



महाराष्ट्र विद्युत नियामक आयोग
Maharashtra Electricity Regulatory Commission

Ref. No. MERC/FAC/2020-2021/E-Letter

Date: 1 April , 2021

To,
The General Manager,
The Brihanmumbai Electric Supply and Transport Undertaking,
BEST Bhavan, BEST Marg,
Post Box No. 192,
Mumbai 400 001

Subject: Post facto approval of BEST Undertaking's Fuel Adjustment Charges (FAC) for the period from January, 2020 to March, 2020.

Reference: BEST Undertaking's submission vide emails dated 27 May and 4 July 2020 for post-facto approval of FAC for the period from January, 2020 to March, 2020.

Sir,

Upon vetting the FAC calculations for the month of January, 2020 to March, 2020 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	Jan, 2020	Feb, 2020	Mar, 2020*
FAC allowed (Rs. Crore)	23.15	32.78	32.58
Carry forward FAC (Rs. Crore)	0.36	2.29	16.14

**FAC for March 2020 also includes unrecovered FAC (Rs. 35.07 Crore=Rs. 32.78 Crore +Rs. 2.29 Crore) for February 2020.*

BEST Undertaking has claimed net cumulative un-recovered FAC of Rs. 52.50 Crore at the end of March, 2020 against which the Commission has approved Rs. 47.32 Crore based on cumulative



disallowance from Q1 to Q4 of FY 2019-20) which is explained in detail in paras 9.2 to 9.8 of the enclosed Report.

As FY 2019-20 is already over and provisional True-up of FY 2019-20 has also been done in recent MYT Order dated 30 March, 2020, the aforesaid FAC amount would get adjusted at the time of final True-up of FY 2019-20 under the MERC (Multi Year Tariff) Regulations, 2015.

Yours faithfully,



(Prafulla Varhade)
Director (EE)

Encl: Annexure A: Detailed Vetting Report for the period of January, 2020 to March, 2020



**POST FACTO APPROVAL FOR FAC FOR THE MONTH OF JANUARY, 2020 TO
MARCH, 2020**

Subject: Post facto approval of BEST Undertaking's Fuel Adjustment Charges (FAC) for the period from January, 2020 to March, 2020.

Reference: BEST Undertaking's submission vide emails dated 27 May and 4 July 2020 for post-facto approval of FAC for the period from January, 2020 to March, 2020.

1. FAC submission by BEST Undertaking:

1.1 BEST Undertaking has submitted FAC submissions for the month of January, 2020 to March, 2020 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, 2020 to June, 2020.

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 On 30 March, 2020 the Commission has issued Tariff Order for BEST Undertaking, (Case No. 324 of 2019) for True-up of FY 2017-18 and FY 2018-19, provisional True-up for FY 2019-20 and Aggregate Revenue Requirement and Multi-Year Tariff for 4th Control Period from FY 2020-21 to FY 2024-25. Revised Tariff has been made applicable from 1 April, 2020.



- 2.4 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.
- 2.5 Vide FAC vetting Report dated 4 January, 2017, the Commission accorded prior approval of the FAC for the month of October, 2016.
- 2.6 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 emails dated 27 May and 4 July 2020. BEST Undertaking has filed FAC submissions for the month of January, 2020 to March, 2020 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-20) (MU)	Actual (Feb-20) (MU)	Actual (Mar-20) (MU)
	(I)	(II=I/12)	(III)	(IV)	(V)
LT Category					
LT - I (A) Residential-BPL	0.58	0.05	0.00	0.00	0.00
LT - I (B) Residential	2,188.19	182.35	123.71	149.81	149.90
LT - II (A) Commercial	977.00	81.42	60.09	70.20	70.20
LT - II (B) Commercial	215.93	17.99	15.07	15.04	15.04
LT - II (C) Commercial	371.38	30.95	26.90	26.64	26.59
LT - III (A) Industrial	45.00	3.75	3.55	3.91	3.91
LT - III (B) Industrial	88.94	7.41	6.96	6.20	6.23
LT - IV PWW	6.78	0.57	0.45	0.44	0.43
LT - V Adv & Hoardings	1.63	0.14	0.12	0.12	0.12
LT - VI St. Lighting	18.65	1.55	1.66	1.59	1.18
LT - VII (A) Temp-Religious	0.21	0.02	0.00	0.00	0.00



Consumer Category	Approved by the Commission (MU)	Monthly* Approved (MU)	Actual (Jan-20) (MU)	Actual (Feb-20) (MU)	Actual (Mar-20) (MU)
	(I)	(II=I/12)	(III)	(IV)	(V)
LT - VII (B) Temp- Others	32.00	2.67	0.67	0.80	0.79
LT - VIII Crematorium	2.15	0.18	0.12	0.11	0.11
LT - IX (A) Public Service	61.28	5.11	4.05	4.07	4.10
LT - IX (B) Public Service Others	168.09	14.01	11.67	11.78	11.85
LT - X (A) Pumpsets	-	-	-	-	-
LT - X (B) Others	-	-	-	-	-
LT - XI Electric Vehicle Charging Stations	-	-	0.14	0.15	0.15
HT Category					
HT - I Industry	137.28	11.44	14.01	13.29	12.96
HT - II Commercial	270.00	22.50	16.69	16.05	13.62
HT - III Grp.Housing (Residential)	32.63	2.72	2.14	2.13	2.32
HT - IV PWW	37.99	3.17	2.72	2.60	2.88
HT-V (A) Railways, Metro & Monorail	-	-	-	-	-
HT-V (B) Railways, Metro & Monorail	2.29	0.19	0.18	0.18	0.17
HT-VI (A) Public Service	26.49	2.21	1.81	1.79	1.93
HT-VI (B) Public Service-Others	167.24	13.94	11.64	10.87	11.65
HT-VII Temporary Supply	18.31	1.53	1.77	1.56	1.16
HT-VIII Electric Vehicle (EV) Charging Stations	-	-	-	-	-
Total Energy Sale	4,869.75	405.81	306.08	339.32	337.30

*- In Case of BEST, the sales is approved on annual basis. Monthly approved sales is derived based on approved annual sales for comparison purpose

3.2 The total monthly sales for the months of January, February and March, 2020 is 306.08 MUs, 339.32 MUs and 337.30 MUs respectively as compared to monthly approved MTR sale of 405.81 MUs. The major variation was observed in LT – I (B) Residential, LT – II (A) Commercial, LT-II (C) Commercial and HT-II commercial



categories. **BEST Undertaking has stated that the lower sales during Q4 of FY 2019-20 was on account of seasonal variation. Further, the reduction in demand was also on account of lockdown in Mumbai arising out of COVID-19 pandemic.**

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 January, 2020 to March, 2020 as compared to average power purchase cost approved in Tariff Orders dated 12 September, 2018.

