bilateral power above Average rate approved for FY 2018-19. Taking cognizance of the reasons contended by BEST Undertaking in the said petition, the Commission in Case No. 5 of 2019 has increased the ceiling rate for purchase of short term power to an average rate of Rs. 4.50/kWh for FY 2018-19. Further, as the BEST has purchase the short power through competitive bidding, on DEEP e-portal, the Commission allows the short term power as submitted by BEST.
- 4.22 BEST Undertaking has made adjustment in the Total Power Purchase on account of “Total Monthly Variation of prior period” for the months of January to March, 2019. The monthly variation as mentioned above is mainly on account weekly provisional FBSM bills received from MSLDC for prior period, Debit/Credit note for refund towards reimbursement of Open Access Charges, payment of balance GST amount on REC purchased through trading on PXIL etc. The Commission has verified the Net Pool Imbalance Charges and the corresponding units (MUs) claimed by BEST from the letter issued by Maharashtra State Power Committee and found to be in order. The Commission has also verified the other charges as claimed by BEST from the bills and invoices submitted and found to be in order.



4.23 Therefore, the key reasons for increase in APPC are; impact of monthly fixed cost payment due to lower net generation and PLF, purchase of REC for meeting accumulated RPO, absence of new RE sources in RPS portfolio, increased in short term purchase rate and adjustment towards monthly variation related to FBSM and other settlements. Accordingly, the Commission allows the average power purchase cost of **Rs. 5.08/kWh** for the month of January, 2019, **Rs. 4.76/kWh** for the month of February, 2019 and **Rs. 3.76/kWh** for the month of March, 2019 as shown in the Table above.

Yearly Review of Power Purchase:

4.24 Further, as the FY 2018-19 is over, the Commission has sought for the detailed comparison of actual overall power purchase during all the quarters of FY 2018-19 vis-à-vis the power purchase as approved in MTR Order for FY 2018-19. BEST Undertaking as provided the details as shown in Table below;

Sr. No.	Particulars	FY 2018-19					
		Approved in MTR Order			Actuals		
		Quantum	Total Cost	Avg. Rate	Quantum	Total Cost	Avg. Rate
		(MU)	(Rs.Cr.)	Rs./kWh	(MU)	(Rs.Cr.)	Rs./kWh
1	TPC-G	3,521.45	1,530.85	4.35	3,745.67	1,624.43	4.34
2	TPC-G Past Revenue Gap/(Surplus)		(95.15)			(95.15)	
3	RPS						
3.1	RPS_Solar (Welspun Energy MH)	31.50	26.96	8.56	31.50	26.96	8.56
3.2	RPS_Non-Solar				68.22	45.33	6.64
3.3	REC Procurement-Solar	110.03	38.79	3.53		22.04	
3.4	REC Procurement-Non-Solar	564.95	192.72	3.41		64.23	
	Sub Total (RPS)	706.48	258.47	3.66	99.72	158.56	15.90
4	External Purchase						
4.1	Bilateral Power Purchase	917.14	329.25	3.59	596.85	251.03	4.21
4.2	Power Exchange (IEX)				63.33	33.00	5.21
	Sub Total (External Purchase)	917.14	329.25	3.59	660.18	284.03	4.30
5	Pool Imbalance				415.13	*	-
6	Standby Energy Purchase				3.09	*	-
	Sub Total (Pool Imbalance & Stand-by Energy)	-	-	-	418.22	-	-
7	Variation of Prior period						
7.1	O/c provision for Payment of FBSM Bills to be received for FY 2016-17	-	80.54	-	(207.36)	(31.59)	1.52
7.2	Payment of FBSM Bills of FY 2017-18 received in FY 2018-19				27.47	14.04	



