

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

Date: 25 September, 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 approval of BEST Undertaking's Fuel Adjustment Charges (FAC) for the period from July, 2019 to September, 2019.

Reference: BEST Undertaking's submission dated 1 January, 2020 and 27 May, 2020 for post-facto approval of FAC for the period from July, 2019 to September, 2019.

Sir,

Upon vetting the FAC calculations for the month of July, 2019 to September, 2019 as mentioned in the above reference, the Commission has accorded post facto approval BEST Undertaking for charging FAC to its consumers as shown in the Table below:

| Month | July, 2019 | August, 2019 | September, 2019 |
|-------------------------|------------|--------------|-----------------|
| FAC allowed (Rs. Crore) | 29.79 | 9.66 | 23.61 |

BEST has computed total quarterly FAC (inclusive of carry forward) as Rs. 66.50 Crore against which the Commission has approved the total FAC for Q2 (inclusive of carry forward) as Rs. 64.58 Crore. Thus, Rs.1.92 Crore is disallowed which is explained in detail at paras 9.2, 9.3, 9.4, 9.5 and 9.6 of the enclosed Report. Since the recovery of this amount is already done, the above adjustment will be rolled over in next FAC approvals (i.e., FAC of Q3 of FY 2019-20) and subsequently would be adjusted in the final True up of FY 2019-20.

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 rationale for post facto approval of Q2 of FY 2019-20 is only to carry forward the allowance or disallowance to next quarter and subsequently



to Q4 of FY 2019-20. Any variation in final allowance or disallowance of FAC will be reconciled at the time of final True-up of FY 2019-20 under the MERC (Multi Year Tariff) Regulations, 2015.

Yours faithfully,

Sd/-
(Prafulla Varhade)
Director (EE), MERC

Encl: Annexure A: Detailed Vetting Report for the period of July, 2019 to September, 2019



**POST FACTO APPROVAL FOR FAC FOR THE MONTH OF JULY, 2019 TO
SEPTEMBER, 2019**

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

Reference: BEST Undertaking's submission vide Letter No. 1 January, 2020 and 27 May, 2020 for post-facto approval of FAC for the period from July, 2019 to September, 2019.

1. FAC submission by BEST Undertaking:

1.1 BEST Undertaking has submitted FAC submissions for the month of July, 2019 to September, 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 October, 2019 to December, 2019.

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, on 1 January, 2020 and 27 May, 2020, BEST Undertaking has filed FAC submissions for the month of July, 2019 to September, 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 (July-19) (MU) | Actual (August-19) (MU) | Actual (September-19) (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 | 176.73 | 178.71 | 167.05 |
| LT - II (A) Commercial | 977.00 | 81.42 | 74.69 | 74.84 | 72.44 |
| LT - II (B) Commercial | 215.93 | 17.99 | 18.22 | 17.62 | 16.28 |
| LT - II (C) Commercial | 371.38 | 30.95 | 32.50 | 31.28 | 28.82 |
| LT - III (A) Industrial | 45.00 | 3.75 | 3.99 | 3.98 | 3.91 |
| LT - III (B) Industrial | 88.94 | 7.41 | 7.07 | 7.04 | 6.55 |
| LT - IV PWW | 6.78 | 0.57 | 0.50 | 0.49 | 0.49 |
| LT - V Adv & Hoardings | 1.63 | 0.14 | 0.12 | 0.12 | 0.11 |
| LT - VI St. Lighting | 18.65 | 1.55 | 1.41 | 1.51 | 1.56 |



| Consumer Category | Approved by the Commission (MU) | Monthly Approved (MU)* | Actual (July-19) (MU) | Actual (August-19) (MU) | Actual (September-19) (MU) |
|-------------------------------------------------|---------------------------------|------------------------|-----------------------|-------------------------|----------------------------|
| | (I) | (II=I/12) | (III) | (IV) | (V) |
| LT - VII (A) Temp-Religious | 0.21 | 0.02 | 0.01 | 0.01 | 0.01 |
| LT - VII (B) Temp-Others | 32.00 | 2.67 | 0.92 | 0.96 | 1.01 |
| LT - VIII Crematorium | 2.15 | 0.18 | 0.12 | 0.13 | 0.12 |
| LT - IX (A) Public Service | 61.28 | 5.11 | 5.07 | 4.92 | 4.66 |
| LT - IX (B) Public Service Others | 168.09 | 14.01 | 14.61 | 14.27 | 13.18 |
| LT - X (A) Pumpsets | - | - | - | - | - |
| LT - X (B) Others | - | - | - | - | - |
| LT - XI Electric Vehicle Charging Stations | - | - | 0.02 | 0.02 | 0.02 |
| HT Category | | | | | |
| HT - I Industry | 137.28 | 11.44 | 15.75 | 15.41 | 14.38 |
| HT - II Commercial | 270.00 | 22.50 | 20.01 | 19.50 | 18.27 |
| HT - III Grp.Housing (Residential) | 32.63 | 2.72 | 2.73 | 2.57 | 2.45 |
| HT - IV PWW | 37.99 | 3.17 | 4.60 | 3.70 | 4.30 |
| HT-V (A) Railways, Metro & Monorail | - | - | - | - | - |
| HT-V (B) Railways, Metro & Monorail | 2.29 | 0.19 | 0.17 | 0.17 | 0.17 |
| HT-VI (A) Public Service | 26.49 | 2.21 | 2.37 | 2.28 | 2.10 |
| HT-VI (B) Public Service-Others | 167.24 | 13.94 | 14.98 | 14.00 | 12.80 |
| HT-VII Temporary Supply | 18.31 | 1.53 | 1.58 | 2.06 | 1.93 |
| HT-VIII Electric Vehicle (EV) Charging Stations | - | - | - | - | - |
| Total Energy Sale | 4,869.75 | 405.81 | 398.17 | 395.56 | 372.61 |

*- 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 It was observed that the total sale for July, August & September, 2019 is 398.17 MUs, 395.56 MUs and 372.61 MUs respectively as compared to 405.81 MUs of monthly sales approved vide MTR Order. The major variation in energy sale was observed in September which was primarily due to lower sales in LT - I (B) Residential, LT - II (A) Commercial and HT - II Commercial categories. In response to the clarification sought for lower sales in September, BEST Undertaking has stated that sales were lower on account of heavy rainfall observed in September.

