**MAHARASHTRA ELECTRICITY REGULATORY COMMISSION**
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**Ref. No. MERC/FAC/2020-21/E-Letter** **Date: 25 July, 2020**

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

**Subject:** Prior Approval of Fuel Adjustment Charges (FAC) submission of BEST Undertaking for the month of May 2020.

**Reference:** 1. FAC submission dated 17 July, 2020 by BEST Undertaking for prior approval of FAC for the month of May 2020.

2. Data gaps communicated to BEST Undertaking vide email dated 19 July, 2020

3.BEST Undertaking's complete submission received on 22 July, 2020

Sir,

Upon vetting the FAC calculations for the month of May, 2020 as mentioned in the above reference, the Commission has accorded approval for charging FAC of Rs (24.37) Crores to its consumers as shown in the table below:

| Month | FAC Amount (Rs. Crore) |
|---|---|
| **May, 2020** | **0 (Zero)** |

The Commission allows the accumulation of FAC amount of Rs. 41.93 Crore which shall form part of FAC Fund and shall be carried forward to next FAC billing cycle with holding cost as per the Order dated 30 March, 2020 in Case No 324 of 2019. Further, as directed in the said Order, BEST Undertaking shall maintain the monthly account of FAC Fund and upload it on its website to maintain transparency of FAC Fund and also for information of all the stakeholders.

Further, in accordance with the Guidelines issued by the Commission for prior approval of FAC, BEST is expected to file the FAC submission of $n^{th}$ month by $15^{th}$ of next month i.e. $(n+1)^{th}$ month for prior approval. Accordingly, BEST is directed to adhere to the timelines specified by the Commission. BEST is also directed to file their future FAC submissions taking into consideration data gaps raised in previous months to ensure timely prior approval.

Yours faithfully,

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

**Encl:** Annexure A: Detailed Vetting Report for the month of May, 2020.

<u>ANNEXURE A</u>

Detailed Vetting Report<br>Date: 25 July, 2020

**PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF MAY, 2020**

**<u>Subject:</u>** Prior Approval of Fuel Adjustment Charges (FAC) submission of BEST Undertaking for the month of May, 2020.

**<u>Reference:</u>** FAC submission dated 17 July and 22 July, 2020 by BEST Undertaking for prior approval of FAC for the month of May, 2020.

## 1. <u>FAC submission by BEST Undertaking</u>:

1.1 BEST Undertaking ('BEST') has submitted FAC submissions for the months of May, 2020 as referred above. These submissions have been delayed by one month. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by BEST against the data gaps issued, the Commission has accorded prior approval to BEST for negative FAC amount of Rs. 24.37 Crore. The approved FAC amount shall form part of FAC Fund and shall be carried forward to next FAC billing cycle with holding cost as per the Order dated 30 March, 2020 in Case No 324 of 2019 (herein after referred to as "Tariff Order").

## 2. <u>Background</u>

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

2.2 In the Tariff Order, the Commission has stipulated methodology of levying FAC as follows:

***"8.2.15 Stabilising variation in consumer bill on account of FAC***

………………

*8.2.15.4 Therefore, using its powers for Removing Difficulty under Regulation 106 of the MYT Regulations, 2019, the Commission is making following changes in the FAC mechanism specified under Regulation 10 of the MYT Regulations, 2019:*

*a. Distribution Licensee shall undertake computation of monthly FAC as per Regulation 10 of the MYT Regulations, 2019 except for treatment to be given to negative FAC as follows:*

*(i) Negative FAC amount shall be carried forward to the next FAC billing cycle with holding cost;*

*(ii) Such carried forward negative FAC shall be adjusted against FAC amount for the next month and balance negative amount shall be carried forward to subsequent month with holding cost;*

*(iii) Such carry forward of negative FAC shall be continued till the accumulated negative FAC becomes 20% of monthly tariff revenue approved by the Commission in Tariff Order. In case of BEST, such limit shall be Rs. 59 Crore. Any accumulated amount above such limit shall be refunded to consumers through FAC mechanism;*

*(iv) In case such FAC Fund is yet to be generated or such generated fund is not sufficient to adjust against FAC computed for given month, then Distribution Licensee can levy such amount to the consumers through FAC mechanism.*

*8.2.15.5 In order to maintain transparency in management and use of such FAC Fund, the Distribution Licensee shall maintain monthly account of such FAC fund and upload it on its website for information of stakeholders. Further, till date, the Distribution Licensees have been levying FAC up to the prescribed limit of 20% of variable component of tariff without prior approval in accordance with the MYT Regulations, 2015, and submitting the FAC computations on a quarterly basis within 60 days of the close of each quarter, for post facto approval. However, as the Commission has created a FAC fund as stated above to address the increase in fuel prices and power purchase costs, the Commission has modified the FAC mechanism such that the Distribution Licensees shall submit the FAC computations on a monthly basis for prior approval, irrespective of whether FAC is chargeable in a month or whether some amount is accruing to the Fund on account of negative FAC.*

*8.2.15.6 The details of the FAC as per the Regulations, shall be submitted by the 15th of the every month prior to the month in which the FAC is proposed to be levied and the Commission will endeavour to decide on the same within 10 days so that the same can be levied from the 1st of the subsequent month. This prior approval will facilitate the addressing of any difficulties that may arise in giving effect to this fund. All the details will be submitted by the Distribution Licensee as is being done for approval of FAC on* *post facto basis. Thus, the FAC to the consumers shall now be levied with prior approval of the Commission"*

2.3 Vide its letter dated 20 April, 2020, the Commission communicated the excel formats along with the checklist to file FAC submissions for prior approval to all Distribution Licensees. The Commission also directed all Distribution Licensees to file FAC submissions by 15th of every month prior to the month for which the FAC is proposed to be levied for prior approval.