Sr. No.	Particulars	FY 2018-19					
		Approved in MTR Order			Actuals		
		Quantum	Total Cost	Avg. Rate	Quantum	Total Cost	Avg. Rate
		(MU)	(Rs.Cr.)	Rs./kWh	(MU)	(Rs.Cr.)	Rs./kWh
7.3	Payment towards WRPC's provisional DSM Bills for FY 2018-19					11.00	
7.4	O/c provision for Standby support Energy availed from MSEDCL for FY 2016-17	-	0.90	-	-	-	-
7.5	Standby support Energy availed from MSEDCL for FY 2015-16	-	-	-	0.23	0.09	3.80
7.6	Variation of Bilateral PP				-	0.11	-
7.7	Variation of RE PP				1.56	6.22	-
	Sub Total (Variation of prior period)	-	81.44		(178.11)	(0.14)	0.01
8	Sub Total (TPC-G, RPS, External, Stand-by Energy Pool Imbalance)	5,145.06	2,104.86	4.09	4,327.46	1,971.73	4.56
9	Stand-by Charges	-	102.96	-	-	103.31	-
10	Transmission Charges	-	204.03	-	-	231.75	-
11	MSLDC Charges	-	0.67	-	-	0.73	-
	Sub Total (Stand-by Charges, Transmission Charges & MSLDC Charges)	-	307.66	-	-	335.79	-
12	Total Power Purchase for FY 2018-19	5,145.06	2,412.52	4.69	4,923.79 #	2,307.51	4.69

*Pool Imbalances (FBSM) & Standby energy bills are not yet received from MSPC & MSEDCL

#Arrived after Energy balancing for FY 2018-19

4.25 As it can be seen from the Table above that the total actual average power purchase cost (APPC) for BEST Undertaking is almost equal to the APPC as approved by the Commission is its MTR Order i.e., Rs. 4.69/kWh. However, there are variation in individual sources of power which is explained in the para below;

TPC-G:

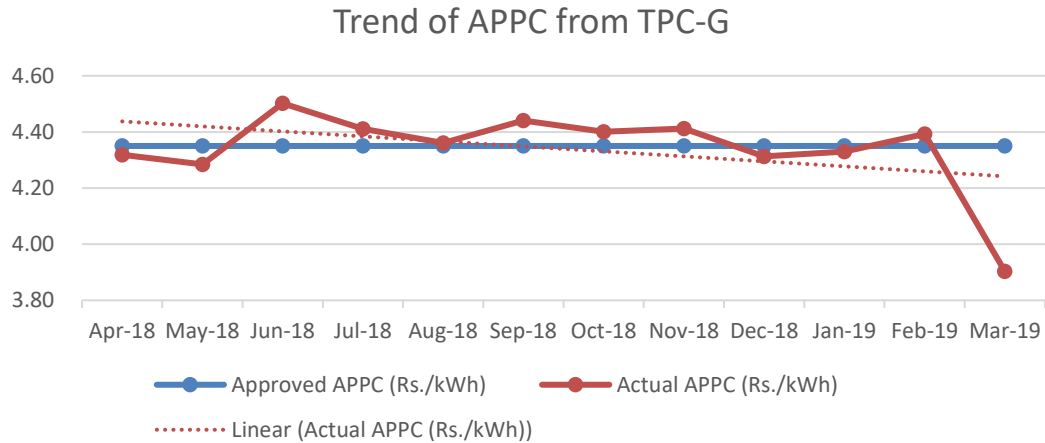
4.26 The Table below shows the power purchase cost, quantum and rate of power purchase from TPC-G as approved in MTR Order vis-à-vis actuals in FY 2018-19;

Sr. No.	Particulars	FY 2018-19						
		Approved in MTR Order (Case No. 203 of 2017)			Actual			
		Quantum	Total Cost	Rate	Quantum	Total Cost	Rate	Diff. in Rate
.								



		MU	Rs.Crore	Rs./kWh	MU	Rs.Crore	Rs./kWh	Rs./kWh
1	Total TPC-G	3,521.45	1,530.85	4.35	3545.67	1624.43	4.34	(0.01)

4.27 The actual APPC from TPC-G for FY 2018-19 is marginally lower by Rs. 0.01/kWh than that of the rate as approved by the Commission. The reason for variation is mainly on account of variation in actual prices of fuel during the aforesaid period. Further, the graph below shows the trend of month wise actual APPC and approved APPC for FY 2018-19.