Particulars	Approved ^{\$} for January, 2020			Actual for January, 2020		
	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	293.45	127.47	4.34	284.07	123.88	4.36
RE Sources#	66.59	20.47	3.07	7.84	14.17	18.06
Traders	84.45	30.32	3.59	15.98	5.87	3.67
*Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be received for prior period)	-	-	-	-	0.01	-
Total	444.49	178.25	4.01	307.89	143.92	4.67



Particulars	Approved ^{\$} for February, 2020			Actual for February, 2020		
	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	293.45	127.47	4.34	251.74	111.21	4.42
RE Sources#	66.59	20.47	3.07	6.43	25.61	39.81
Traders	84.45	30.32	3.59	43.19	14.81	3.43
*Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be received for prior period)	-	-	-	(0.09)	(0.03)	2.78
Total	444.49	178.25	4.01	301.26	151.61	5.03

Particulars	Approved ^{\$} for March, 2020			Actual for March, 2020		
	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	293.45	127.47	4.34	271.24	119.04	4.39
RE Sources#	66.59	20.47	3.07	7.83	6.21	7.93
Traders	84.45	30.32	3.59	0.88	0.28	3.19
Others (Manikaran Power Limited)	-	-	-	64.21	25.46	3.97
*Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be	-	-	-	-	-	-



received for prior period)						
Total	444.49	178.25	4.01	344.15	150.99	4.39

**Total monthly variations of prior period accounted for January, 2020 to March, 2020 are the expenses claimed against the provisional FBSM bills, reimbursement charges, standby charges, revision of energy bills and supplementary bills for prior period, etc.*

#The APPC for RE sources were approved in MTR order excluding REC cost, however, in actual BEST has purchased REC. Therefore, it has resulted into higher APPC.

\$ The power purchase quantum/cost approved in MTR Order is on yearly basis, however monthly approved numbers are derived from comparison purpose.

- 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, 2020 to March, 2020. 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.

TPC-G

- 4.4 TPC-G operates thermal as well as hydro generating stations. The thermal generating units of TPC-G are placed in MoD stack by MSLDC whereas the hydro is considered as must run.
- 4.5 **BEST Undertaking has purchased 284.07 MUs, 251.74 MUs and 271.24 MUs of power from TPC-G during the months of January, February and March, 2020, respectively as against 293.45 MUs approved in MTR Order.** The reason for monthly variation in power purchase quantum during Q4 period is mainly due to variation in PLF of various generating stations of TPC-G. The Table below shows the monthly/Quarterly Plant Availability Factor (PAF) vis-à-vis Plant Load Factor (PLF) of its thermal generating stations during Q4 of FY 2019-20:

Months	Unit 5 (Multi-fired)		Unit 7 (Gas)		Unit 8 (Coal)	
	PAF (%)	PLF (%)	PAF (%)	PLF (%)	PAF (%)	PLF (%)
Jan-20	100.00%	77.33%	87.40%	49.84%	100.00%	85.12%
Feb-20	99.16%	75.95%	17.34*%	16.14%	99.89%	81.38%
Mar-20	98.52%	67.07%	100.00%	65.86%	99.51%	74.82%
Quarterly	99.40%	73.40%	69.44%	44.56%	100%	80.42%

**lower due to annual planned outage*



- 4.6 From the above Table, it can be seen that the actual PLF of thermal generating stations of TPC-G during Q4 period was lower than the normative value of 85% except for Unit 8 in the month of January, 2020. In response to clarification sought against such lower PLF, **BEST has stated that PLF of unit 5 and 8 was lower due to low system demand. Further, the lower PLF of Unit-7 (Gas) mainly during the month of February, 2020 was on account of annual planned outage of the said Unit.**
- 4.6 Also, from the above Table, it was observed that, although the PLF was lower during aforesaid period, the availability of generating units was above normative except for Unit 7 during the month of February 2020. In this regard, the Commission has asked BEST Undertaking to confirm whether BEST Undertaking has fully utilised availability declared by TPC-G during Q4 period. BEST Undertaking was also sought to confirm if MoD principle has been followed while scheduling the power. In response, BEST Undertaking confirmed that it has fully utilised declared availability of all of its sources during Q4 of FY 2019-20. Further, the variation of PLF of TPC-G's Units is mainly due to backing down of TPC-G Units as per MoD principles.
- 4.7 With regard to MoD principle, BEST Undertaking replied that it has intimated MSLDC regarding its various LTOA/STOA power purchase contract whereby the **thermal generating units of TPC-G contracted by BEST are placed under MOD stack by MSLDC while the other contracted sources are considered as must run.** As per provisions of ABT order and FBSM Code, based on availability schedule forecasted by generating stations and load requirement forecasted by State Pool participants (SPPs), MSLDC draw up the least cost despatch for the state as a whole as per MOD principle approved by the Commission. Accordingly, target despatch schedule to generators and target drawl schedule to SPPs is issued by MSLDC for scheduling of power. MSLDC also carries out real-time operation on MOD principle in the State. In this regard the Commission asked to provide the details of Plant-wise scheduled generation given by MSLDC vis-à-vis actual generation achieved during the Q4 period, the same is as provided below:

Units	January, 2020		February, 2020		March, 2020	
	Scheduled Generation (MUs)	Actual Generation (MUs)	Scheduled Generation (MUs)	Actual Generation (MUs)	Scheduled Generation (MUs)	Actual Generation (MUs)
Unit-5	280.13	271.70	255.26	250.42	246.33	234.73
Unit-7	64.58	64.23	19.06	19.30	81.93	85.03
Unit-8	150.00	148.90	136.52	133.01	138.35	130.47
Hydro	116.28	102.82	125.15	118.27	112.62	108.33



Units	January, 2020		February, 2020		March, 2020	
	Scheduled Generation (MUs)	Actual Generation (MUs)	Scheduled Generation (MUs)	Actual Generation (MUs)	Scheduled Generation (MUs)	Actual Generation (MUs)
Total TPC-G	610.99	587.65	535.99	521.00	579.23	558.56

4.8 From the above Table it can be seen that, as against the total schedule of 1,726.21 MUs (610.99 MUs + 535.99 MUs + 579.23 MUs) given during Q4 period, actual generation achieved by TPC-G is 1,667.21 MUs, reflecting an overall minor deviation of (3.42)%. The reasons for above deviation are provided below:

- a) **The generation of Unit-5 was lower than the scheduled generation due to auxiliary issues such as coal mill tripping and low condenser vacuum.**
- b) **The generation of Unit-5 and Unit-8 was lower in the month of March, 2020 as the generation was dropped below technical minimum in off peak hours due to lower demand of distribution licensees.**

4.9 Further, considering that the monthly fixed charge payment is based on the cumulative availability of plant as per Regulation 48.3 of MYT Regulations 2015, the Commission sought for month wise and cumulative availability declared by TPC-G for its various generating stations during the Q4 period. TPC-G has submitted the details as shown in Table below:

Unit 5 (Thermal)	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
Monthly Availability	97.91%	100.0%	100.0%	100.00%	99.16%	98.52%
Cumulative Availability	96.58%	97.00%	97.41%	97.72%	97.84%	97.90%
Unit 7 (Thermal)	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
Monthly Availability	99.02%	100.0%	100.0%	87.40%	17.34%	100.00%
Cumulative Availability	99.90%	99.94%	99.97%	98.70%	91.66%	92.38%
Unit 8 (Thermal)	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
Monthly Availability	89.72%	81.48%	2.34%	100.00%	99.89%	99.51%
Cumulative Availability	93.31%	91.86%	81.77%	83.68%	85.08%	86.30%
Bhira (Hydro)	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
Monthly Availability	100.0%	100.0%	100.0%	100.00%	100.00%	100.00%
Cumulative Availability	100.0%	100.0%	100.0%	100.00%	100.00%	100.00%
Bhivpuri (Hydro)	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
Monthly Availability	100.0%	72.27%	100.0%	100.00%	100.00%	100.00%
Cumulative Availability	99.70%	96.33%	96.74%	97.07%	97.33%	97.55%
Khopoli (Hydro)	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
Monthly Availability	100.0%	81.11%	98.92%	100.00%	100.00%	100.00%
Cumulative Availability	100.0%	97.68%	97.82%	98.04%	98.21%	98.36%



4.10 As it can be seen from the Table above, **the cumulative availability of all generating Units except Unit-8 (in the month of January, 2020) was above normative Target availability of 85%. Hence, full monthly fixed cost was payable to these Units in line with Regulation 48.3 of MYT Regulations 2015.** In case of Unit 8, the said unit is unavailable in the month of December, 2019 on account of annual planned outage. Due to this its cumulative availability for the month of January, 2020 has reduced. Accordingly, **the monthly fixed charge for Unit-8 was paid on pro rata basis for the month of December, 2019.** The Commission has verified the fixed charge payment from the invoice submitted and found to be in order.