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 tables show the variation in average power purchase cost (Rs/kWh) for the months of July, 2019 to September, 2019 as compared to average power purchase cost as approved in Tariff Orders dated 12 September, 2018 for applicable months:

| Particulars | Tariff Order Dated 12.09.2018 | | | Actual for July, 2019 | | |
|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------|-------------|-----------------------|---------------|-------------|
| | Net Purchase (Monthly)* | Cost (Monthly) | APPC | Net Purchase | Cost | APPC |
| | MU | Rs. Crore | Rs/kWh | MU | Rs. Crore | Rs/kWh |
| TPC-G | 293.45 | 127.46 | 4.34 | 309.21 | 134.85 | 4.36 |
| RE Sources# | 66.58 | 20.46 | 3.07 | 7.05 | 20.60 | 29.23 |
| Traders | 84.45 | 30.32 | 3.59 | 32.11 | 10.71 | 3.34 |
| Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be received for prior period) | - | - | - | 36.78 | 15.84 | 4.31 |
| Total | 444.49 | 178.25 | 4.01 | 385.15 | 181.99 | 4.73 |



| Particulars | Tariff Order Dated 12.09.2018 | | | Actual for August 2019 | | |
|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------|-------------|------------------------|---------------|-------------|
| | Net Purchase (Monthly) | Net Purchase (Monthly) | APPC | Net Purchase | Cost | APPC |
| | MU | MU | Rs/kWh | MU | Rs. Crore | Rs/kWh |
| TPC-G | 293.45 | 293.45 | 4.34 | 293.44 | 125.13 | 4.26 |
| RE Sources# | 66.58 | 66.58 | 3.07 | 7.23 | 19.84 | 27.44 |
| Traders | 84.45 | 84.45 | 3.59 | 45.97 | 15.11 | 3.29 |
| Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be received for prior period) | - | - | - | 134.37 | 39.71 | 2.96 |
| Total | 444.49 | 444.49 | 4.01 | 481.00 | 199.79 | 4.15 |

| Particulars | Tariff Order Dated 12.09.2018 | | | Actual for September 2019 | | |
|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------|-------------|---------------------------|---------------|-------------|
| | Net Purchase (Monthly) | Net Purchase (Monthly) | APPC | Net Purchase | Cost | APPC |
| | MU | MU | Rs/kWh | MU | Rs. Crore | Rs/kWh |
| TPC-G | 293.45 | 293.45 | 4.34 | 249.75 | 117.40 | 4.70 |
| RE Sources# | 66.58 | 66.58 | 3.07 | 7.11 | 17.14 | 24.10 |
| Traders | 84.45 | 84.45 | 3.59 | 67.44 | 19.95 | 2.96 |
| Total Variation of Prior period (O/C provision for payment of FBSM Bills & Standby Energy Bills to be received for prior period) @ | - | - | - | 42.18 | 15.00 | 3.56 |
| Total | 444.49 | 444.49 | 4.01 | 366.48 | 169.49 | 4.62 |

*- In Case of BEST, the power purchase quantum and cost is approved on annual basis. Monthly approved cost and quantum is derived based on approved cost and quantum for comparison purpose.

@- Total monthly variations of prior period accounted for July, 2019 to September, 2019” are the expenses claimed against the provisional FBSM bills, reimbursement charges, revision of energy bills and supplementary bills for prior period.



#The rates of the RE sources include the cost of REC which were not considered in the tariff order.

- 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, 2019 to September, 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.

TPC-G

- 4.4 TPC-G operates thermal as well as hydro generating stations. The thermal generating station of TPC-G are placed in MoD stack by MSLDC whereas the hydro is considered as must run. **BEST Undertaking has purchased 309.21 MUs, 293.44 MUs and 249.75 MUs of power from TPC-G during the months of July, August and September, 2019, respectively as against 239.45 MUs approved in MTR Order as shown in Table below:**

| TPC-G Stations | Jul-19 (MUs) | Aug-19 (MUs) | Sep-19 (MUs) |
|------------------------------|---------------|---------------|---------------|
| Hydro Generating Stations: | | | |
| Bhira | 50.88 | 54.90 | 23.86 |
| Bhivpuri | 1.35 | 14.53 | 18.81 |
| Khopoli | 18.55 | 20.08 | 19.95 |
| <i>Total Hydro</i> | <i>70.78</i> | <i>89.51</i> | <i>62.61</i> |
| Thermal Generating Stations: | | | |
| Unit 5 (Multi-fired) | 122.34 | 104.65 | 115.96 |
| Unit 7 (APM Gas) | 59.56 | 43.83 | 18.12 |
| Unit 8 (Coal) | 56.52 | 55.44 | 53.05 |
| <i>Total Thermal</i> | <i>238.43</i> | <i>203.93</i> | <i>187.13</i> |
| Total TPC-G | 309.21 | 293.44 | 249.75 |

- 4.5 The above **variation in monthly power purchase quantum during Q2 period is mainly on account of variation in PLF of various generating station of TPC-G.** The Table below shows the monthly/Quarterly PAF (availability) and PLF of its thermal generating stations during Q2 of FY 2019-20:

| Months | Unit 5 (Multi-fired) | | Unit 7 (Gas) | | Unit 8 (Coal) | |
|------------------|----------------------|---------------|---------------|---------------|---------------|---------------|
| | PAF (%) | PLF (%) | PAF (%) | PLF (%) | PAF (%) | PLF (%) |
| Jul-19 | 99.54% | 68.43% | 100.00% | 89.38% | 96.49% | 81.11% |
| Aug-19 | 80.73% | 58.75% | 99.18% | 66.27% | 90.05% | 79.55% |
| Sep-19 | 97.55% | 67.07% | 100.00% | 28.56% | 89.61% | 78.66% |
| Quarterly | 92.55% | 64.72% | 99.88% | 61.76% | 92.08% | 79.87% |