RE Procurement Solar/Non Solar:

4.28 Power purchase cost, quantum and rate of power purchase from RE sources as approved in MTR Order vis-à-vis actuals in FY 2018-19 is given in table below:

Sr. No.	Particulars	FY 2018-19						
		Approved in MTR Order (Case No. 203 of 2017)			Actual			
		Quantum	Total Cost	Rate	Quantum	Total Cost	Rate	Diff. in Rate
		MU	Rs.Crore	Rs./kWh	MU	Rs.Crore	Rs./kWh	Rs./kWh
1	RE-Solar (Welspun Energy MH)	31.50	26.96	8.56	31.50	26.96	8.56	-
2	RE-Non Solar	-	-	-	68.22	45.33	6.64	6.64
3	REC Procurement-Solar	110.03	38.79	3.53	-	22.04	-	-
4	REC Procurement-Non-Solar	564.95	192.72	3.41	-	64.23	-	-
5	Total RE Power Purchase	706.48	258.47	3.66	99.72	158.56	15.90	12.24



- 4.29 It can be observed from Table above that the overall power purchase rate from RE sources is Rs. 15.90/kWh as against the rate of Rs. 3.66/kWh as approved by the Commission. The actual rate is higher which can be attributed to the purchase of RECs (Solar and non-Solar) during the aforesaid period in order to meet the RPO requirement of BEST. BEST has purchased Solar RECs amounting to Rs. 22.04 Crore and Non-Solar RECs amounting to Rs. 64.23 Crore to meet its RPO for FY 2018-19. Hence, the total RECs purchase of worth Rs. 86.27 Crore during FY 2018-19 has resulted into an increase in total power purchase cost and hence APPC.
- 4.30 It has already been explained in para 4.15 that the APPC of Rs. 3.66/kWh was arrived in MTR Order, envisaging that the shortfall in RE procurement to be met by BEST through power purchase from new RE sources instead of buying RECs. However, BEST has not procured power from new sources stating that the MTR Order was issued on 12th September-2018 i.e. almost by the close of H1 of FY 2018-19. It was not possible for BEST to purchase RE Power (i.e. Wind & Solar) in short time, to comply with the Order in FY 2018-19. Further, as per Competitive Bidding Guidelines issued by Ministry of Power, Bidder has to give at least 21 months time for commissioning of the plant. Therefore, in view of the inability to fulfil RE requirement of FY 2018-19, BEST has purchased Solar and Non-Solar REC's.
- 4.31 BEST further stated that apart from RECs, it has also purchased around 68.22 MUs of non-solar power from contracted Biomass/Bagasse/Co-generation sources at approved Generic Tariff. The APPC from these non-solar sources at approved Generic Tariff was arrived at Rs. 6.64/kWh. Hence, in the overall portfolio of RE power, the absence of new cheaper sources and impact of RECs purchase has driven the overall APPC on higher side as compared to MTR approved rate.

Bilateral Power Purchase:

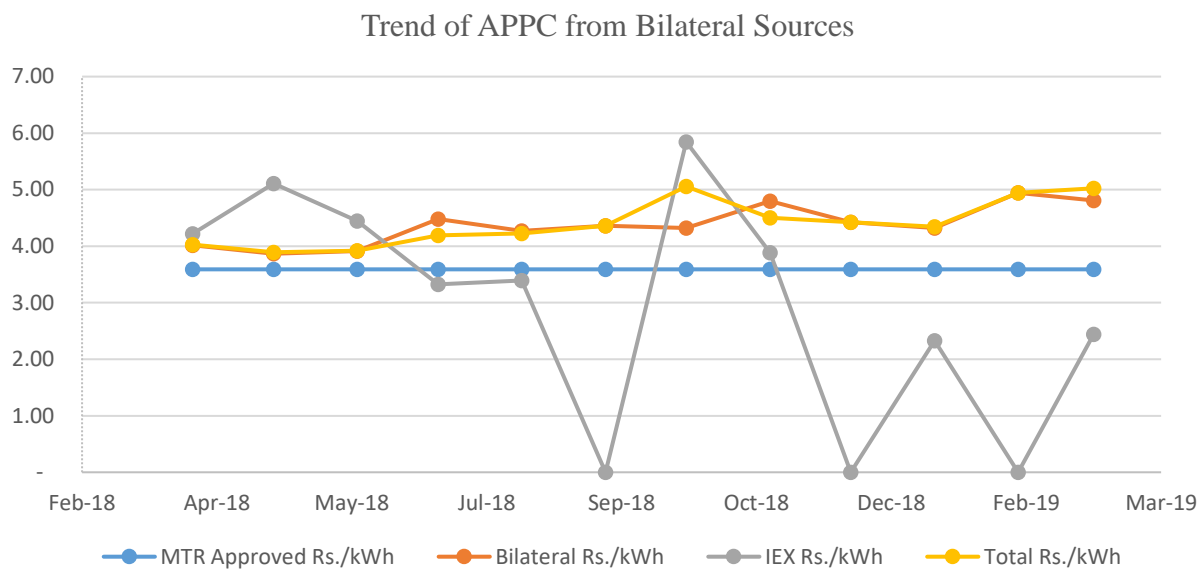
- 4.32 The Table below shows the power purchase cost, quantum and rate of power purchase from short term bilateral sources as approved in MTR Order vis-à-vis actuals in FY 2018-19:

Sr. No.	Particulars	FY 2018-19						
		Approved in MTR Order (Case No. 203 of 2017)			Actual			
		Quantum	Total Cost	Rate	Quantum	Total Cost	Rate	Diff. in Rate
		MU	Rs.Crore	Rs./kWh	MU	Rs.Crore	Rs./kWh	Rs./kWh
1	Bilateral Power Purchase	917.14	329.25	3.59	596.85	251.03	4.21	0.62
2	Power Exchange				63.33	33.00	5.21	5.21
3	Total External Power Purchase	917.14	329.25	3.59	660.18	284.03	4.30	0.71



4.33 It can be observed that the actual APPC from bilateral sources is Rs. 4.30/kWh which is Rs. 0.71/kWh higher than that of the ceiling of Rs. 3.59/kWh as approved in MTR Order. However, as already explained in para 4.21 that the Commission in its Order dated 13th February-2019 in Case No. 5 of 2019 has increased the ceiling rate and allowed BEST's power purchase from short term bilateral sources at Rs. 4.50/kWh for FY 2018-19. Hence, in view of above, there is reduction of Rs.0.20/kWh in average rate of short term power purchase for FY 2018-19 as against average rate of Rs.4.50/kWh approved in above mentioned Order.

4.34 The graph below shows the trend of power purchase cost from bilateral sources as well as from power exchange during FY 2018-19.



Variation of Prior Period:

4.35 The Table below shows the variation of prior period as approved in MTR Order vis-à-vis actuals in FY 2018-19:

Sr. No.	Particulars	FY 2018-19					
		Approved in MTR Order (Case No. 203 of 2017)			Actual		
		Quantum	Total Cost	Rate	Quantum	Total Cost	Rate
		MU	Rs.Crore	Rs./kWh	MU	Rs.Crore	Rs./kWh
1	O/c provision for Payment of FBSM Bills to be received for FY 2016-17	-	80.54	-	(207.36)	(31.59)	1.52