2.4 Accordingly, BEST has filed FAC submissions for the month of May, 2020 for prior approval. The Commission has scrutinized the submissions provided by BEST 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 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 Sales May 2020 (MU) |
|---|---|---|---|
| | (I) | (II=I/12) | (III) |
| **HT I - Industry** | 156.73 | 13.06 | 11.97 |
| **HT II - Commercial** | 278.98 | 23.25 | 11.37 |
| **HT III - Group Housing Society (Residential)** | 30.65 | 2.55 | 2.70 |
| **HT IV – Railways/Metro/Monorail** | 2.14 | 0.18 | 0.15 |
| **HT V - Public Services** | | | |
| *a) Govt. Edu. Inst. & Hospitals* | 26.59 | 2.22 | 2.04 |
| b) Others | 196.66 | 16.39 | 14.51 |
| **HT-VI EV Charging Stations** | - | - | - |
| **LT I (A)- Residential (BPL)** | 0.07 | 0.01 | 0.00 |
| **LT I (B)- Residential** | 2,075.48 | 172.96 | 143.05 |
| **LT II - LT Commercial** | | | |
| *(A)- upto 20 kW* | 919.85 | 76.65 | 14.97 |
| *(B) >20 kW and <50 kW* | 211.13 | 17.59 | 18.47 |
| *(C) - 50 kW* | 370.00 | 30.83 | 34.15 |
| **LT III (A) - Industry < 20 kW** | 43.23 | 3.60 | 1.45 |
| **LT III (B) - Industry > 20 kW** | 90.31 | 7.53 | 7.14 |
| **LT IV - Public Services** | | | |

| | | | |
|---|---|---|---|
| *a) Govt. Edu. Inst. & Hospitals* | 55.68 | 4.64 | 4.37 |
| *b) Others* | 185.87 | 15.49 | 18.25 |
| **LT V(A) – Agriculture Pumpsets** | - | - | - |
| **LT V(B) – Agriculture Others** | - | - | - |
| **LT VI - EV Charging Stations** | 0.30 | 0.03 | 0.15 |
| **Total** | **4,643.66** | **386.97** | **300.11** |

3.2 Due to spread of Covid-19 pandemic, the Commission had issued Practice Directions on 26 March, 2020 providing certain relaxations in the Supply Code to all the Distribution Licensees in respect of Meter Reading etc. Accordingly, the billed sales submitted by BEST are on estimated basis except for the consumers having Automatic Meter Reading (AMR) in place. It is observed that the total sales for May, 2020 is 300.11 MUs. The major variation was observed across all categories in view of consideration of estimated sales for LT category and lower demand on account of lockdown due to Covid-19 pandemic.

## 4. Power Purchase Details

4.1 The Commission has approved following sources in the Tariff Order for power purchase by BEST.

a) Tata Power Company Ltd. (TPC-G)
b) Manikaran Power Limited
c) Renewable Energy (Solar and Non-Solar)
d) Short Term Sources (Bilateral and Power Exchange).

In addition to the aforesaid, there may be some variation in real time (unscheduled interchange) which will be settled through Balancing and Settlement Mechanism approved by the Commission.

4.1 Summary of Power Purchase for BEST is as follows:

| Sr. No. | Particular | Compliance |
|---|---|---|
| 1 | Sources of approved Power Purchase | BEST has purchased power from approved sources |
| 2 | Merit Order Dispatch | BEST has followed merit order for scheduling of power and preference was given to cheapest power. |
| 3 | Fuel Utilization Plan | Usage of coal is as per Fuel Utilisation Plan approved in TPC-G Order |

| Sr. No. | Particular | Compliance |
|---|---|---|
| 4 | Pool Imbalance | BEST has drawn from 20.32 MUs from the imbalance pool to meet its demand |
| 5 | Sale of Surplus Power | No Sale of Power by BEST |
| 6 | Power Purchase | Actual Power Purchase is 359.08 MUs as against approved 417.11 MUs due to lower sales |