- 4.6 From the above Table, it can be seen that the quarterly PAF of all thermal generating stations were above target availability of 85%, whereas, the quarterly PLF were below the normative level of 85%. In response to clarification sought for lower PLF, TPC-G vide its data gap reply stated that the PLF of unit 5,7 & 8 were lower (below normative level of 85%) mainly due to low system demand. TPC-G further stated that the generation availability of Unit-5 was lower in August due to forced outage of 103.75 hours (withdrawn for attending tube leak in superheater section) and wet coal issues during the monsoon season. Also, during September-2019, TPC-G Unit 7 was out of service from 3rd to 24th September due to non-availability of APM gas on account of fire at ONGC platform. TPC-G further clarified that although APM gas was unavailable during aforementioned period, the RLNG network for supplying the gas to Unit 7 was healthy and available. However, considering high cost of generation using RLNG, Unit 7 was kept out of service. Hence, considering the availability of fuel (RLNG gas), TPC-G has claimed availability of Unit 7 as 100% during the month of September, 2019. Further, the shortfall of power due to above reasons were met by purchasing power from power exchange.
- 4.7 With regards to lower generation of Hydro stations mainly Bhivpuri Hydro station during July 2019, TPC-G stated that the generation at aforementioned station was typically kept at minimum during monsoon season due to less probability of Lake spilling and also, due to non-requirement of irrigation water at tailrace. Also, with respect to lower generation of Bhira Hydro station during September 2019, TPC-G stated that during the aforesaid period the generation at Khopoli and Bhivpuri was kept higher due to high lake contents / overflow and to avoid submersion of Road under water at Walwhan and Thokerwadi. Accordingly, equivalent generation was reduced at Bhira Generating Station. TPC-G further clarified that monthly generation of hydro generating stations is dependent on various parameters like power requirement of Distribution Licensees, water availability in Lake / overflow for the period, tailrace user's requirement, etc.
- 4.8 Although, the generation or PLF was lower during Q2 period due to various reasons as stated above, the cumulative availability of all of its units were more than normative availability during Q2 period. In this regard, the Commission sought BEST Undertaking to confirm if it has fully utilised TPC-G's contracted power before scheduling any costlier power or short term power. On response to above query, BEST Undertaking stated that **all the power procurement during quarter 2 of FY 2019-20 has been done through sources approved in MTR Order in Case No. 203 of 2017**. Further, it has fully utilised availability declared by all contracted sources during aforesaid period. Any shortfall in power over & above availability declared by contracted conventional/RE sources was met by purchasing power from Power Exchange.
- 4.9 BEST Undertaking was also asked to confirm if MoD principles has been followed while scheduling power from various sources. In this regards, BEST Undertaking stated that it has



intimated MSLDC regarding various power purchase contracts it has entered into under LTOA/STOA. The generating unit of TPC Unit 5, 7 & 8 contracted by BEST Undertaking is placed under MOD stack by MSLDC whereas 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 as well as real-time operation on MOD principle in the state is carried out by MSLDC.

4.10 The Commission has also sought month wise and cumulative availability declared by TPC-G for its various generating stations during the Q2 period. TPC-G has provided the same as shown in Table below:

| Unit 5 (Thermal) | Apr-19 | May-19 | Jun-19 | Jul-19 | Aug-19 | Sep-19 |
|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Monthly Availability | 100.00% | 100.00% | 100.00% | 99.54% | 80.73% | 97.55% |
| Cumulative Availability | 100.00% | 100.00% | 100.00% | 100.00% | 96.11% | 96.35% |
| Unit 7 (Thermal) | Apr-19 | May-19 | Jun-19 | Jul-19 | Aug-19 | Sep-19 |
| Monthly Availability | 100.00% | 100.00% | 100.00% | 100.00% | 99.18% | 100.00% |
| Cumulative Availability | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Unit 8 (Thermal) | Apr-19 | May-19 | Jun-19 | Jul-19 | Aug-19 | Sep-19 |
| Monthly Availability | 99.25% | 90.50% | 97.78% | 96.49% | 90.05% | 89.61% |
| Cumulative Availability | 99.25% | 94.81% | 95.79% | 95.96% | 94.77% | 93.92% |
| Bhira (Hydro) | Apr-19 | May-19 | Jun-19 | Jul-19 | Aug-19 | Sep-19 |
| Monthly Availability | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Cumulative Availability | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Bhivpuri (Hydro) | Apr-19 | May-19 | Jun-19 | Jul-19 | Aug-19 | Sep-19 |
| Monthly Availability | 100.00% | 100.00% | 100.00% | 97.94% | 100.00% | 100.00% |
| Cumulative Availability | 100.00% | 100.00% | 100.00% | 99.48% | 99.58% | 99.65% |
| Khopoli (Hydro) | Apr-19 | May-19 | Jun-19 | Jul-19 | Aug-19 | Sep-19 |
| Monthly Availability | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Cumulative Availability | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |

4.11 As it can be seen from the Table above, that **cumulative availability of all generating Units were above normative Target availability of 85%, therefore, TPC-G was entitled for recovery of full monthly fixed cost during the aforesaid period, in line with Regulation 48.3 of MYT Regulations 2015.** The Commission has verified the payment of monthly fixed cost during Q2 of FY 2019-20.

4.12 **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. 4.26/ kWh and Rs. 4.70/kWh for the months of July, August and September, 2019, respectively as**



compared to MTR approved rate of Rs. 4.34/kWh. The APPC is marginally higher by approx. Rs. 0.02/kWh in the month of July, 2019 whereas it is lower by approx. Rs. 0.08/kWh in August 2019. Further, in the month of September, 2019, the APPC is higher by Rs. 0.36/kWh. The variation in power purchase price is mainly because of following reasons:

- Due to variation in fuel parameters during Q2 period as compared to MTR approved parameters.
- Due to the change in actual quantum from various sources as compared to MTR approved quantum.

Fuel parameter Analysis:

4.13 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 Q2 period as compared to respective MTR approved charges. The energy charges for hydro remains same as approved in MTR Order. The Table below shows the comparison of actual energy charges vis-à-vis approved energy charges for thermal generating station.