Sr. No.	Particulars	FY 2018-19					
		Approved in MTR Order (Case No. 203 of 2017)			Actual		
		Quantum	Total Cost	Rate	Quantum	Total Cost	Rate
		MU	Rs.Crore	Rs./kWh	MU	Rs.Crore	Rs./kWh
2	Payment of FBSM Bills of FY 2017-18 received in FY 2018-19	-	-	-	27.47	14.04	-
3	Payment towards WRPC's provisional DSM Bills for FY 2018-19	-	-	-	-	11.00	-
4	O/c provision for Standby Support Energy availed from MSEDCL for FY 2016-17	-	0.90	-	-	-	-
5	Standby support Energy availed from MSEDCL for FY 2015-16	-	-	-	0.23	0.09	3.80
6	Variation of Bilateral PP	-	-	-	-	0.11	-
7	Variation of RE PP	-	-	-	1.56	6.22	-
8	Sub Total (Variation of prior period)	-	81.44	-	(178.11)	(0.14)	0.01

4.36 The prior period variations are mainly on account of payment of provisional weekly FBSM Bills, provisional weekly DSM Bills, payment of Standby Support Energy availed, variation due to GST compensation cess etc.

Stand-by Charges:

4.37 Stand-by Charges as approved in MTR Order vis-à-vis actuals in FY 2018-19 is given in table below:

Sr. No.	Particulars	FY 2018-19					
		Approved in MTR Order (Case No. 203 of 2017)			Actual		
		Quantum	Total Cost	Rate	Quantum	Total Cost	Rate
		MU	Rs.Crore	Rs./kWh	MU	Rs.Crore	Rs./kWh
1	Stand-by Charges	-	102.96	-	-	103.31	-
2	Total	-	102.96	-	-	103.31	-

4.38 BEST has paid Stand-by Charges of Rs. 43.25 Crores (i.e., Rs.8.65 Crore/Month) to MSEDCL for the period from April, 2018 to August, 2018 (i.e. 5 months) based on charges



approved in MYT Order dated 28th October, 2016 (Case No, 33 of 2016) & also paid Stand-by Charges of Rs. 60.06 Crores (i.e., Rs.8.58 Crore /Month) to MSEDCL for the period from September, 2018 to March, 2019 (i.e. 7 months) based on charges approved in MTR Order dated 12th September, 2018 (Case No, 203 of 2017). Accordingly, BEST has paid total Stand-by Charges of Rs. 103.31 Crores (i.e. Rs. 43.25 Cr+ Rs. 60.06 Cr) to MSEDCL during FY 2018-19 as against Rs.102.96 Crores approved in MTR Order for FY 2018-19 (Case No. 203 of 2017). Therefore, there is an increase of Rs. 0.35 Crores (i.e. Rs. 103.31 Cr- Rs. 102.96 Cr) in Stand-by Charges paid to MSEDCL during FY 2018-19.

Transmission Charges:

4.39 The Table below shows the transmission charges as approved in MTR Order vis-à-vis actuals in FY 2018-19:

Sr. No.	Particulars	FY 2018-19					
		Approved in MTR Order (Case No. 203 of 2017)			Actual		
		Quantum	Total Cost	Rate	Quantum	Total Cost	Rate
		MU	Rs.Crore	Rs./kWh	MU	Rs.Crore	Rs./kWh
1	Transmission charges	-	204.03	-	-	231.75	-
2	Total	-	204.03	-	-	231.75	-

4.40 BEST has paid Transmission Charges of Rs. 112.75 Crore for the period from April, 2018 to August, 2018 (i.e. 5 months) based on Monthly Transmission charges of Rs.22.55 Crore/month as approved in the Commission’s Intra-State Transmission Tariff Order dated 22nd July, 2016 (Case No, 91 of 2016). Thereafter BEST has paid Transmission Charges of Rs. 119.00 Crores for the period from September, 2018 to March, 2019 (i.e. 7 months) based on Monthly Transmission charges of Rs.17.00 Crore /month as approved in the Commission’s Intra-State Transmission Tariff Order dated 12th September, 2018 (Case No, 265 of 2018). Accordingly, BEST has paid total Transmission Charges of Rs. 231.75 Crore (i.e., Rs.112.75 Cr + Rs. 119 Cr) during FY 2018-19 as against Rs. 204.03 Crore approved in MTR Order for FY 2018-19 (Case No. 203 of 2017). Therefore, there is an increase of Rs. 27.72 Crore (i.e. Rs. 231.75 Cr - Rs. 204.03 Cr) in Transmission Charges paid during FY 2018-19.