4.11 **The weighted average power purchase cost for TPC-G considering all its thermal and hydro generation has been worked out at Rs. 4.36/ kWh, Rs. 4.42/ kWh and Rs. 4.39/kWh for the months of January, February and March, 2020, respectively as compared to MTR approved rate of Rs. 4.34/kWh.** The variation in power purchase price is mainly because of following reasons:

- **Due to variation in fuel parameters during Q4 period as compared to MTR approved parameters.**
- **Due to the change in actual quantum from various sources of TPC-G as compared to MTR approved quantum.**

Fuel parameter Analysis:

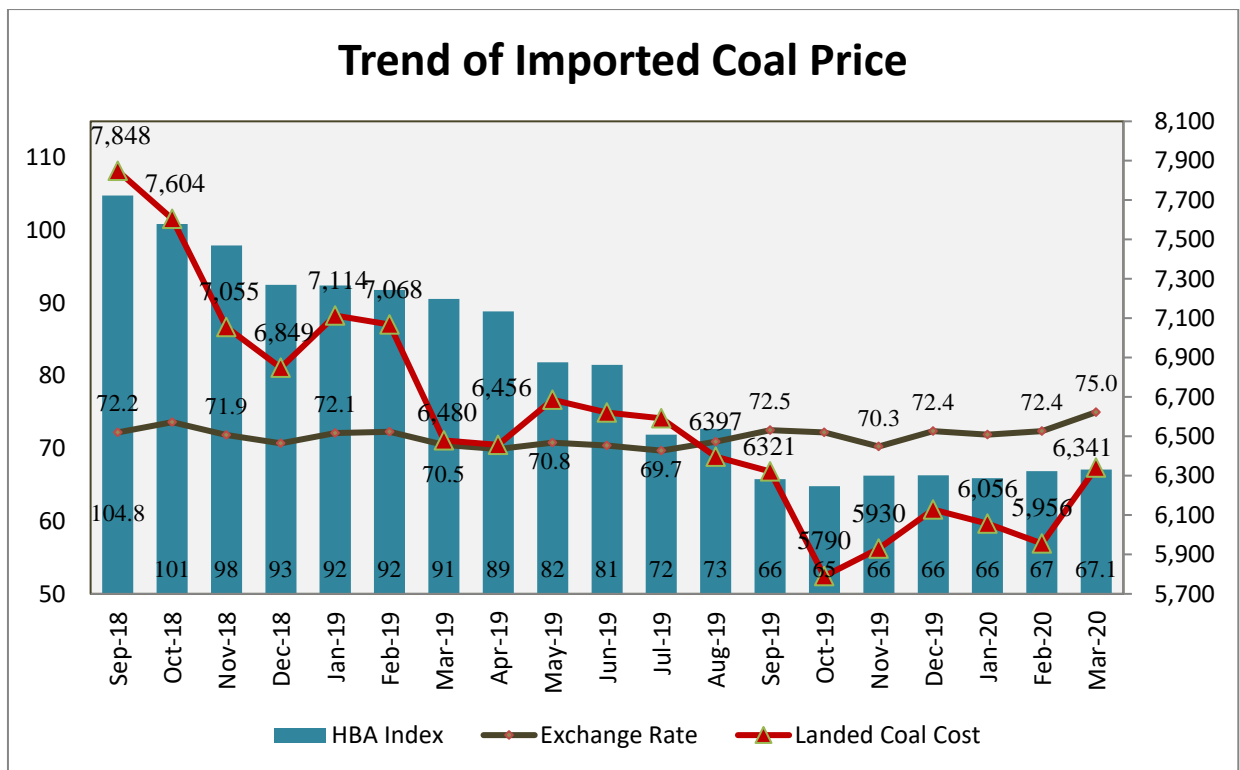
4.12 TPC-G generates power on Imported Coal, Domestic Natural Gas (under APM mechanism), Oil (LSHS), imported RLNG and Hydro. The Commission observed that energy charge with respect to coal based generating stations was lower whereas for gas based generating station it was higher during Q4 period as compared to respective MTR approved charges. The Table below shows the comparison of actual energy charges vis-à-vis approved energy charges for thermal generating station.

Units/ Months	Unit 5 (Multi-fired)		Variation	Unit 7 (Gas)		Variation	Unit 8 (Coal)		Variation
	Approved	Actual		Approved	Actual		Approved	Actual	
Jan-20	3.99	3.45	(0.54)	1.80	2.56	0.76	3.94	3.43	(0.51)
Feb-20	3.99	3.38	(0.61)	1.80	2.55	0.75	3.94	3.38	(0.56)
Mar-20	3.99	3.61	(0.38)	1.80	2.56	0.76	3.94	3.62	(0.33)

4.13 The above variation in energy charges is mainly due to variation in fuel prices during the respective period. The Commission has sought for fuel purchase bills during present quarter.



4.14 With regards to coal, TPC-G mainly procures imported coal from Indonesian market which is linked to Harga Batubara Acuan (HBA) index. The coal reference price, i.e., Harga Batubara Acuan or HBA index for Indonesian coal is set by Ministry of Energy and Mineral Resources (Indonesia). The Commission has asked BEST to confirm if the imported coal has been procured by TPC-G through competitive bidding along with documentary evidence. The Commission has also 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. In response to above, TPC-G stated that it has procured imported coal through competitive bidding route and submitted the document vide its data gap reply. TPC-G has also provided the HBA indices prevailing during Q4 period. The Commission has observed that the HBA indices and hence, the price of imported coal in international market has shown downward trend as compared to time of MTR Order when the HBA indices was very high (104.81 as shown in graph). This is mainly attributed to demand supply position of the global coal market. The graph below shows the trend of HBA indices vis-à-vis landed coal cost claimed by TPC-G from September 2018 to March, 2020.



4.15 From graph above, it can be observed that **the HBA index was at around 104.8 in September 2018 and has decreased to 67.1 in March, 2020.** Due to this the landed cost of coal and hence, energy charges during present quarter have been lower as compared to cost approved in MTR Order dated 12 September, 2018. **The landed cost of coal claimed**



by TPC-G is Rs. 6,056/MT, Rs. 5,956/MT and Rs. 6,341/MT for the months of January, February and March, 2020 as against the MTR approved rate of Rs. 7,154/MT.