4.2 The following table show the variation in average power purchase cost (Rs/kWh) for the month of May, 2020 submitted by BEST as compared to average power purchase cost approved in Tariff Order:

| **Particulars** | **Tariff Order Dated 30.03.2020 FY 2020-21 - Approved** | | | | **Actual for May, 2020 as submitted by BEST** | | |
|---|---|---|---|---|---|---|---|
| | **Net Purchase - Yearly** | **Net Purchase - Monthly**** | **Cost** | **Average Power Purchase Cost** | **Net Purchase** | **Cost** | **Average Power Purchase Cost** |
| | **MU** | | **Rs. Crore** | **Rs/kWh** | **MU** | **Rs. Crore** | **Rs/kWh** |
| TPC-G | 3588.43 | 299.03 | 1,618.22 | 4.51 | 254.45 | 99.94 | 3.93 |
| TPC-G (Past Period)* | | | 83.78 | | | 6.98 | |
| Manikaran | 744.60 | 62.05 | 325.64 | 4.37 | 73.60 | 28.62 | 3.89 |
| RE Power | 31.50 | 2.625 | 26.96 | 8.56 | 3.18 | 2.72 | 8.56 |
| REC | | | 64.63 | 1.00 | - | - | - |
| Short Term | 640.80 | 53.40 | 256.32 | 4 | 7.55 | 2.15 | 2.84 |
| Imbalance Pool | - | | - | - | 20.32 | 5.81 | 2.86 |
| **Total** | **5005.33** | **417.111** | **2,375.55** | **4.75** | **359.08** | **146.22** | **4.07** |

** Past Period Expenses approved by the Commission in TPC-G's MYT Order are allowed to be recovered from BEST in FY 2020-21 (Explanation in Para 5.27)*

*** Although, power purchase quantum is not approved on monthly basis, the monthly quantum is arrived at based on yearly approved quantum and shown for comparison purpose only.*

## 5. <u>Power Purchase Cost</u>

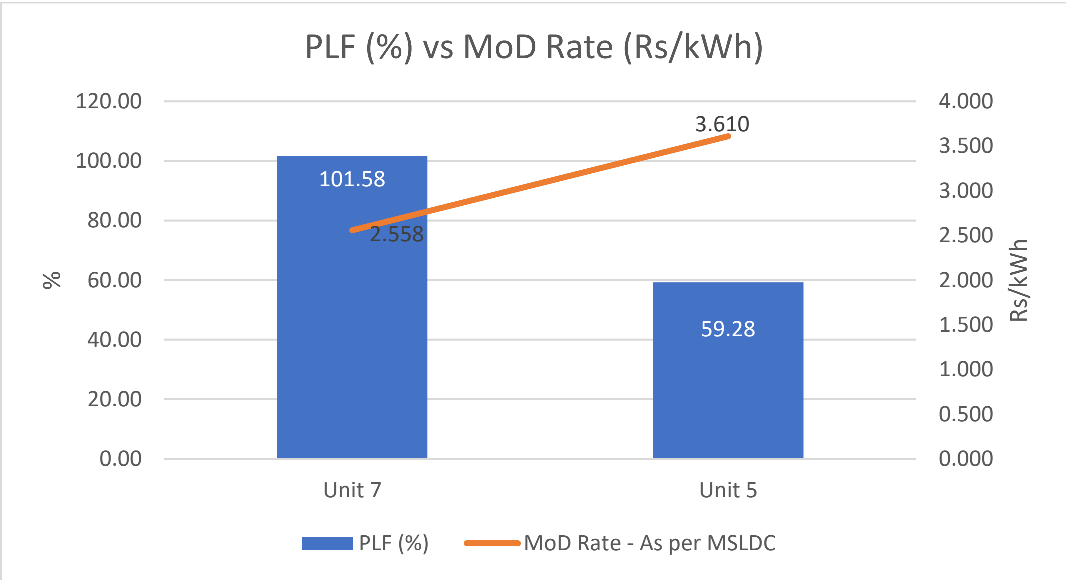
5.1 The Commission has sought detailed bills/invoices for all of the power purchase sources in order to verify the claim of BEST with regards to average power purchase cost for the month of May, 2020. The Commission has verified the Net Purchase, Variable Cost, Fixed Charge and the Power Purchase Cost from the relevant bills/invoices received for all purchasing sources. BEST has purchased power from approved sources as per the Tariff Order.

**TPC-G**

5.2 The Commission in its order dated 2 January, 2029 in Case No 249 of 2018 has allowed BEST to extend its existing PPA for 676.69 MW for a period of five years from 1 April, 2019 to 31 March, 2024. In line with the said Order, BEST share is 51.17% of the total capacity of TPC-G Unit 5, 7 and Hydro whereas its share is 40% in TPC-G Unit 8.

5.3 Since BEST and TPC-D have same generating source i.e. TPC-G, BEST has submitted and relied upon TPC-D's FAC submissions in respect of TPC generating units (TPC-G) to the extent they are relevant to BEST. Accordingly, the Commission has considered and also relied on the said submissions of TPC-D in respect of TPC-G. The Commission has observed that there is consistency in the submissions.