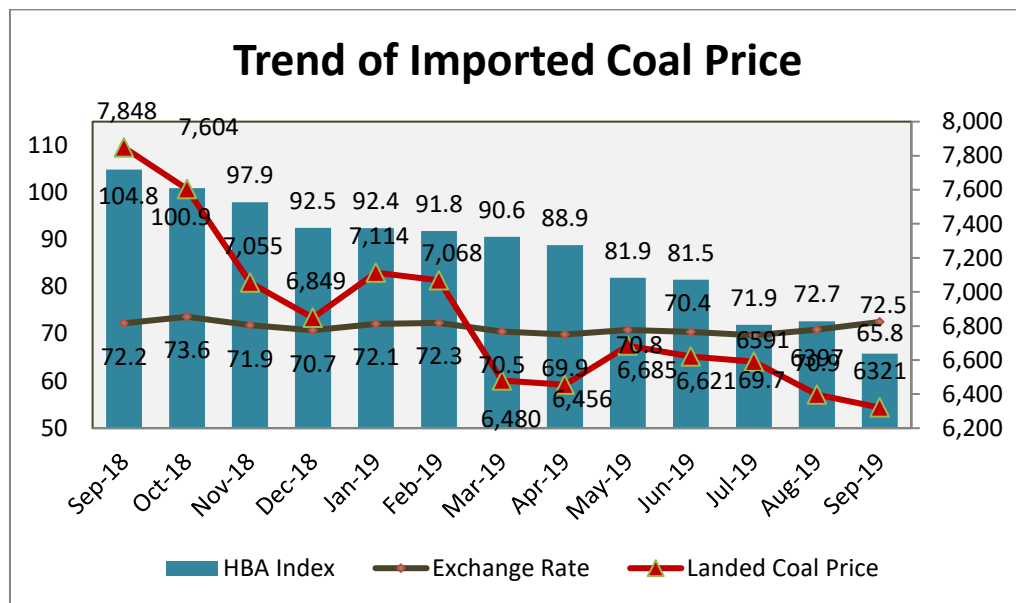
| Units/ Months | Unit 5 (Multi-fired) | | Variation | Unit 7 (Gas) | | Variation | Unit 8 (Coal) | | Variation |
|------------------|-------------------------|--------|-----------|-----------------|--------|-----------|------------------|--------|-----------|
| | Approved | Actual | | Approved | Actual | | Approved | Actual | |
| Jul-19 | 3.99 | 3.78 | (0.21) | 1.80 | 2.78 | 0.97 | 3.94 | 3.76 | (0.19) |
| Aug-19 | 3.99 | 3.70 | (0.29) | 1.80 | 2.89 | 1.09 | 3.94 | 3.61 | (0.34) |
| Sep-19 | 3.99 | 3.62 | (0.37) | 1.80 | 3.21 | 1.41 | 3.94 | 3.59 | (0.35) |

4.14 The above variation in energy charges is mainly due to variation in fuel prices during the respective period. Similar trend was also observed during Q1 period. The Commission has sought for fuel purchase bills during the present quarter.

4.15 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 bidding documents vide its data**



gap reply. TPC-G has also provided the HBA indices prevailing during Q2 period. The Commission has observed that the HBA indices and hence, the price of imported coal in international market has shown downward trend in recent times. However, at the time of MTR Order, 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 September, 2019.



4.16 From graph above, it can be observed that the **HBA index was at around 104.8 in September 2018 and has decreased to 65.80 in September 2019.** Due to this the landed cost of coal and hence, energy charges during present quarter has arrived lower as compared to cost approved in MTR Order dt 12th September, 2018. **The landed cost of coal claimed by TPC-G is Rs. 6591/MT, Rs. 6397/MT and Rs. 6321/MT for the month of July, August and September, 2019 respectively as against the MTR approved rate of Rs. 7154/MT.**

4.17 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 August, 2019:

| Month | 08 August-19 | 17 August-19 | 28 August-19 | Remark |
|---------------|--------------|--------------|--------------|-------------------------|
| Exchange Rate | 70.96 | 71.29 | 71.73 | Verified from SAP Entry |



| Month | 08 August-19 | 17 August-19 | 28 August-19 | Remark |
|--------------------------|-------------------------|---------------------|--------------|-----------------------|
| Supplier | AVRA COMMODITI ES | PT KIDECO JAYA A | PT ADARO | Verified from Invoice |
| Vessel Name | CORAL BREEZE | SAGAR MOTI | ADITYA | Verified from Invoice |
| HBA | 72.67 | 72.67 | 72.67 | Submitted by TPC-G |
| Coal Qty (MT) | 49300.00 | 50045.00 | 49950.00 | Verified from Invoice |
| GCV (kcal/kg) | 5162.00 | 4935.00 | 4842.00 | Verified from Invoice |
| Moisture (%) | 26.31 | 25.14 | 28.86 | Verified from Invoice |
| Ash (%) | 4.28 | 3.11 | 1.91 | Verified from Invoice |
| Sulphur (%) | 0.20 | 0.10 | 0.11 | Verified from Invoice |
| HPB | 54.21 | 53.71 | 51.03 | Calculated |
| Premium | - | - | - | Verified from Invoice |
| FOB (USD/MT) | 54.21 | 53.71 | 51.03 | Verified from Invoice |
| FOB Rs /MT | 3846.49 | 3828.84 | 3660.21 | Calculated |
| Avg Base Price Rs./MT | 3778.51 | | | Calculated |

4.18 As from Table above the average basic cost of imported coal for the month of August is Rs. 3778.51/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 has worked out the landed cost of imported coal on sample basis for the month of August as shown in Table below:

| Sr. No | Particular | Source/Formula | Units | Price |
|--------|---------------------------------------------|-------------------|---------------|----------------|
| 1 | Base price | As computed above | Rs./MT | 3778.51 |
| 2 | Freight charges | As submitted | Rs./MT. | 795.55 |
| 3 | Excise + Custom Duty + C E Cess + insurance | As submitted | Rs./MT | 739.80 |
| 4 | Handling and wharfage | As submitted | Rs./MT | 585.91 |
| 5 | Other Fuel Handling Charges | As submitted | Rs./MT | 480.07 |
| 6 | Total landed cost | Sum (3:4) | Rs./MT | 6379.85 |

4.19 From the Table above, the landed cost of imported coal for the month of August has been worked at Rs. 6,379.85/MT. Although, the landed cost claimed by TPC-G in FAC computation for the month of August is Rs. 6,397/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 and the cost of actual inventory prevailing at that time. Therefore, there is a variation in 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.