4.16 Further, the Commission has also scrutinised the sample bills provided in order to verify the landed cost of imported coal. The Table below provides the detailed computation of basic cost of imported cost for the month of February, 2020:

Month	02 Feb-20	04 Feb-20	16 Feb-20	29 Feb-20	Remark
Exchange Rate (\$ to Rs)	71.51	71.14	71.39	72.19	Verified from SAP Entry
Supplier	PT KIDECO JAYA A	PT ADARO	PT ADARO	PT KIDECO JAYA	Verified from Invoice
Vessel Name	OCEAN OPAL	SAGAR MOTI	CRIMSON KNIGHT	CL GEMMA	Verified from Invoice
HBA (\$/MT)	66.89	66.89	66.89	66.89	Submitted by TPC-G
Coal Qty (MT)	79510.00	57914.00	57932.00	62679.00	Verified from Invoice
GCV (kcal/kg)	4942.00	4805.00	4820.00	4953.00	Verified from Invoice
Moisture (%)	24.99	29.39	28.96	24.41	Verified from Invoice
Ash (%)	3.32	1.64	1.51	3.18	Verified from Invoice
Sulphur (%)	0.09	0.11	0.09	0.08	Verified from Invoice
FOB (USD/MT)	50.14	47.12	47.62	50.67	Verified from Invoice
FOB Rs /MT	3585.49	3351.88	3399.43	3657.84	Calculated
Avg Base Price Rs./MT	3498.66				Calculated

4.17 As from Table above the average basic cost of imported coal for the month of February, 2020 is Rs. 3,498.66/MT. The landed cost of imported coal is arrived by adding the freight charges, excise duty, custom duty, GST compensation cess, insurance and other handling charges. The Commission has sought TPC-G to provide the details of above expenses. TPC-G in its data gap reply submitted the details, accordingly, the Commission worked out the landed cost of imported coal for the month of February as shown in Table below:

Sr. No	Particular	Source/Formula	Units	Price
1	Base price	As computed above	Rs./MT	3,498.66
2	Freight charges	As per bills	Rs./MT	741.02
3	Excise + Custom Duty + C E Cess + insurance	As submitted	Rs./MT	664.95
4	Handling and wharfage	As submitted	Rs./MT	550.88
5	Other Fuel Handling Charges	As submitted	Rs./MT	401.92



Sr. No	Particular	Source/Formula	Units	Price
6	Total landed cost		Rs./MT	5,857.43

4.18 From the Table above, the landed cost of imported coal for the month of February, 2020 has been worked at Rs. 5857.43/MT. However, the landed cost claimed by TPC-G in FAC computation for the month of February is Rs. 5956.42/MT. The variation is mainly due to reason that the cost claimed by TPC-G in FAC computation pertains to cost of coal consumed in respective period from the inventory/stocks whereas, the cost as calculated above pertains to recent purchase cost, hence, it does not match exactly. Further, the cost claimed in FAC computation is based on the weighted average cost of the total coal purchase available at the coal stock. Therefore, there is a variation in the between the cost claimed by TPC-G and as computed by the Commission. **However, the sample calculations are found to be in similar range as submitted by TPC-G.**

4.19 Further, the Commission has also sought for third party sampling report for GCV verifications. **TPC-G has submitted the third-party sampling certificate issued by Mitra S.K. Private Limited for the respective period.** TPC-G also submitted the details of GCV as billed at loading end, as received at unloading end and as used for energy charge computation as shown in Table below:

Months	Wt Avg GCV as billed at loading port (kCal/kg)	Wt Avg GCV as received at unloading port (kCal/kg)	Wt Avg GCV used for energy charges (kCal/kg)	Remark
Jan-20	4,917	4,910	4,760	<i>GCV for energy charge = GCV as received – stacking loss (Max. 150 kcal/kg) as per Regulations 48.5 of MYT Regulations, 2015</i>
Feb-20	4,884	4,896	4,746	
Mar-20	4,918	4,873	4,723	

4.20 With regards to higher gas price and hence, energy charges for gas generating station, TPC-G stated that the actual energy charge is higher than approved energy charge due to following reasons:

- Revised ONGC differential tariff which has increased from Rs. 5.7/MMBTU to Rs. 34.73/MMBTU.
- Transportation Charges got revised from Rs. 1.04 /MMBTU to Rs 25.15 /MMBTU with effect from 1st July, 2019



- The basic cost of the APM gas has also increased from USD 3.06 / MMBTU prevailing during the month of April 2018 to USD 3.23/ MMBTU in the Q4 FY 2019-20.

4.21 TPC-G has submitted the sample gas bills issued by GAIL showing the above revised rate and the same has been verified.

4.22 Based on above, considering the downward price of imported coal and the upward price of APM Gas, the net impact of FAC has been worked out for respective months, as shown in Table below:

Particulars for Jan, 2020	Units	Unit 5	Unit 7	Unit 8	Impact
Energy Available to BEST	MUs	139.03	32.87	59.56	
Approved Energy Charge	Rs./kWh	3.99	1.8	3.94	
Actual Energy Charge	Rs./kWh	3.45	2.56	3.43	
Fuel Surcharge Adjustment	Rs./kWh	(0.54)	0.76	(0.51)	
Refundable through FAC	Rs. Crore	(7.45)	2.50	(3.05)	(8.00)

Particulars for Feb, 2020	Units	Unit 5	Unit 7	Unit 8	Impact
Energy Available to BEST	MUs	128.14	9.88	53.20	
Approved Energy Charge	Rs./kWh	3.99	1.8	3.94	
Actual Energy Charge	Rs./kWh	3.38	2.55	3.38	
Fuel Surcharge Adjustment	Rs./kWh	(0.61)	0.75	(0.56)	
Refundable through FAC	Rs. Crore	(7.78)	0.74	(2.97)	(10.01)

Particulars for Mar, 2020	Units	Unit 5	Unit 7	Unit 8	Impact
Energy Available to BEST	MUs	120.11	43.51	52.19	
Approved Energy Charge	Rs./kWh	3.99	1.8	3.94	
Actual Energy Charge	Rs./kWh	3.61	2.56	3.62	
Fuel Surcharge Adjustment	Rs./kWh	(0.38)	0.76	(0.33)	
Refundable through FAC	Rs. Crore	(4.54)	3.29	(1.71)	(2.96)

4.23 As can be seen from above, the net impact of change in fuel prices (i.e., increase in gas price and decrease in coal price) is negative in all the months of Q4, FY 2019-20, i.e., refund of around Rs. (8.00) Crore in January, Rs. (10.01) Crore in February and Rs. (2.96) Crore in



March respectively. This has resulted in lowering of per unit variable charge from TPC-G generating stations.

- 4.24 Further, with regard to hydro stations, the approved energy charges as per MTR Order is Rs. 0.75/kWh for Bhira, Rs. 1.90/kWh for Bhivpuri and Rs. 3.06/kWh for Khopoli. However, as against the aforesaid approved energy charges, it was observed that **for Bhivpuri and Khopoli hydro stations, TPC-G has claimed energy charges of Rs. 0.90/kWh only.**
- 4.25 In reply to the data gap, it was clarified that the cumulative net generation of Bhivpuri and Khopoli hydro stations had exceeded net design energy for these stations during the month of Q4, FY2020 as shown in Table below:

Name of Hydro Stations	January-20		February-20		March-20	
	Net Design Energy (MUs)	Cumulative Net Generation (MUs)	Net Design Energy (MUs)	Cumulative Net Generation (MUs)	Net Design Energy (MUs)	Cumulative Net Generation (MUs)
Khopoli	171.97	274.02	171.97	301.04	171.97	324.14
Bhivpuri	190.23	264.15	190.23	300.84	190.23	338.44

- 4.26 TPC-G has further clarified that the as per Regulation 49.8 of MYT Regulations, 2015 the energy charge rate for hydro generating station to be computed as follows in case actual energy exceeds ninety paise per kWh.