MSLDC Charges:

4.41 MSLDC Charges as approved in MTR Order vis-à-vis actuals in FY 2018-19 is given in table below:



Sr. No.	Particulars	FY 2018-19					
		Approved in MTR Order (Case No. 203 of 2017)			Actual		
		Quantum	Total Cost	Rate	Quantum	Total Cost	Rate
		MU	Rs.Crore	Rs./kWh	MU	Rs.Crore	Rs./kWh
1	MSLDC Charges	-	0.67	-	-	0.73	-
2	Total	-	0.67	-	-	0.73	-

4.42 BEST has paid MSLDC Charges of Rs. 0.33 Crore for the period from April, 2018 to August, 2018 (i.e. 5 months) based on Monthly MSLDC charges of Rs.6.66 Lakh /Month as approved in the Commission's Order dated 22nd July, 2016 (Case No, 20 of 2016) & also paid MSLDC Charges of Rs. 0.39 Crore for the period from September, 2018 to March, 2019 (i.e. 7 months) based on Monthly MSLDC charges of Rs.5.60 Lakh /Month as approved in the Commission's Order dated 12th September, 2018 (Case No, 171 of 2017). As such, BEST has paid total MSLDC Charges of Rs. 0.73 Crore (i.e., Rs. 0.33 Cr + Rs. 0.39 Cr) during FY 2018-19 as against Rs. 0.67 Crore approved in MTR Order for FY 2018-19 (Case No. 203 of 2017). Therefore, there is an increase of Rs. 0.06 Crore (i.e., Rs. 0.73 Cr- Rs. 0.67 Cr) in MSLDC Charges paid during FY 2018-19.

Total Power Purchase during FY 2018-19:

4.43 The Table below shows the total quantum, cost and rate of power purchased from all sources during FY 2018-19 vis-à-vis approved in MTR Order (Case No. 203 of 2017):

Sr. No.	Particulars	FY 2018-19						
		Approved in MTR Order (Case No. 203 of 2017)			Actual			
		Quantum	Total Cost	Rate	Quantum	Total Cost	Rate	Diff. in Rate
		MU	Rs.Crore	Rs./kWh	MU	Rs.Crore	Rs./kWh	Rs./kWh
1	Total Power Purchase	5145.06	2,412.52	4.69	4923.79	2307.51	4.69	-

4.44 From the above table it can be observed that BEST has purchased total power at an average rate of Rs.4.69/kWh during FY 2018-19 as against Rs.4.69/kWh approved in MTR Order for FY 2018-19. As such, there is no variation in average rate of total power purchased during FY 2018-19 and average rate approved in MTR Order.

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

5.1 The Commission has worked out the average power purchase cost for the month as shown in above Table. The same has been compared with the average power purchase cost



approved by the Commission in Tariff Orders dated 12 September, 2018 and arrived at differential per unit rate at which ZFAC is to be passed on to the consumers.

5.2 The following Table shows the ZFAC worked out by the Commission on account of difference in fuel and power purchase cost for the month of January, 2019 to March, 2019.