4.20 Further, with regards to GCV of coal, the Commission has also sought for third party sampling report for verifications. The Commission also sought details of ‘GCV as billed’, ‘GCV as received’ and ‘GCV as used in energy charges’ TPC-G has submitted the third-party sampling certificate issued by Bureau Veritas 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 |
|--------|------------------------------------------------|----------------------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Jul-19 | 4,903 | 4,875 | 4,725 | <i>GCV for energy charge = GCV as received – stacking loss (Max. 150 kcal/kg) as per Regulations 48.5 of MYT Regulations, 2015</i> |
| Aug-19 | 4,978 | 4,928 | 4,778 | |
| Sep-19 | 4,913 | 4,925 | 4,775 | |

4.21 With regards to increase in gas prices, TPC-G stated that the following reasons can be attributed to the increase in gas prices and hence, energy charges for gas generating station:

- There has been an increase in the basic price of APM gas on account of scheduled revisions by MOPNG (Ministry of Petroleum & Natural Gas) every six months. The applicable APM gas price for the period April-September 2019 was \$3.69/MMBTU as compared to gas price of \$3.06/MMBTU prevailing during April 2018 to September 2018 which was considered in MTR.
- There has been a revision in transportation tariff from Rs. 1.04 /MMBTU to Rs 25.15 /MMBTU of APM gas w.e.f. July 2019 as stated by TPC-G.

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

4.23 Further, the Commission also sought TPC-G to provide details of variation in fuel price during Q2 period as compared to Q1 of FY 2019-20. TPC-G vide its data gap reply submitted the details as shows in Table below:

| Units | Fuel cost Rs/MT for Q1 FY2019-20 | Fuel cost Rs/MT for Q2 FY2019-20 | Increase/(decrease) in fuel cost Rs./MT |
|-------|----------------------------------|----------------------------------|-----------------------------------------|
|-------|----------------------------------|----------------------------------|-----------------------------------------|



| | (A) | (B) | (C=B-A) |
|----------------|-----------|----------|----------|
| Unit 5 Coal | 6,586.93 | 6,440.12 | (146.81) |
| Unit 7 APM Gas | 15,975.41 | 18,044.9 | 2,069.49 |
| Unit 8 Coal | 6,585.34 | 6,438.67 | (146.67) |

4.24 As can be seen from above, during Q2 period, the coal price shows a downward trend whereas, the gas price reflects the upward trend. Considering the above variation in fuel prices, the Commission worked out the net impact of the same on FAC during respective months of Q2 as shown in Table below:

| Particulars for July, 2019 | Units | Unit 5 | Unit 7 | Unit 8 | Impact |
|--------------------------------|------------------|---------------|-------------|---------------|-------------|
| Energy Available to BEST | MUs | 122.34 | 59.56 | 56.62 | |
| Approved Energy Charge | Rs./kWh | 3.99 | 1.80 | 3.94 | |
| Actual Energy Charge | Rs./kWh | 3.78 | 2.78 | 3.76 | |
| Fuel Surcharge Adjustment | Rs./kWh | (0.21) | 0.97 | (0.19) | |
| Recoverable through FAC | Rs. Crore | (2.58) | 5.79 | (1.05) | 2.15 |

| Particulars for Aug, 2019 | Units | Unit 5 | Unit 7 | Unit 8 | Impact |
|-------------------------------|------------------|---------------|-------------|---------------|---------------|
| Energy Available to BEST | Mus | 104.65 | 43.83 | 55.44 | |
| Approved Energy Charge | Rs./kWh | 3.99 | 1.80 | 3.94 | |
| Actual Energy Charge | Rs./kWh | 3.70 | 2.89 | 3.61 | |
| Fuel Surcharge Adjustment | Rs./kWh | (0.29) | 1.09 | (0.34) | |
| Refundable through FAC | Rs. Crore | (3.03) | 4.78 | (1.87) | (0.13) |

| Particulars for Sep, 2019 | Units | Unit 5 | Unit 7 | Unit 8 | Impact |
|-------------------------------|------------------|---------------|-------------|---------------|---------------|
| Energy Available to BEST | Mus | 115.96 | 18.12 | 53.05 | |
| Approved Energy Charge | Rs./kWh | 3.99 | 1.80 | 3.94 | |
| Actual Energy Charge | Rs./kWh | 3.62 | 3.21 | 3.59 | |
| Fuel Surcharge Adjustment | Rs./kWh | (0.37) | 1.41 | (0.35) | |
| Refundable through FAC | Rs. Crore | (4.29) | 2.55 | (1.86) | (3.60) |

4.25 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 positive during July, 2019, i.e., recovery of Rs. 2.15 crore while negative in August and September, i.e., refund of Rs. (0.13) crore and Rs. (3.60) crore



respectively. Although, on quarterly basis, **the overall increase in FAC due to increase in gas price is almost offset by decrease in FAC on account of decrease in coal price.** Hence, the actual APPC is hovering around APPC as approved in MTR Order. Considering the above variation in fuel parameters the weighted average power purchase cost for TPC-G arrived at Rs. 4.36/ kWh, Rs. 4.26/ kWh and Rs. 4.70/kWh for the months of July, August and September, 2019, respectively as compared to MTR approved rate of Rs. 4.34/kWh. **Further, in spite of FAC refund of Rs. (3.60) Crore in the month of September, the APPC is resulted higher not only with the MTR approved figure but also as compared to other months of Q2, this is mainly due to corresponding lower power purchase during the said month.** As stated above BEST has purchased 249.75 MUs of power during the month of September whereas, it has purchased 309.21 MUs, 293.44 MUs of power during July and August, 2019 respectively. Even though the power purchase was lower in the month of September, 2019, the fixed cost was fully payable as the cumulative availability was above normative level as already explained in paras above. Hence, the spread of full monthly fixed cost over lower generation has increased the APPC during said month.