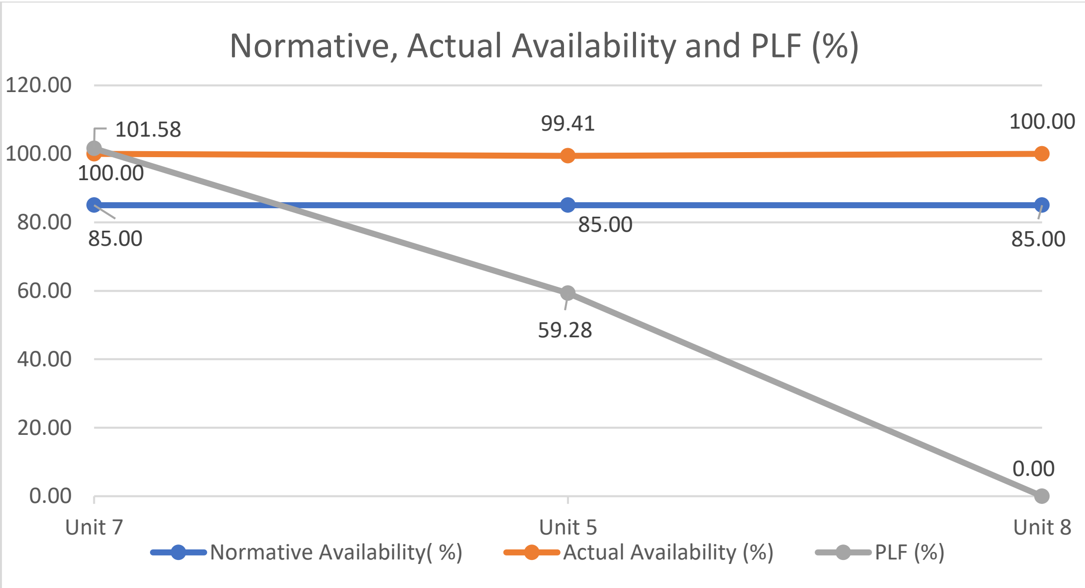
5.4 In view of lower demand due to Covid 19 pandemic, TPC-G Unit-8 having highest rate under MOD was under Zero Schedule, whereas Unit-5 was running at technical minimum. It was observed that Unit-7 having lower rate in MOD has highest PLF. The graph showing the comparison of Variable Cost in MoD Stack and monthly PLF for TPC-G thermal/gas units is given below:



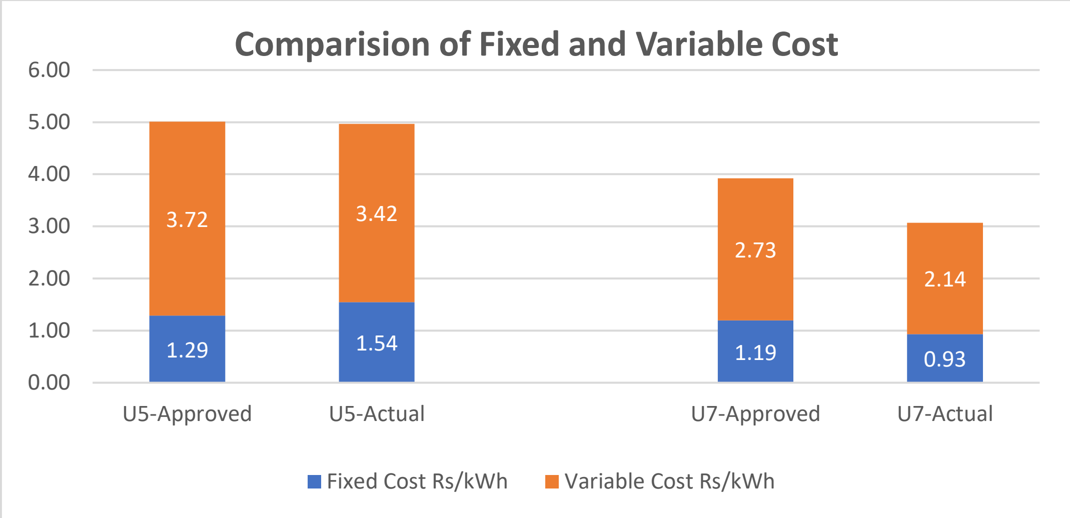

*Note: Unit 8 is not considered in aforesaid graph as it was under Zero Schedule for entire month.*

5.5 The Commission has observed that BEST has purchased 254.45 MUs from TPC-G. The total overall generation was lower during the month leading to low overall PLF mainly due to lower system demand. It was observed that Unit-7 having lower rate in MOD has run at PLF of 101.5% thereby benefitting the consumers. TPC-D submitted that Unit-7 of is having Gas Turbine Generator (GTG) of 120 MW and Steam Turbine Generator (STG) of 60 MW capacity and based on operating conditions like condenser vacuum & other steam parameter, STG can run on more than 100% Plant Load Factor (PLF). Hence, in the combined cycle mode Unit-7 has generated 101.5% due to higher STG generation.

5.6 All the Units of TPC-G were available during the above period above normative availability. The graphical comparison of normative availability and actual availability for the month of May 2020 is as given below:




5.7 Even though the PLF for the Unit-5 was lower and Unit-8 was under Zero Schedule for the aforesaid month, the entire monthly fixed cost was payable in line with MYT Regulations, 2019 as the cumulative plant availability was higher than the normative availability of 85%. This has resulted into fixed cost being spread over lower net generation. However, the impact of increase in fixed cost for Unit-5 is offset by lowering variable cost due to reduced purchases. Further, in view of better PLF for Unit-7, the fixed cost per unit has decreased. The comparison of Actual and Approved Fixed and Variable Cost of Units 5 and 7 as shown in the graph below shows the impact of fixed cost due to actual generation.