S. No.	Particulars	Units	Jan, 2019	Feb, 2019	Mar, 2019
1	Average power purchase cost approved by the Commission	Rs./kWh	4.09	4.09	4.09
2	Actual average power purchase cost	Rs./kWh	5.08	4.76	3.76
3	Change in average power purchase cost (=2 -1)	Rs./kWh	0.99	0.67	(0.33)
4	Net Power Purchase	MU	201.30	298.40	409.84
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	19.89	20.00	(13.53)

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

6.1 Adjustment factor for over recovery/under recovery (B) for the period of January, 2019 to March, 2019, the adjustment factor to be added/reduced is as below;

S. No.	Particulars	Units	Jan, 2019	Feb, 2019	Mar, 2019
1.1	Incremental cost allowed to be recovered in Month n-4	Rs. Crore	11.59	5.55	13.18
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	8.99	4.26	11.67
1.3	(over-recovery)/under-recovery (=1.1 - 1.2)	Rs. Crore	2.60	1.29	1.52
2.0	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit for previous month	Rs. Crore	-	0.33	0.18
3.0	Adjustment factor for over-recovery/under-recovery (1.3+2.0)	Rs. Crore	2.60	1.63	1.70

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

7.1 The following Table shows the month wise interest rate and amount worked out as Carrying cost for under/over recovery for the month of January, 2019 to March, 2019.



S. No.	Particulars	Units	Jan, 2019	Feb, 2019	Mar, 2019
1	Adjustment factor for over-recovery/under-recovery	Rs. Crore	2.60	1.63	1.70
2	Applicable Interest rate	%	10.05	10.05	10.05
3	Carrying cost for over-recovery/under-recovery	Rs. Crore	0.02	0.01	0.01

8. Disallowance due to excess Distribution Loss

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 Jan-19	Actual up to Feb-19	Actual up to Mar-19
1	Net Energy input at Distribution Voltages	MU	5,163.62	4,107.12	4,402.37	4,770.32
2	Energy sales (metered) at Distribution voltages	MU	4,869.30	3,890.67	4,195.59	4,541.67
3	Distribution Loss (=1-2)	MU	294.32	216.45	206.78	228.65
4	Distribution Loss as % of net energy input (=3/1)	%	5.70%	5.27%	4.70%	4.79%
5	Excess Distribution Loss = [Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	-	-	-



S.No.	Particulars	Units	Approved in Tariff Order	Actual up to Jan-19	Actual up to Feb-19	Actual up to Mar-19
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	-	-	-

8.3 As seen from the above Table, cumulative distribution loss is 5.27% for the month of January, 2019 and 4.70% for February, 2019 and 4.79% for the month of March, 2019. The cumulative distribution losses are observed lower than the approved Distribution Loss of 5.70%. Hence, there is no disallowance on account of excess distribution loss.

9. Summary of Allowable ZFAC

9.1 The summary of the FAC amount as approved by the Commission for the month of January, 2019 to March, 2019 which is allowed to be recovered in the billing month of April, 2019 to June, 2019 is as shown in the Table below:

S. No.	Particulars	Units	Jan, 2019	Feb, 2019	Mar, 2019
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	19.89	20.00	(13.53)
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	0.02	0.01	0.01
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	2.60	1.63	1.70
1.4	ZFAC = F+C+B	Rs. Crore	22.52	21.65	(11.81)
2.0	Calculation of FAC Charge				
2.1	Energy Sales within the License Area	MU	291.69	304.92	346.08
2.2	Excess Distribution Loss	MU	-	-	-
2.3	ZFAC per kWh	Rs./kWh	0.77	0.71	(0.34)
2.4	Cap at 20% of variable component of tariff	Rs./kWh	1.01	1.01	1.01
2.5	FAC Charge allowable (Minimum of 2.3 and 2.4)	Rs./kWh	0.77	0.71	(0.34)
3.0	Recovery of FAC				
3.1	Allowable FAC [(2.1 x 2.5)/10]	Rs. Crore	22.52	21.65	(11.81)
3.2	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.5)/10]	Rs. Crore	-	-	-



S. No.	Particulars	Units	Jan, 2019	Feb, 2019	Mar, 2019
4.0	Total FAC based on category wise and slab wise allowed to be recovered	Rs. Crore	22.52	21.65	(11.81)
5.0	Carried forward FAC for recovery during future period (1.4-3.2-4)	Rs. Crore	0.33	0.18	-