Renewable Purchase:

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

4.27 **BEST has purchased total 7.05 MUs, 7.23 MUs and 7.11 MUs of RE power (solar and non-solar) at a weighted average price of Rs. 7.49/kWh, Rs. 7.50/kWh and Rs. 7.44/kWh during the months of July, August and September, 2019 respectively.** The Table below shows the summary of RE power purchased by BEST during Q2 of FY 2019-20:

| Particular | As approved in MTR Order | | | Actual for July | | |
|-----------------------|--------------------------|----------------|----------------|-----------------|----------------|-------------------|
| | Quantum (MUs) | % share | Rate (Rs./kWh) | Quantum (MUs) | % share | Rate (Rs./kWh) |
| Solar Sources: | | | | | | |
| Welspun | 2.625 | 3.94% | 8.56 | 2.25 | 31.91% | 8.56 |
| New Solar | 12.94 | 19.43% | 2.72* | - | - | - |
| Non-Solar Sources: | | | | | | |
| New Non- Solar (MU) | 51.03 | 76.63% | 2.88* | 4.80 | 68.09% | 7.00 [#] |
| Total RE Power | 66.59 | 100.00% | 3.07 | 7.05 | 100.00% | 7.49 |



| Particular | As approved in MTR Order | | | Actual for July | | |
|---------------|--------------------------|---------|----------------|-----------------|---------|--------------------|
| | Quantum (MUs) | % share | Rate (Rs./kWh) | Quantum (MUs) | % share | Rate (Rs./kWh) |
| REC Solar | - | - | - | - | - | 3.24 [^] |
| REC Non-solar | - | - | - | - | - | 12.08 [^] |

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

#Actual preferential Tariff for the month

| Particular | Actual for August | | | Actual for September | | |
|-----------------------|-------------------|----------------|--------------------------|----------------------|----------------|--------------------------|
| | Quantum (MUs) | % share | Rate (Rs./kWh) | Quantum (MUs) | % share | Rate (Rs./kWh) |
| Solar Sources: | | | | | | |
| Welspun | 2.34 | 32.37% | 8.56 | 2.22 | 31.22% | 8.56 |
| New Solar | - | - | - | - | - | - |
| Non-Solar Sources: | | | | | | |
| New Non- Solar (MU) | 4.89 | 67.63% | 7.00 [#] | 4.89 | 68.78% | 6.94 [#] |
| Total RE Power | 7.23 | 100.00% | 7.50 | 7.11 | 100.00% | 7.44 |
| REC Solar | - | - | 3.32[^] | - | - | 0.65[^] |
| REC Non-solar | - | - | 11.10[^] | - | - | 11.20[^] |

#Actual preferential Tariff for the month

[^]REC purchase in Rs. Crore

4.28 Further, apart from the RE power, **BEST has also purchased REC (solar and non-solar) of worth Rs. 15.32 Crore during July 2019, Rs. 14.42 crore during August, 2019 and Rs. 11.85 crore in September, 2019** as shown in Table above. **However, 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 July, August and September, 2019 is Rs. 29.23/kWh, Rs. 27.44/kWh and Rs. 24.10/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.

4.29 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. 2.88/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.

- 4.30 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. at a preferential Tariff of Rs. 7.00/kWh in July & August and Rs. 6.94/kWh in September as against the MTR approved generic Tariff of Rs. 2.88/kWh and remaining through purchase of non-solar REC. Due to this the APPC has increased.
- 4.31 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 tie up, has not commissioned the project as per the agreement and hence, will not be able to supply RE 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.”

- 4.32 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... “

- 4.33 BEST Undertaking in its present submission has stated that the **Commission in its recent MYT Order dated 30th March, 2020 in Case No. 324 of 2019, has provisionally approved the procurement of Solar REC (Rs. 39.16 Cr.) and non-Solar RECs (Rs**



142.82 Cr.). 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 respective amount and cost of RE purchases during the aforesaid period from the bills and documents as submitted by BEST Undertaking.

Traders:

- 4.34 Bilateral Power Purchase (Traders) source for the months of July to September, 2019, includes power purchase from IEX. **BEST has purchased 32.11 MU in July 2019, 45.97 MU in August 2019 and 67.44 MU in September, 2019 as against 84.45 MUs as approved in the MTR Order.**
- 4.35 **The average power purchase price from Traders during the months of July to September, 2019 was Rs. 3.34/ kWh, Rs. 3.29 /kWh and Rs. 2.96 /kWh, respectively, which is lower than the MTR approved rate of Rs. 3.59 /kWh.** The Commission has verified the aforesaid purchase from the daily obligation summary issued by IEX submitted by BEST vide its data gap reply. As the APPC for power purchase from traders was less than MTR approved rate in all the months of Q2, the Commission allows the short-term power as submitted by BEST.

Others (FBSM):

- 4.36 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, 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.**
- 4.37 **Based on above, on an overall basis the key reasons for increase 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 and adjustment towards monthly variation related to FBSM and other settlements.** Accordingly, the Commission allows the average power purchase cost of **Rs. 4.73/kWh** for



the month of July, 2019, **Rs. 4.15/kWh** for the month of August, 2019 and **Rs. 4.62/kWh** for the month of September, 2019.

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 months of July, 2019 to September, 2019.

| S. No. | Particulars | Units | July, 2019 | Aug, 2019 | Sep, 2019 |
|---------------|-----------------------------------------------------------|------------------|-------------------|------------------|------------------|
| 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 | 4.73 | 4.15 | 4.62 |
| 3 | Change in average power purchase cost (=2 -1) | Rs./kWh | 0.72 | 0.14 | 0.61 |
| 4 | Net Power Purchase | MU | 385.15 | 481.00 | 366.48 |
| 5 | Change in fuel and power purchase cost (=3 x 4/10) | Rs. Crore | 27.54 | 6.90 | 22.53 |

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

6.1 Adjustment factor for over recovery/under recovery (B) for the period of July, 2019 to September, 2019, is as below;

| S. No. | Particulars | Units | July, 2019 | Aug, 2019 | Sep, 2019 |
|---------------|-----------------------------------------------------------------------------------------------------------------------------|--------------|-------------------|------------------|------------------|
| 1.1 | Incremental cost allowed to be recovered in Month n-4 | Rs. Crore | 9.44 | 15.11 | 37.16* |
| 1.2 | Incremental cost in Month n-4 actually recovered in month n-2 | Rs. Crore | 9.09 | 13.29 | 35.49 |
| 1.3 | (over-recovery)/under-recovery (=1.1 - 1.2) | Rs. Crore | 0.35 | 1.82 | 1.68 |
| 2.0 | Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit for previous month | Rs. Crore | 2.79* | 0.92 | - |



| S. No. | Particulars | Units | July, 2019 | Aug, 2019 | Sep, 2019 |
|--------|--------------------------------------------------------------|-----------|------------|-----------|-----------|
| 3.0 | Adjustment factor for over-recovery/under-recovery (1.3+2.0) | Rs. Crore | 3.14 | 2.74 | 1.68 |