*Note: Unit 8 is not considered in aforesaid graph as it was under Zero Schedule for entire month. Fixed Cost payable was Rs.7.83 Crore*

5.8 Further, the Commission has verified that the payment of Fixed Charges for all the Thermal/Gas Units as well as Hydro Units have been worked out based on the cumulative availability as per the provisions of MYT Regulations, 2019.

5.9 The Commission in its Order dated 30 March, 2020 in Case No 300 of 2019 in respect of Fuel Utilisation Plan of TPC-G as held as follows:

> *"7.17.7 Regarding the imported coal, it is submitted that Thermal Generating Station at Trombay needs ultra-low sulphur, low ash and Mid GCV coal to adhere with the stringent environment norms. Since, PPAs were not finalised during the year 2019 and there was uncertainty with respect to future tie-ups, the coal tie-ups were done only for a period of one year. The long term contract with Adaro is valid till 2020. Also, annual contract with Kideco and with Avra are valid upto July 31, 2020.*
>
> *7.17.8 Regarding further fuel arrangement, the Commission notes the TPC-G's submission that, existing PPAs are valid till March 31, 2024 and hence, it is exploring the options to tie up Coal on annual basis or on term basis, to get competitive prices for the required quantity in the best interest of consumers.*
>
> *7.17.9 As regards Gas Contract, the Commission notes that existing APM gas Contract with GAIL is valid upto December 31, 2020. TPC-G submitted that it will be approaching GAIL for renewal of the contracts for further period as per usual practice."*

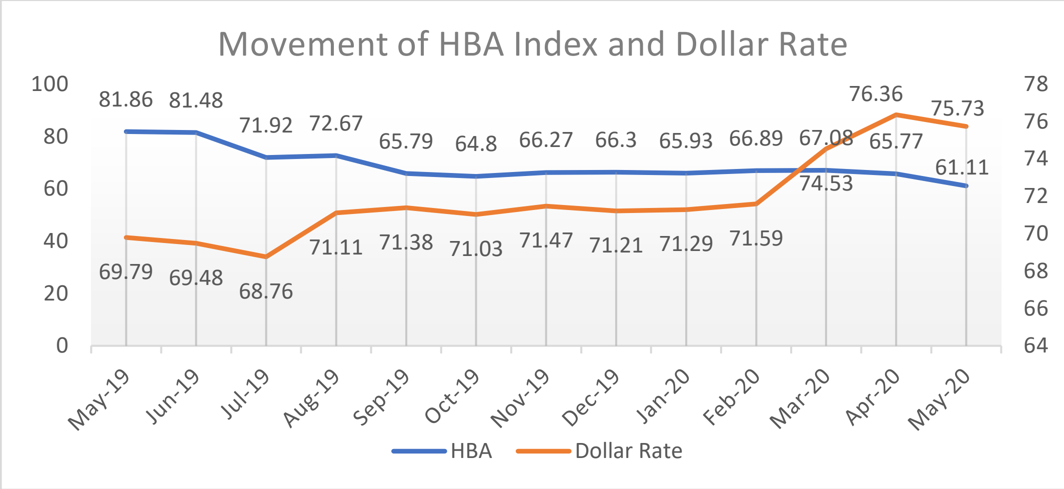
5.10 The Commission notes that from the fuel invoices submitted by TPC-D, coal has been utilised from the contracts approved in the TPC-G's Tariff Order. Further, it has also submitted that they have initiated the competitive bidding process for coal purchase and will conclude the same before expiry of existing contracts.

5.11 The Commission has also verified that the usage of coal is as per Fuel Utilisation Plan approved in the Tariff Order resulting in the economic despatch of generation thereby benefitting the consumers.

5.12 The APPC for BEST for procurement of Power from TPC-G, which generates power on Imported Coal, Domestic Natural Gas (under APM mechanism), Oil (LSHS), imported RLNG and hydro has been worked out at Rs. 3.93/ kWh as against the approved rate of Rs. 4.51/kWh.

5.13 The variation in APPC is mainly on account of fixed charge payment as explained in paragraph above and also due to lower price of fuel for May 2020. The landed cost of coal for energy charge computation as claimed by TPC-G is Rs. 6383.20/MT as compared to approved rate of Rs. 6705.91/MT. It can be seen that the actual landed price is lower as compared to approved rate in the Tariff Order and the same is due to decrease in the imported coal price primarily attributed to demand supply position of the global coal market. It is also observed that there is reduction in price of APM Gas to Rs. 13,284.62/SCM as compared to approved rate of Rs.17,139.56/SCM.