9.2 It can be seen from the above Table that standalone FAC for the months of January to March, 2019 is Rs. 22.52 Crore, Rs. 21.65 Crore and Rs. (11.81) Crore respectively. Based on total energy sales, FAC per unit has been working out as Rs. 0.77/kWh, Rs. 0.71/kWh and Rs. (0.34)/kWh for the months of January to March, 2019 respectively. Further, the Regulation 10.9 of MYT Regulations, 2015 specifies as:

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:

9.3 As the FAC per unit computed is already lower than the 20% cap specified in Regulation as shown in Table above, hence, there is no restriction triggered with regards to such ceiling for all the months of Q4 of FY 2018-19.

10. Recovery from Consumers:

10.1 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....”

- 10.2 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 ZFAC in absolute terms on considering category wise per unit FAC worked out and category wise actual sales for the month of January, 2019 to March, 2019.
- 10.3 The variation in FAC in absolute terms is due to formula error of ZFAC computed on per unit basis. The variation however is taken care in the adjustment factor of subsequent months.
- 10.4 The following Table shows per unit ZFAC to be charged to the consumers of BEST Undertaking for the billing month of April, 2019 to June, 2019.



S. No.	Consumer categories	Slab	ZFAC to be levied in billing month of April' 2019	ZFAC to be levied in billing month of May' 2019	ZFAC to be levied in billing month of June' 2019
			Rs./kWh	Rs./kWh	Rs./kWh
(A)	LT Category				
1	LT - I (A) Residential-BPL	0 - 30	0.20	0.20	(0.12)
2	LT - I (B) Residential	0 - 100	0.29	0.29	(0.15)
3		101 - 300	0.63	0.57	(0.28)
4		301 - 500	0.89	0.82	(0.40)
5		> 501	1.04	0.96	(0.46)
6	LT - II (A) Commercial	0 - 500	0.87	0.80	(0.38)
7	LT - II (B) Commercial	> 500	0.92	0.84	(0.40)
8	LT - II (C) Commercial	all units	0.94	0.86	(0.42)
9	LT - III (A) Industry	all units	0.79	0.73	(0.35)
10	LT - III (B) Industry	0 - 500	0.83	0.76	(0.37)
11	LT - IV PWW	> 500	0.84	0.77	(0.37)
12	LT - V Advertisement & Hoardings	> 20 KW	1.40	1.28	(0.62)
13	LT - VI Street Lights	all units	0.86	0.79	(0.38)
14	LT - VII (A) Temp-Religious	all units	0.60	0.55	(0.27)
15	LT - VII (B) Temp-Others	all units	1.11	1.02	(0.49)
16	LT - VIII Crematorium & Burial Grounds	all units	0.63	0.58	(0.28)
17	LT - IX (A) Public Service	all units	0.82	0.76	(0.36)
18	LT - IX (B) Public Service Others	all units	0.85	0.79	(0.38)
19	LT - X (A) Agriculture- Pumpssets	all units	0.43	0.40	(0.19)
20	LT - X (B) Agriculture-Others	all units	0.59	0.55	(0.26)
21	LT - XI Electric Vehicle (EV) Charging Stations	all units	0.91	0.74	(0.34)
(B)	HT Category				
22	HT - I Industry	all units	0.88	0.81	(0.39)
23	HT - II Commercial	all units	0.93	0.86	(0.41)
24	HT - III Group Housing	all units	0.76	0.70	(0.34)
25	HT - IV PWW	all units	0.83	0.77	(0.37)
26	HT-V (A) Railways, Metro & Monorail (110/132 kV)	all units	-	-	-
27	HT-V (B) Railways, Metro & Monorail (33kV)	all units	0.80	0.74	(0.36)
28	HT-VI (A) Public Service	all units	0.84	0.77	(0.37)



29	HT-VI (B) Public Service-Others	all units	0.90	0.83	(0.40)
30	HT-VII Temporary Supply	all units	1.01	0.93	(0.45)