“49.8 In case the Energy Charge Rate (ECR) for a Hydro Generating Station, as computed in Regulation 49.6, exceeds ninety paise per kWh, and the actual saleable energy in a Year exceeds $\{ DE \times (1 - AUX) \}$ kWh, the Energy Charge for the energy in excess of the above shall be billed at ninety (90) paise per kWh only”

- 4.27 **Hence, in line with the above-mentioned Regulation, the energy charge for the Hydro stations is worked out, which is lower than the approved Tariff.** Accordingly, the reduction in energy charge of hydro stations has further contributed to the reduction in power purchase cost for Q4 of FY 2020.
- 4.28 **Although the net impact of energy charge variation is negative, there is increase in the per unit fixed charges as compared to the per unit fixed charges approved in MTR Order. This is mainly on account of lesser generation vis-à-vis full fixed charge payment as per MYT Regulations.** BEST Undertaking has purchased quantum of 284.07



MUs in January 2020, 251.74 MUs in February 2020 and 271.24 MUs in March, 2020 as compared to monthly MTR approved quantum of 293.45 MUs.

4.29 Based on above, the APPC for the months of January, February and March, 2020 worked out to be Rs. 4.36/kWh, Rs. 4.42/kWh and Rs. 4.39/kWh respectively, as compared to MTR approved rate of Rs. 4.34/kWh. The actual APPC is marginally higher as compared to approved APPC by approx. Rs. 0.02/kWh, Rs. 0.08/kWh and Rs. 0.05/kWh in the month of January, February and March, 2020 respectively.

Renewable Purchase:

4.30 In order to meet its RPO requirement, BEST Undertaking procure renewable power from both solar RE sources and non-solar RE sources. For solar RE power, BEST has a long term power purchase agreement with Walwhan (Welspun) Solar Energy Maharashtra. The non-solar RE power has been procured through various generators (GRETA Energy Ltd. and Lokmangal Agro Ltd.) on short-term basis at preferential tariff.

4.31 BEST has purchased total 7.84 MUs, 6.43 MUs and 7.83 MUs of RE power (solar and non-solar) at a weighted average price of Rs. 7.51/kWh, Rs. 7.67/kWh and Rs. 7.48/kWh during the months of January, February and March, 2020. The Table below shows the summary of RE power purchased by BEST during Q4 of FY 2019-20:

Particular	As approved in MTR Order			Actual for January		
	Quantum (MUs)	% share	Rate (Rs./kWh)	Quantum (MUs)	% share	Rate (Rs./kWh)
Solar Sources:						
Welspun	31.50	3.94%	8.56	2.74	34.95%	8.56
New Solar	155.23	19.43%	2.72*	-	-	-
Non-Solar Sources:						
New Non- Solar (MU)	612.31	76.63%	2.87*	5.11	65.18%	6.95#
Total RE Power	799.04	100.00%	3.07	7.84	100.00%	7.51
REC Solar	-	-	-	-	-	0.98^
REC Non-solar	-	-	-	-	-	7.29^
APPC with REC Cost						18.06

*Generic Tariff solar and non-solar Tariff as considered in MTR Order

#Actual preferential Tariff for the month

^REC purchase in Rs.Crore



Particular	Actual for February			Actual for March		
	Quantum (MUs)	% share	Rate (Rs./kWh)	Quantum (MUs)	% share	Rate (Rs./kWh)
Solar Sources:						
Welspun	2.84	44.17%	8.56	2.59	33.08%	8.56
New Solar	-	-	-	-	-	-
Non-Solar Sources:						
New Non- Solar (MU)	3.59	55.83%	6.96#	5.24	66.92%	6.95#
Total RE Power	6.43	100.00%	7.67	7.83	100.00%	7.48
REC Solar	-	-	17.63[^]	-	-	0.06[^]
REC Non-solar	-	-	3.05[^]	-	-	0.29[^]
APPC with REC Cost			39.81			7.93

#Actual preferential Tariff for the month

[^]REC purchase in Rs.Crore

4.32 Further, apart from the RE power, **BEST has also purchased REC of worth Rs. 8.27 Crore during January 2020, Rs. 20.68 crore in February, 2020 and Rs. 0.35 Crore during March, 2020** as shown in Table above. **However, it is to be noted that in MTR Order no REC purchase was approved for BEST Undertaking. This additional REC cost has resulted in increase in power purchase cost from RE sources thus, impacting average power purchase cost.** The APPC from RE sources considering the RE power purchase cost and REC cost, during the months of January, February and March, 2020 is Rs. 18.06/kWh, Rs. 39.81/kWh and Rs. 7.93/kWh, respectively, as compared to MTR approved rate of Rs.3.07/kWh. The reason for such an increase in APPC is explained in paras below.

4.33 The Commission in its MTR Order has approved the APPC from RE sources at Rs. 3.07/kWh. This approved APPC from RE sources has been arrived by the Commission considering solar and non-solar RPO obligation of BEST Undertaking. For solar RPO obligation, the Commission has considered solar purchase from M/s. Welspun Energy Maharashtra Ltd. at the rate of Rs. 8.56/kWh as approved in its Order dated 29 October, 2013 in Case No. 92 of 2013. The remaining requirement towards the solar RPO target was envisaged to be met through new solar sources instead of REC purchase. However, in absence of any identified RE sources at that time, the Commission has considered the additional requirement of Solar power for FY 2019-20 to be purchased at generic tariff of Rs. 2.72/kWh as determined in the Order in Case No. 204 of 2018. Similarly, for non-solar RPO obligation, the Commission has considered the same to be met through new non-solar sources at the generic tariff of Rs. 2.87/kWh as determined in the Order in Case No. 204 of



2018 instead of any REC purchase as proposed by BEST. Accordingly, the Commission in its MTR Order has approved the APPC from RPS as Rs. 3.07/kWh.

- 4.34 As against the above, in the present quarter the part of solar RPO target has been fulfilled through Welspun (20 MW) at approved Tariff of Rs. 8.56/kWh and remaining through purchase of solar REC. Also, part of non-solar RPO target has been fulfilled through non-solar power from GRETA Energy Ltd. and Lokmangal Agro Ltd. at a weighted average preferential Tariff of Rs. 6.95/kWh as against the MTR approved generic Tariff of Rs. 2.87/kWh and remaining through purchase of non-solar REC. Due to this the APPC has increased.
- 4.35 Further, **with regards to rationale for such REC purchase, BEST Undertaking had earlier replied 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 hence, will not be able to supply renewable energy to BEST Undertaking. Therefore, **BEST had purchased REC which is in accordance with Regulation 7.2 of MERC (RPO-REC) Regulations, 2016.** 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.”

- 4.36 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... “

- 4.37 BEST Undertaking in its present submission has stated that the Commission in its recent MYT Order dated 30 March 2020 in Case No. 324 of 2019, has provisionally approved the procurement of Solar RE, Non-Solar RE and Solar & Non-solar RECs cost. BEST further stated that it is in the process of initiating the bidding process to procure solar as well as non-solar power on long term basis. Therefore, based on above the Commission has considered the respective amount towards REC purchase in this FAC approval. The Commission has also verified the quantum and cost of RE purchases during the aforesaid



period from the bills and documents as submitted by BEST Undertaking. These were found to be in order.

Traders:

- 4.38 **BEST Undertaking has purchased power of 15.98 MUs, 43.19 MUs and 0.88 MU during the month of January, February and March, 2020 respectively from IEX.** The weighted average power purchase price for aforesaid purchase during the months of January to March, 2020 was Rs. 3.67/ kWh, Rs. 3.43/kWh and Rs. 3.19/kWh, respectively, as compared to the MTR approved rate of Rs. 3.59 /kWh. BEST Undertaking has submitted the soft copies of invoices vide its data gap and the same was found to be in order.