**Corrected as per previous FAC vetting approval*

6.2 While working out adjustment factor, BEST Undertaking has considered incremental cost allowed to be recovered for the month of September as Rs. 39.71 Crore and carry forwards adjustment for the month of July as Rs. 2.11 Crore. BEST Undertaking has considered the above values as per its own computation of FAC pertaining to Q1 of FY 2019-20. However, the Commission in its post facto approval of Q1 has rectified certain errors and has worked out incremental cost allowed to be recovered for the month of September as Rs. 37.16 Crore and carry forwards adjustment as Rs. 2.79 Crore. 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 July, 2019 to September, 2019.

| S. No. | Particulars | Units | Jul, 2019 | Aug, 2019 | Sep, 2019 |
|--------|----------------------------------------------------|-----------|-----------|-----------|-----------|
| 1 | Adjustment factor for over-recovery/under-recovery | Rs. Crore | 3.14 | 2.74 | 1.68 |
| 2 | Applicable Interest rate | % | 9.90 | 9.75 | 9.65 |
| 3 | Carrying cost for over-recovery/under-recovery | Rs. Crore | 0.03 | 0.02 | 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 July-19 | Actual up to Aug-19 | Actual up to Sep-19 |
|-------|--------------------------------------------------------------------------------------------------------|------------------|--------------------------|----------------------|---------------------|---------------------|
| 1 | Net Energy input at Distribution Voltages | MU | 5,158.63 | 1,772.22 | 2,187.26 | 2,575.65 |
| 2 | Energy sales (metered) at Distribution voltages | MU | 4,869.75 | 1,676.85 | 2,072.42 | 2,445.03 |
| 3 | Distribution Loss (=1-2) | MU | 288.88 | 95.37 | 114.85 | 130.63 |
| 4 | Distribution Loss as % of net energy input (=3/1) | % | 5.60 % | 5.38 % | 5.25 % | 5.07 % |
| 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 5.38% for the month of July, 2019, 5.25% for August, 2019 and 5.07% for the month of September, 2019. **The cumulative distribution losses are observed lower than the approved Distribution Loss of 5.60%. 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 July, 2019 to September, 2019 which is allowed to be recovered in the billing month of October, 2019 to December, 2019 is as shown in the Table below:

| S.No. | Particulars | Units | July, 2019 | Aug, 2019 | Sep, 2019 |
|-------|---------------------|-------|------------|-----------|-----------|
| 1.0 | Calculation of ZFAC | | | | |



| S. No. | Particulars | Units | July, 2019 | Aug, 2019 | Sep, 2019 |
|------------|---------------------------------------------------------------------------------------------------|------------------|---------------|-------------|---------------|
| 1.1 | Change in cost of generation and power purchase attributable to Sales within the License Area (F) | Rs. Crore | 27.54 | 6.90 | 22.53 |
| 1.2 | Carrying cost for over-recovery/under-recovery (C) | Rs. Crore | 0.03 | 0.02 | 0.01 |
| 1.3 | Adjustment factor for over-recovery/under-recovery (B) | Rs. Crore | 3.14 | 2.74 | 1.68 |
| 1.4 | ZFAC = F+C+B | Rs. Crore | 30.71 | 9.66 | 24.22 |
| 2.0 | Calculation of FAC Charge | | | | |
| 2.1 | Energy Sales within the License Area | MU | 398.17 | 395.56 | 372.61 |
| 2.2 | Excess Distribution Loss | MU | - | - | - |
| 2.3 | ZFAC per kWh | Rs./kWh | 0.77 | 0.24 | 0.65 |
| 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 | 0.24 | 0.65 |
| 3.0 | Recovery of FAC | | | | |
| 3.1 | Allowable FAC [(2.1 x 2.5)/10] | Rs. Crore | 30.71 | 9.66 | 24.22 |
| 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 | 29.79* | 9.66 | 23.61* |
| 5.0 | Carried forward FAC for recovery during future period | Rs. Crore | 0.92 | - | 0.61 |

*restricted to Rs.29.79 Crore in July and Rs. 23.61 crore in September due to 20% cap for the month

9.2 It can be seen from the above Table that standalone FAC for the months of July to September, 2019 is Rs. 30.71 Crore, Rs. 9.66 Crore and Rs 24.22 Crore respectively. Based on total energy sales, FAC per unit has been working out as Rs. 0.77/kWh, Rs. 0.24/kWh and Rs. 0.65/kWh for the months of July to September, 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 The FAC per unit for the months of July, 2019 to September, 2019 are lower than the capping of 20% cap specified in Regulation as shown in Table above. Hence, there is no restriction triggered with regards to such ceiling for the overall FAC per unit (computed based on standalone FAC and total sales) for months of July, 2019 to September, 2019. Accordingly, FAC per unit leviable is considered as Rs. 0.77/kWh, Rs. 0.24/kWh and Rs. 0.65/kWh, respectively, for the months July, August and September, 2019.
- 9.4 However, while working out Category wise and Slab wise FAC Rate (Rs./kWh) based on above ceiling rate. 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 as Rs. 29.79 Crore for July, 2019 and Rs. 23.61 Crore for September 2019, considering the 20% capping on energy charges of individual category. Hence, an amount equivalent of Rs. 0.92 Crore (Rs. 30.71 Crore minus Rs. 29.79 Crore) got unrecovered in July 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., August. Similarly, amount of Rs. 0.61 Crore got unrecovered in September due to applicability of 20% FAC cap on these individual consumer categories and the same would be considered as carry forward adjustment in FAC computation of next quarter.
- 9.5 Further, as against the above BEST Undertaking has erroneously computed FAC allowable as Rs. 30.02 Crore, Rs. 9.09 Crore and Rs. 26.79 Crore for the month of July, August and September respectively. This is mainly due to error in adjustment factor computation as stated in para 6.2 above. The Table below shows the summary of FAC (inclusive of carry forward) claimed vis-à-vis approved for Q2 of FY 2019-20:

| Particular | Units | Claimed | | | Total | Approved | | | Total |
|----------------------------|-----------|--------------|-------------|--------------|--------------|--------------|-------------|--------------|--------------|
| | | July | Aug | Sept | | July | Aug | Sept | |
| FAC | Rs. Crore | 30.02 | 9.09 | 26.79 | 65.90 | 29.79 | 9.66 | 23.61 | 63.06 |
| Carried forward FAC | Rs. Crore | 0.36 | - | 0.25 | 0.61 | 0.92 | - | 0.61 | 1.52 |
| Total FAC | Rs. Crore | 30.37 | 9.09 | 27.04 | 66.50 | 30.71 | 9.66 | 24.22 | 64.58 |

- 9.6 Based on above total quarterly FAC (inclusive of carry forward) worked out by BEST Undertaking stands at Rs. 66.50 Crore, however, the Commission has worked out the same as Rs. 64.58 Crore. Hence, there is an over-recovery of Rs.1.92 Crore, which is required to refund to consumers. However, as FY 2019-20 is already over, therefore, above adjustment



will be rolled over in next FAC approvals (i.e., FAC of Q3 of FY 2019-20) and finally would be reconciled and adjusted in the final True up of FY 2019-20.