5.14 TPC-G mainly procures imported coal from Indonesian market. As per the Contract, the coal reference price is HBA index i.e., Harga Batubara Acuan for Indonesian coal which is set by Ministry of Energy and Mineral Resources (Indonesia). The Commission has sought for prevailing HBA index during the aforesaid period along with the detailed computation of FOB price at which the coal has been procured by TPC-G. The graph below shows the trend of HBA index which is considered by TPC-G for energy charge calculations. It can be observed that the HBA index has witnessed a downward trend from May 2019 to May 2020 and in the range of around 61.11 to 81.86 which has resulted in lower imported coal price procured in April/May 2020. However, the Dollar Exchange rate has witnessed a sharp surge from February 2020.




* - HBA indices at 6,322 kcal/kg GAR coal with 8% total moisture, 15% ash as received and 0.8% sulphur
$ - Dollar Rate source - www.x-rates.com (Average rate for the month for representation purpose and may not be a reference rate at which Coal is procured)

5.15 The Commission has also sought for coal purchase bills considered for May 2020. The Commission has scrutinised the bills submitted and computed the purchase price of coal for the month of May 2020 as shown in Table below:

| Date | Invoice QTY | GCV | HBA | Correction as per FSA | Invoice Rate | Coal Cost | Freight Rate | BF Correction | Freight Payable | Total Coal Cost | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MT | kcal/kg | $/MT | $/MT | $/MT | $ | $/MT | $/MT | $ | $ | $/MT |
| a | b | C | D | e | f | g | h | i | j | K | l |
| 01-04-2020 | 63599 | 4913 | 65.77 | 16.53 | 49.24 | 3131615 | 10.57 | 3.07 | 476993 | 3608607 | 56.74 |
| 25-04-2020 | 58549 | 4809 | 65.77 | 19.09 | 46.68 | 2733067 | 10.57 | 3.40 | 419796 | 3152864 | 53.85 |
| 10-05-2020 | 51600 | 4756 | 61.11 | 17.92 | 43.19 | 2228604 | 12.07 | 3.00 | 468012 | 2696616 | 52.26 |
| **Total** | **173748** | **4831** | **64.39** | **17.81** | **46.58** | **8093286** | **11.01547** | **3.16** | **1364801** | **9458087** | **54.44** |

5.16 The Commission sought reconciliation of coal cost considered in Form F12 along with each coal invoice. TPC-D submitted the detailed coal computation for the coal purchased in May 2020. In regard to reconciliation, TPC-D submitted that coal cost considered in Form F12 with each coal invoice, is arrived on the basis of Goods Receipt Note (GRN) in the SAP system which is dependent on the rate of coal purchase (in Rs./MT or USD/MT) considered at the time of coal order (PO) booking. However, the coal cost mentioned in the coal invoice is as per the base price of coal purchase (in Rs./MT or USD/MT) arrived on the basis of actual gross calorific value, Moisture content, Ash content, Sulphur content, HBA indices etc. It further submitted that once the invoice is booked in the SAP system after GRN of full coal quantity of a shipment, the cost as per coal invoice gets booked against each shipment in the SAP system in order to make payment to the supplier. To facilitate this, the difference between coal cost in Goods Receipt Note (GRN) and coal cost in the invoice is booked as adjustment entry in the SAP. Hence, the coal inventory gets valued ultimately at the invoice values and at the coal purchase rate (in Rs./MT or USD/MT) prevailing on the date of billing.

5.17 On scrutiny of invoices related to Fuel Handling Charge, it was observed that TPC has booked Rs 1.90 Crore towards dredging expense without invoice being raised for the same. In response to data gaps raised by the Commission, TPC in its reply dated 1 July, 2020 submitted that Trombay coal jetty dredging is carried out monthly in approach channel & once in four months in Turning Circle area. Invoice of dredging in approach channel is booked on monthly basis and has been already submitted. However, the cost of Dredging in Turning circle area is phased out equally over all the months by making the monthly provisions in order to avoid the sudden impact on energy charges in that particular month. Once, the actual invoice is available the provisional entries are set off against actual invoice. Hence, the amount of Rs 190 lakhs has been booked under fuel handling expenses for May, 2020 and will be set off against actual invoice in July, 2020. The activity of Dredging in Turning Circle area has been completed in June, 2020 and the invoice for the same is expected. TPC, in its reply dated 4 July, 2020 further submitted that dredging work is completed in the month of June 2020 and also submitted the invoice dated 30 June, 2020 of Rs. 5.92 Crore. It further submitted that it has also provisionally booked Rs. 1.90 Crore towards the dredging expense for the month of April 2020. The Commission is of the view that such provisional expense booked by TPC cannot be recovered from consumers in advance due to absence of any invoice being raised by the vendor and consequently without any cash outflow by TPC. The reasoning given by TPC that booking the entire amount will have tariff shock to consumers through FAC is not tenable due to the fact that said amount of approximately Rs. 3.8 Crore will have insignificant impact considering the total cost of power purchase. TPC is directed to claim such amount as and when invoice is raised and payment is made by TPC. Accordingly, the Commission has not considered the cost provisionally considered by TPC in the month of April 2020 and May 2020 towards dredging charges for the coal purchased during the month of May 2020. In view of the same, details of coal cost and inventory considered by TPC and approved by the Commission are as given below:

| Fuel | Opening inventory actual | | | Purchase during the month | | | Consumption during the month | | | Closing inventory actual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Quantity | Cost | Price | Quantity | Cost | Price | Quantity | Cost | Price | Quantity | Cost | Price |
| | MT | Rs. | Rs./MT | MT | Rs. | Rs./MT | MT | Rs. | Rs./MT | MT | Rs. | Rs./MT |
| As Submitted – Coal | 2,16,853 | 1,27,77,85,175 | 5,892.41 | 1,07,993 | 66,71,78,642 | 6,177.99 | 87,562 | 52,42,64,634 | 5,987.35 | 2,37,283 | 1,42,06,99,183 | 5,987.35 |

| Fuel | Opening inventory actual | | | Purchase during the month | | | Consumption during the month | | | Closing inventory actual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Quantity | Cost | Price | Quantity | Cost | Price | Quantity | Cost | Price | Quantity | Cost | Price |
| | MT | Rs. | Rs./MT | MT | Rs. | Rs./MT | MT | Rs. | Rs./MT | MT | Rs. | Rs./MT |
| As Approved-Coal | 2,16,853 | 1,27,77,85,175 | 5,892.41 | 1,07,993 | 62,91,78,642 | 5,826.12 | 87,562 | 51,40,21,737 | 5,870.37 | 2,37,283 | 1,39,29,42,080 | 5,870.37 |

5.18 Further, as the coal purchase during a month is generally not utilised in the same month, hence, there is a variation in above computed coal price vis-à-vis coal price as considered by TPC-G for energy charge calculations. The cost of coal for energy charge computation pertains to coal consumed during the respective months which is arrived based on the actual cost of coal inventory as well as the purchased coal cost received in the coal yard.

5.19 Apart from above, the Commission has also sought for third party sampling report for GCV verifications. TPC-G has submitted the third party sampling certificate for the respective period. The Commission has verified the document submitted and found to be in order.

5.20 From the Table above in Para 5.16, the basic purchase cost of imported coal including freight during the month of May 2020 as per sample bills submitted worked out at USD 54.44/MT. TPC-D has booked Rs. 4,072.24/MT (i.e. Rs. 3449.77/MT for Coal and Rs. 622.46 / MT for freight) resulting in conversion rate of Rs. 74.81 per dollar. Also, other coal handling charges such as insurance, handling and wharfage charges, taxes and duties, clean energy cess and other miscellaneous charges considered by TPC are in line with the average prices approved in the previous quarters and accordingly, the total landed cost of coal arrived is Rs. 6177.99/MT. As mentioned above, the Commission has disallowed Dredging Expenses provisionally booked by TPC. Considering the impact of the said disallowance, the total landed cost of coal arrived is Rs. 5826.12/MT. Accordingly, the break-up of the cost as submitted by TPC and as approved by Commission against the procurement of coal for the month of May 2020 is as given below:

| Sr. No | Particular | Source / Formula | units | As Submitted – Coal Cost | As Approved – Coal Cost |
|---|---|---|---|---|---|
| 1 | Coal cost including Freight | As computed above | USD $/MT | 54.44 | 54.44 |
| 2 | Dollar exchange rate | As an average | USD/Rs. | 74.81 | 74.81 |
| 3 | Basic Coal cost + Freight in Rs. | 1 X 2 | Rs./MT | 4,072.24 | 4,072.24 |
| 4 | Excise + Custom Duty + CE Cess+ Insurance | As submitted | Rs./MT | 642.00 | 642.00 |
| 5 | Handling and Wharfage | As submitted | Rs./MT | 586.98 | 586.98 |

| | | | | | |
|---|---|---|---|---|---|
| 6 | Other Fuel Handling Charges | As submitted | Rs./MT | 861.81 | 509.93 |
| 7 | Other Adjustment | As submitted | Rs./MT | 14.97 | 14.97 |
| **8** | **Total as per Form 12** | **Sum(3:7)** | **Rs./MT** | **6,177.99** | **5,826.12** |

5.21 TPC, in Form 11 has considered the landed coal price as Rs. 6383.20/MT as against Rs. 5987.35/MT in Form 12. TPC-D submitted that the difference in the cost is due to Foreign exchange variation due to difference in dollar rate at the time of booking of Purchase Order and the actual payment made to vendor and the employee cost.

5.22 The Commission while approving the coal cost for April 2020 had disallowed the said employee cost being O&M in nature in absence of any justification given by TPC. In the submissions for May 2020, TPC had submitted that these expenses are towards employees hired for fuel handling activities only and is cleared by statutory auditors and in line with the IND-AS provisions, has been consistently part of fuel handling charges and is as per approved ARR by the Commission. TPC further submitted that this cost does not form part of employee cost in the O&M expenditure and always has been part of coal consumption cost and in support of same has submitted the audited statement of Tata Power-G as part of Case No. 300 of 2019 wherein it is clearly mentioned that the employee cost claimed is net off employee cost inventorised. The said employee cost claimed by Tata Power-G has been approved by the Commission.