Other Generating Stations:

- 4.39 It was observed that **BEST Undertaking has purchased 64.21 MUs of power from Manikaran Power Limited (MPL) at a price of Rs. 3.97/kWh during the month of March, 2020.** BEST Undertaking vide its data gap reply clarified that the aforesaid source was not approved by the Commission under BEST's Power purchase in MTR Order in Case No. 203 of 2017. However, subsequently, **the Commission in its Order dated 2 January, 2019 in Case No. 249 of 2018 allowed BEST to tie-up 100 MW power under Medium term for Five years from FY 2019-20 with MPL through Sai Wardha Power Generation Ltd (SWPGL).** Accordingly, BEST Undertaking has signed the medium term PPA for procuring 100 MW power with MPL on 24 May, 2019.
- 4.40 BEST Undertaking further clarified that **SWPGL is a Coal based Thermal power station having 4 Units (135 MW x 4) located at Chandrapur, Maharashtra.** SWPGL was admitted to Corporate Insolvency Resolution Process by the NCLT, Hyderabad. Resolution plan of SWPGL was approved by NCLT on 17 October 2019. Post NCLT Order, MPL submitted the MTOA application to STU on 27 November, 2019 and **STU granted its approval on 27 February, 2020 for scheduling of power from 1 March, 2020.** Subsequently, power flow from MPL commenced from 1 March, 2020 from generating unit No. 2 of SWPGL. **BEST has submitted the copy of PPA entered into with MPL for 100 MW and copy of MTOA granted by STU from 01 March, 2020 up to 28 February, 2025.** The Commission has verified the documents submitted and found it to be in order.

FBSM and Others:

- 4.41 BEST Undertaking has made adjustment in the Total Power Purchase on account of "Total Monthly Variation of prior period" for the month of January and February, 2020. **The monthly variation as mentioned above is mainly on account of Debit note for refund towards reimbursement of Open Access Charges and IEX sale.** The Table below shows



the summary of “Total Monthly Variation of prior period” as considered during the respective months of Q4, FY2020:

Month	Particulars	MU	Rs. Cr.
January	Debit Note No. AEL/Dec19/000043 dtd. 04-12-2019 towards reimbursement of Open Access charges to M/s. Adani Enterprises Ltd. for the month of Nov-2019.	-	0.00562
	Total Variations	-	0.006
February	IEX_Sale for the month of January-2020.	(0.095)	(0.026)
	Total Variations	(0.095)	(0.026)

4.42 Based on above, on an overall basis the key reasons for variation in APPC are due to variation in actual quantum of power purchase from TPC-G coupled with variation in fuel prices, additional REC purchase for solar and non-solar RPO target, purchase of power from medium term source (MPL) and adjustment towards monthly variation related to prior period and other settlements. Accordingly, the Commission allows the average power purchase cost of **Rs. 4.67/kWh** for the month of January, 2020, **Rs. 5.03/kWh** for the month of February, 2020 and **Rs. 4.39/kWh** for the month of March, 2020.

Yearly Review of Power Purchase:

4.43 Further, as FY 2019-20 is over, the Commission has sought the detailed comparison of actual overall power purchase during all the quarters of FY 2019-20 vis-à-vis the power purchase as approved in MTR Order for FY 2019-20. BEST Undertaking has provided the details (unaudited) as shown in Table below;

Sr. No.	Particulars	FY 2019-20					
		Approved in MTR Order (Case No. 203 of 2017)			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	1,529.59	4.34	3,446.56	1,489.18	4.32
2	Manikaran Power Limited (Medium Term)	-	-	-	64.21	25.46	3.97
3	RE						



Sr. No.	Particulars	FY 2019-20					
		Approved in MTR Order (Case No. 203 of 2017)			Actuals		
		Quantum	Total Cost	Avg. Rate	Quantum	Total Cost	Avg. Rate
		(MU)	(Rs. Cr.)	Rs./kWh	(MU)	(Rs. Cr.)	Rs./kWh
3.1	Welspun Energy Maharashtra	31.50	26.96	8.56	31.50	26.96	8.56
3.2	RPS-Non-Solar	-	-	-	58.95	41.10	6.97
3.3	REC Procurement-Solar	155.23	42.22	2.72	-	34.52	-
3.4	REC Procurement-Non-Solar	612.31	176.42	2.88	-	99.54	-
	Sub Total (RE)	799.04	245.60	3.07	90.45	202.13	22.35
4	External Purchase						
4.1	Bilateral Power Purchase	1,013.35	363.79	3.59	211.47	103.65	4.90
4.2	Power Exchange (IEX)				435.77	146.35	3.36
	Sub Total (External Purchase)	1,013.35	363.79	3.59	647.25	250.00	3.86
5	Pool Imbalance				694.72	*	-
6	Standby Energy Purchase				5.55	*	-
	Sub Total (Estimated Pool Imbalance & Standby Energy Purchase)	-	-	-	700.26	-	-
7	Variation of prior period	-	-	-	364.67	138.73	3.80
	Sub Total (TPC-G, RPS, External, Prior period Stand-by Energy, prior period Pool Imbalance)	5,333.84	2,138.98	4.01	4,613.13	2,105.50	4.56
8	Stand-by Charges		102.64			102.64	
9	Transmission Charges		224.47			224.88	
10	MSLDC Charges		1.13			1.13	
	Sub Total (Standby Charges, Transmission Charges & MSLDC Charges)	-	328.24	-	-	328.65	-
11	Total Power Purchase for FY 2019-20	5,333.84	2,467.22	4.63	4,948.73[#]	2,434.15	4.92

*Pool Imbalance (FBSM) & Standby energy bills are yet not received from MSPC & MSEDCL.
#Arrived after Energy balancing for FY 2019-20.

4.44 The source-wise variations in power purchase is explained briefly in the paras below:



- i. **TPC-G:** From the above table, it can be seen that the actual Average Power Purchase Cost (APPC) from TPC-G for FY 2019-20 has been worked out at Rs.4.32/kWh which is lower than that of MTR approved rate, i.e., Rs.4.34/kWh. There is overall reduction of Rs.0.02/kWh in Average Power Purchase Cost from TPC-G as against average rate of Rs.4.34/kWh approved in MTR Order in Case No. 203 of 2017. The reason for variation is mainly on account of variation in actual prices of fuel during the aforesaid period which has been explained in detail under Quarterly post facto FAC approval during FY 2019-20.
- ii. **Other Generating Station (Manikaran Power Ltd.):** The power purchase from Manikaran Power Ltd. was not approved in MTR Order. However, the Commission in its Order in Case No.249 of 2018 dated 2 January, 2019 allowed BEST to sign medium term PPA with Manikaran Power Ltd through Sai Wardha Power Generation Ltd. (SWPGL) for 100 MW. After receipt of approval for MTOA from STU, power flow from MPL commenced from 1 March, 2020 from Unit No.2 of SWPGL and accordingly the expenses are booked.
- iii. **RE Procurement Solar/Non Solar:** The overall power purchase rate from RE sources is Rs. 22.35/kWh as against the rate of Rs. 3.07/kWh 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. 34.52 Crore and Non-Solar RECs amounting to Rs. 99.54 Crore to meet its RPO for FY 2019-20. Hence, the total RECs purchase of worth Rs. 134.06 Crore during FY 2019-20 has resulted into an increase in total power purchase cost and hence, APPC. Under provisional truing up for FY 2019-20 in MYT Order dated 30 March 2020, the Commission has approved this amount.
- iv. **Bilateral Power Purchase:** The actual APPC from bilateral sources is Rs. 3.86/kWh which is Rs. 0.27/kWh higher than that of Rs. 3.59/kWh as approved in MTR Order. The increase in bilateral price is mainly because of increase in discovered prices of short-term power through competitive e-bidding process on DEEP e-portal and Power exchange during FY 2019-20, which is attributable mainly to demand supply situations in overall market.
- v. **Prior Period Variation:** 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 from MSEDCL, variation due to REC-GST compensation cess etc. BEST has submitted the invoices along with detailed working and the same has been verified.
- vi. **Other Charges (Stand-by Charges, Transmission Charges & MSLDC Charges):** There is no variation in Standby Charges and MSLDC as approved in MTR Order vis-à-



vis actuals in FY 2019-20. Marginal variation of Rs. 0.36 Crore observed in Transmission charges. This variation is mainly due to payment of additional Transmission charges of Rs. 0.36 Crores for the month of November-2019 for the use of InSTS in excess of Base TCR/Contracted Capacity as per MYT Regulations, 2015.