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, 2019 to September, 2019.



10.3 The following Table shows per unit ZFAC to be charged to the consumers of BEST Undertaking for the billing month of October, 2019 to December, 2019.



| S. No. | Consumer categories | Slab | ZFAC to be levied in billing month of October' 2019 | ZFAC to be levied in billing month of November' 2019 | ZFAC to be levied in billing month of December' 2019 |
|------------|--------------------------------------------------|------------------|-----------------------------------------------------|------------------------------------------------------|------------------------------------------------------|
| | | | Rs./kWh | Rs./kWh | Rs./kWh |
| (A) | LT Category | | | | |
| 1 | LT - I (A) Residential-BPL | 0 - 30 | 0.2000 | 0.0817 | 0.2000 |
| 2 | LT - I (B) Residential | 0 - 100 | 0.2900 | 0.1055 | 0.2900 |
| 3 | | 101 - 300 | 0.6193 | 0.1888 | 0.5906 |
| 4 | | 301 - 500 | 0.8617 | 0.2627 | 0.8217 |
| 5 | | > 501 | 0.9941 | 0.3031 | 0.9480 |
| 6 | LT - II (A) Commercial | 0 – 20 kW | 0.8264 | 0.2520 | 0.7881 |
| 7 | LT - II (B) Commercial | >20 and <= 50 kW | 0.8734 | 0.2663 | 0.8329 |
| 8 | LT - II (C) Commercial | >50 kW | 0.8980 | 0.2738 | 0.8564 |
| 9 | LT - III (A) Industry | Up to 20kW | 0.7432 | 0.2266 | 0.7087 |
| 10 | LT - III (B) Industry | >20 kW | 0.7987 | 0.2435 | 0.7617 |
| 11 | LT - IV PWW | all units | 0.8062 | 0.2458 | 0.7688 |
| 12 | LT - V Advertisement & Hoardings | all units | 1.3293 | 0.4054 | 1.2678 |
| 13 | LT - VI Street Lights | all units | 0.8158 | 0.2487 | 0.7780 |
| 14 | LT - VII (A) Temp-Religious | all units | 0.5926 | 0.1807 | 0.5651 |
| 15 | LT - VII (B) Temp-Others | all units | 1.0517 | 0.3207 | 1.0030 |
| 16 | LT - VIII Crematorium & Burial Grounds | all units | 0.5990 | 0.1827 | 0.5713 |
| 17 | LT - IX (A) Public Service | all units | 0.7827 | 0.2387 | 0.7464 |
| 18 | LT - IX (B) Public Service Others | all units | 0.8158 | 0.2487 | 0.7780 |
| 19 | LT - X (A) Agriculture- Pumpsets | all units | 0.4250 | 0.1296 | 0.4053 |
| 20 | LT - X (B) Agriculture-Others | all units | 0.5851 | 0.1784 | 0.5580 |
| 21 | LT - XI Electric Vehicle (EV) Charging Stations | all units | 0.7713 | 0.2371 | 0.7349 |
| (B) | HT Category | | | | |
| 22 | HT - I Industry | all units | 0.8393 | 0.2559 | 0.8004 |
| 23 | HT - II Commercial | all units | 0.8756 | 0.2670 | 0.8350 |
| 24 | HT - III Group Housing | all units | 0.7303 | 0.2227 | 0.6965 |
| 25 | HT - IV PWW | all units | 0.7976 | 0.2432 | 0.7607 |
| 26 | HT-V (A) Railways, Metro & Monorail (110/132 kV) | all units | - | - | - |



| | | | | | |
|----|-------------------------------------------------|-----------|--------|--------|--------|
| 27 | HT-V (B) Railways, Metro & Monorail (33kV) | all units | 0.7688 | 0.2344 | 0.7332 |
| 28 | HT-VI (A) Public Service | all units | 0.8040 | 0.2452 | 0.7668 |
| 29 | HT-VI (B) Public Service-Others | all units | 0.8531 | 0.2601 | 0.8136 |
| 30 | HT-VII Temporary Supply | all units | 0.9471 | 0.2888 | 0.9032 |
| 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 Q2 of FY 2019-20:

| Particular | Month | Claimed | Approved | Remarks |
|-------------------------------|------------------|--------------|--------------|----------------------------------------------------------------------------------------------|
| FAC (Rs. Cr.) | July | 30.02 | 29.79 | For Q2, 2019 (Rs. 64.58 Cr.- Rs. 66.50 Cr.) =Rs.(1.92) Cr. refundable |
| | August | 9.09 | 9.66 | |
| | September | 26.79 | 23.61 | |
| Carried forward FAC (Rs. Cr.) | July | 0.36 | 0.92 | |
| | August | - | - | |
| | September | 0.25 | 0.61 | |
| Total FAC (Rs Cr.) | July | 30.37 | 30.71 | |
| | August | 9.09 | 9.66 | |
| | September | 27.04 | 24.22 | |
| Q2 FAC | Total | 66.50 | 64.58 | |
| FAC per Unit | July | 0.754 | 0.771 | |
| | August | 0.230 | 0.244 | |
| | September | 0.719 | 0.650 | |

11.2 BEST has computed total FAC of Rs. 66.50 Cr. against which the Commission has approved Rs. 64.58 Cr. Thus, Rs. 1.92 Cr. is disallowed. Since the recovery of this amount is already done, the above adjustment will be rolled over in next FAC approvals (i.e., FAC of Q3 of FY 2019-20) and finally would be adjusted in the final True up of FY 2019-20.