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 of fourth quarter as shown above. 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, 2020 to March, 2020.

S. No.	Particulars	Units	Jan, 2020	Feb, 2020	Mar, 2020
1	Average power purchase cost approved by the Commission	Rs./kWh	4.01	4.01	4.01
2	Actual average power purchase cost	Rs./kWh	4.67	5.03	4.39
3	Change in average power purchase cost (=2 -1)	Rs./kWh	0.66	1.02	0.38
4	Net Power Purchase	MU	307.89	301.26	344.15
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	20.45	30.80	12.98

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

6.1 Adjustment factor for over recovery/under recovery (B) for the period of January, 2020 to March, 2020, the adjustment factor to be added/reduced is as below;

S. No.	Particulars	Units	Jan, 2020	Feb, 2020	Mar, 2020
1.1	Incremental cost allowed to be recovered in Month n-4	Rs. Crore	14.98*	15.96*	30.50*
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	12.66	12.09	29.86
1.3	(over-recovery)/under-recovery (=1.1 - 1.2)	Rs. Crore	2.32	3.87	0.65



S. No.	Particulars	Units	Jan, 2020	Feb, 2020	Mar, 2020
2.0	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit for previous month	Rs. Crore	0.78*	0.36	2.29
3.0	Adjustment factor for over-recovery/under-recovery (1.3+2.0)	Rs. Crore	3.10	4.24	2.94

*Corrected as per previous FAC approval

6.2 While working out adjustment factor, BEST Undertaking has considered incremental cost allowed to be recovered as Rs. 14.85 Crore for the month of January, 2020, Rs. 15.39 crore for February, 2020, Rs. 34.48 crore for March, 2020 and carry forwards adjustment as Rs. 1.93 Crore for the month of January, 2020. BEST Undertaking has considered the above values as per its own computation of FAC pertaining to Q3 of FY 2019-20. However, **the Commission in its post facto approval of previous quarters of FY 2019-20 had rectified certain errors and has worked out incremental cost allowed to be recovered as Rs. 14.98 crore for January, 2020, Rs. 15.96 crore for February, 2020 and Rs. 30.50 crore for March, 2020 and carry forwards adjustment as Rs. 0.78 Crore for January, 2020.** The Commission has considered the same in this FAC approval.

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, 2020 to March, 2020.

S. No.	Particulars	Units	Jan, 2020	Feb, 2020	Mar, 2020
1	Adjustment factor for over-recovery/under-recovery	Rs. Crore	3.10	4.24	2.94
2	Applicable Interest rate	%	9.40%	9.35%	9.25%
3	Carrying cost for over-recovery/under-recovery	Rs. Crore	0.02	0.03	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	Cumulative		
				up to Jan-20	up to Feb-20	up to Mar-20
1	Net Energy input at Distribution Voltages	MU	5,158.63	4,124.39	4,456.79	4,791.82
2	Energy sales (metered) at Distribution voltages	MU	4,869.75	3,883.95	4,223.26	4,560.56
3	Distribution Loss (=1-2)	MU	288.88	240.44	233.53	231.25
4	Distribution Loss as % of net energy input (=3/1)	%	5.60 %	5.83%	5.24%	4.83%
5	Excess Distribution Loss = [Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	0.75	-	-
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	0.06	-	-

8.3 As seen from the above Table, cumulative distribution loss is 5.83% for the month of January, 2020, 5.24% for February, 2020 and 4.83% for the month of March, 2020. The cumulative distribution loss is observed higher than the approved Distribution Loss of 5.60% in January, 2020. Hence, **there is excess distribution loss of 0.75 MU and accordingly, disallowance of FAC of Rs. 0.06 crore made in January, 2020.**

9. Summary of Allowable ZFAC

9.1 The summary of the FAC amount as approved by the Commission for the month of January, 2020 to March, 2020 is as shown in the Table below:



S. No.	Particulars	Units	Jan, 2020	Feb, 2020	Mar, 2020
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	20.45	30.80	12.98
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	0.02	0.03	0.02
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	3.10	4.24	35.71
1.4	ZFAC = F+C+B	Rs. Crore	23.57	35.07	48.72
2.0	Calculation of FAC Charge				
2.1	Energy Sales within the License Area	MU	306.08	339.32	337.30
2.2	Excess Distribution Loss	MU	0.75	-	-
2.3	ZFAC per kWh	Rs./kWh	0.77	1.03	1.44
2.4	Cap at 20% of variable component of tariff	Rs./kWh	0.97	0.97	0.97
2.5	FAC Charge allowable (Minimum of 2.3 and 2.4)	Rs./kWh	0.77	0.97	0.97
3.0	Recovery of FAC				
3.1	Allowable FAC [(2.1 x 2.5)/10]	Rs. Crore	23.15	32.78	32.58
3.2	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.5)/10]	Rs. Crore	0.06	-	-
4.0	Total FAC based on category wise and slab wise allowed to be recovered	Rs. Crore	23.15	32.78	32.58
5.0	Carried forward FAC	Rs. Crore	0.36	2.29	16.14

9.2 It can be seen from the above Table (Sr. No. 1.4 of the Table) that **standalone FAC for the month of January, 2020 to March, 2020 is Rs. 23.51 Crore, Rs. 35.07 crore and Rs. 48.72 crore respectively.** Based on total energy sales, FAC per unit has been worked out as Rs. 0.77/kWh, Rs. 1.03/kWh and Rs. 1.44/kWh (Sr. No. 2.3 of the Table) for the months of January to March, 2020, respectively as compared to the ceiling of Rs. 0.97/kWh.

9.3 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:



- 9.4 The FAC per unit for the months of February, 2020 and March, 2020 is higher than the capping of 20% cap specified in Regulation as shown in Table above, whereas for the month of January it is within the ceiling rate. Hence, the restriction is triggered with regards to such ceiling for the overall FAC per unit (computed based on standalone FAC and total sales) for the months of February, 2020 and March, 2020. Accordingly, FAC per unit leviable is considered as Rs. 0.97/kWh for the months of February and March 2020 instead of Rs. 1.03/kWh and Rs. 1.44/kWh for the months of February and March 2020, respectively (Sr. No. 2.4 of the Table). Based on this per unit FAC, the allowable FAC is again reworked, which is Rs. 32.78 Crore and Rs. 32.58 Crore for the month of February and March, 2020, respectively (Sr. No. 3.1 of the Table). The remaining amount is considered as carry forward FAC and considered in FAC computation of subsequent months.
- 9.5 Further, for the month of January, 2020 the overall per unit FAC computed based on total sales is within the limit however, while working out Category wise and Slab wise FAC Rate (Rs./kWh), it was observed that for some of the categories, the Slab wise FAC Rate (Rs./kWh) worked out was above 20% of energy charges applicable for respective category. Therefore, the allowable FAC is again reworked to Rs. 23.15 Crore for January 2020, considering the 20% capping on energy charges of individual category. Hence, an amount equivalent of Rs. 0.36 Crore (Rs. 23.51 Crore minus Rs. 23.15 Crore) got unrecovered in January, 2020 (Sr. No. 5 of the Table) due to applicability of 20% FAC cap on these individual consumer categories. The same is then considered as carry forward adjustment for next month, i.e., February, 2020.
- 9.6 Further, it was observed that **BEST Undertaking in its FAC submission has worked out FAC for the month of January, 2020 as Rs. 24.55 Crore, which was levied in the Billing month of April, 2020 (i.e., on Consumption Units of March 2020). However, as against this the Commission has worked out FAC for the month of January, 2020 as Rs. 23.15 Crore. Thus, there is a disallowance of Rs. 1.40 Crore for the month of January, 2020.** (This disallowance is mainly on account of the difference in FAC approved in Q1 to Q3 of FY 2019-20 and FAC claimed by BEST for this period.) The Table below shows the summary of recovered FAC claimed vis-à-vis allowed for the month of January, 2020:

Particular	Units	Claimed	Approved	Disallowance
		Jan 20	Jan 20	
Allowed FAC to be recovered	Rs. Crore	24.55	23.15	1.40

- 9.7 Further, BEST Undertaking in its FAC submission has mentioned that in view of the Commission' MYT Order dated 30 March, 2020 for BEST Undertaking (applicable w.e.f.



1 April 2020) and the directives given by the Commissions vide Letter dated 20 April, 2020 (prior approval of FAC- guidelines to be adopted) at para 13, no FAC should be levied for consumption from 1 April 2020 onwards without prior approval of the Commission. Accordingly, BEST Undertaking has not levied FAC computed for the Month of February 2020, in the Billing month of May, 2020 (i.e., on Consumption Units of April 2020) and hence, the same remain as unrecovered. The unrecovered FAC pertaining to the month of February, 2020 has then considered as carry forward in the FAC computation for the month of March, 2020. Accordingly, **BEST Undertaking has claimed cumulative net FAC pertaining to the month of February and March, 2020 as Rs. 52.50 Crore.** BEST Undertaking has stated that the aforesaid FAC of Rs. 52.50 Crore got unrecovered at the end of March, 2020. **However, as against this the Commission has worked out net cumulative FAC at the end of March, 2020 as Rs. 48.72 Crore. (This disallowance is mainly on account of the difference in FAC approved in Q1 to Q3 of FY 2019-20 and FAC claimed by BEST for this period.) Thus, there is a disallowance of Rs. 3.78 Crore towards unrecovered FAC at the end of March, 2020.** The Table below shows the summary of un-recovered cumulative FAC claimed vis-à-vis allowed at the end of March, 2020:

Particular	Units	Claimed	Approved	Disallowance
		Mar-20	Mar-20	
Cumulative FAC	Rs. Crore	-	32.58	3.78
Cumulative Carried forward FAC	Rs. Crore	52.50	16.14	
Total Cumulative FAC	Rs. Crore	52.50	48.72	

9.8 Based on above the **total disallowance in FAC for FY 2019-20 stands at Rs. 5.18 Crore (i.e., Rs. 1.40 Crore + Rs. 3.78 Crore).** Further, as stated above, **BEST Undertaking has claimed cumulative net un-recovered FAC at the end of March, 2020 as Rs. 52.50 Crore. However, considering the total disallowance of Rs. 5.18 Crore (i.e., cumulative disallowance from Q1 to Q4 of FY 2019-20), the Commission allows net cumulative un-recovered FAC at the end of March, 2020 as Rs. 47.32 Crore (i.e., Rs. 52.50 Crore – Rs. 5.18 Crore).** The aforesaid unrecovered FAC will be adjusted at the time of final truing up of FY 2019-20 under the MERC MYT Regulations, 2015.

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, 2020 to March, 2020.

10.3 The following Table shows per unit ZFAC to be charged to the consumers of BEST Undertaking for the billing month of April, 2020 (on Consumption Units of March 2020).



S. No.	Consumer categories	Slab	ZFAC to be levied in billing month of April' 2020
			Rs./kW h
(A)	LT Category		
1	LT - I (A) Residential-BPL	0 - 30	0.20
2	LT - I (B) Residential	0 - 100	0.29
3		101 - 300	0.66
4		301 - 500	0.92
5		> 501	1.06
6	LT - II (A) Commercial	0 – 20 kW	0.88
7	LT - II (B) Commercial	>20 and <= 50 kW	0.93
8	LT - II (C) Commercial	>50 kW	0.95
9	LT - III (A) Industry	Up to 20kW	0.79
10	LT - III (B) Industry	>20 kW	0.85
11	LT - IV PWW	all units	0.86
12	LT - V Advertisement & Hoardings	all units	1.39
13	LT - VI Street Lights	all units	0.84
14	LT - VII (A) Temp-Religious	all units	0.63
15	LT - VII (B) Temp-Others	all units	1.12
16	LT - VIII Crematorium & Burial Grounds	all units	0.64
17	LT - IX (A) Public Service	all units	0.83
18	LT - IX (B) Public Service Others	all units	0.87
19	LT - X (A) Agriculture- Pumpsets	all units	0.45
20	LT - X (B) Agriculture-Others	all units	0.62
21	LT - XI Electric Vehicle (EV) Charging Stations	all units	0.85
(B)	HT Category		
22	HT - I Industry	all units	0.89
23	HT - II Commercial	all units	0.93
24	HT - III Group Housing	all units	0.78
25	HT - IV PWW	all units	0.85
26	HT-V (A) Railways, Metro & Monorail (110/132 kV)	all units	-
27	HT-V (B) Railways, Metro & Monorail (33kV)	all units	0.82



28	HT-VI (A) Public Service	all units	0.85
29	HT-VI (B) Public Service-Others	all units	0.91
30	HT-VII Temporary Supply	all units	1.01
31	HT-VIII Electric Vehicle (EV) Charging Stations	all units	-

11. Summary

11.1 The Table below shows the summary of FAC claimed by BEST vis-à-vis approved by the Commission for Q4 of FY 2019-20:

12. For FAC actually recovered from consumers in Q4 of FY 2019-20:

Particular	Month	Units	Claimed*	Approved*	Disallowance
			(a)	(b)	(a-b)
Allowed FAC to be recovered	January 2020	Rs. Crore	24.55	23.15	1.40
		Rs./kWh	0.80	0.77	0.03

**inclusive of carry forward disallowance from Q1 of FY 2019-20*

13. For FAC though computed in Q4 of FY 2019-20 but not levied due to prior approval requirement:

Particular	Month	Units	Claimed*	Approved*	Disallowance
			(a)	(b)	(a-b)
Allowed FAC to be recovered	February & March 2020	Rs. Crore	52.50	48.72	3.78

**Cumulative FAC inclusive of FAC of February 2020 month*

Total Disallowance for FY 2019-20 = Rs. 5.18 Crore (Rs. 1.40 Crore + Rs. 3.78 Crore)

13.1 BEST Undertaking has claimed net cumulative un-recovered FAC of Rs. 52.50 Crore at the end of March, 2020. The Commission has disallowed cumulative FAC amounting to Rs. 5.18 Crore for FY 2019-20. This disallowance has been adjusted with the un-recovered FAC claimed by BEST and accordingly, the net un-recovered FAC allowed for FY 2019-20 stands at Rs. 47.32 Crore (based on cumulative disallowance from Q1 to Q4 of FY 2019-20). This amount will be adjusted in the final True up of FY 2019-20 under MERC MYT Regulations, 2015.