5.23 As per IND-AS 2 – Inventories, following cost is required to be considered for calculation of cost of inventory:

***"Cost of inventories***

*10 The cost of inventories shall comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.*

***Costs of purchase***

*11 The costs of purchase of inventories comprise the purchase price, import duties and other taxes (other than those subsequently recoverable by the entity from the taxing authorities), and transport, handling and other costs directly attributable to the acquisition of finished goods, materials and services. Trade discounts, rebates and other similar items are deducted in determining the costs of purchase.*

***Costs of conversion***

*12 The costs of conversion of inventories include costs directly related to the units of production, such as direct labour. They also include a systematic allocation of fixed and variable production overheads that are incurred in converting materials into finished goods. Fixed production overheads are those indirect costs of production that* *remain relatively constant regardless of the volume of production, such as depreciation and maintenance of factory buildings and equipment, and the cost of factory management and administration. Variable production overheads are those indirect costs of production that vary directly, or nearly directly, with the volume of production, such as indirect materials and indirect labour.*

***Other costs***

*15 Other costs are included in the cost of inventories only to the extent that they are incurred in bringing the inventories to their present location and condition. For example, it may be appropriate to include non-production overheads or the costs of designing products for specific customers in the cost of inventories."*

5.24 Accordingly, TPC has submitted that as per IND- AS -2 Inventory cost comprises of the cost of purchase, import duties and other taxes and transport, freight, handling and other cost directly attributable in bringing the inventories to the present location and conditions. In view of the said justification given by TPC and the approval of the Commission in Case No 300 of 2019, the referred employee cost being directly attributable to fuel cost and is allowed as fuel cost. TPC had also prayed for the said employee cost disallowed for April 2020 to be considered as part of fuel handling charge and accordingly having held that the said cost is directly attributable to fuel, the employee cost disallowed for the month of April, 2020 is being allowed and considered in the present FAC computation.

5.25 In view of the above, the coal cost considered by TPC and approved by the Commission is as given below:

| Particulars | Units | TPC Submission | As Approved |
|---|---|---|---|
| Form F12 - Coal Consumption Cost | Rs/MT | 5,987.35 | 5,870.37 |
| Foreign Exchange Rate Variation | Rs/MT | 305.92 | 305.92 |
| Employee Cost | Rs/MT | 89.92 | 89.92 |
| Employee Cost allowed for April 2020 | Rs/MT | - | 77.87 |
| Form F11 - Coal Consumption Cost | Rs/MT | 6383.20 | 6344.09 |

5.26 In view of the above, the Commission has considered APPC of Rs 3.92/kWh as against approved rate of Rs. 4.51/kWh for power purchased from TPC-G

5.27 The Commission in the MYT Order dated 30 March, 2020 in Case No 300 of 2019 in respect of TPC-G has allowed TPC-G to recover the past recoveries approved in the said order from the three Distribution Licensees i.e. BEST, TPC-D and AEML-D in 12 equal instalments in FY 2020-21. As per the ruling given in the TPC-G's MYT Order, the Commission in the Tariff Order of BEST has approved the said past recovery of TPC-G in the Power Purchase Cost of BEST. Accordingly, the Commission has considered the said amount paid towards past recovery of TPC-G in FAC computation.

**Manikaran Power Limited (Medium Term PPA)**

5.28 The Commission in its Order in Case No. 249 of 2018 dated 2 January, 2019, allowed BEST to tie up 100 MW Power with M/s. Manikaran Power Ltd. through M/s. Sai Wardha Power Generation Ltd for 5 years from 1 April, 2019 to 31 March, 2024 and accordingly Medium Term PPA was signed on 24 May 2019.

5.29 The Commission has noted that there was delay in signing of agreement along with subsequent events as stated by BEST in its MYT Order which has led to the power supply not commencing on 1 April, 2019. However, the power supply has started from April 2020 which was envisaged at the time of issue of Tariff Order.

5.30 As submitted by BEST, it has purchased 73.60 MUs at average rate of Rs. 3.89/kWh as against approved rate of Rs. 4.37/kWh. The reduction in rate is due to higher availability and PLF of the said plant which has resulted in higher quantum above 85% PLF being available at only Variable Charge and Incentive as per terms of the PPA. The incentive is payable at the rate of 50% of the Fixed Charge for Availability in excess of Normative Availability and shall be payable only to the extent of despatch of the power station above Normative Availability. Accordingly, the Commission has considered the said purchase from Manikaran Power Limited for the month of May 2020. The details of approved v/s actual are as shown in the table below:

| Source | Power Purchase Quantum (MU) | Fixed Cost (Rs. Crore) | Fixed Cost (Rs./kWh) | Variable Cost (Rs. Crore) | Variable Cost (Rs. /kWh) | Total Cost (Rs. Crore) | APPC(Rs. /kWh) |
|---|---|---|---|---|---|---|---|
| Approved | 62.05 | 14.54 | 2.34 | 12.60 | 2.03 | 27.14 | 4.37 |
| Actual | 73.60 | 12.65 | 1.72 | 15.97* | 2.17 | 28.62 | 3.89 |

* - including incentive

**Renewable Sources**

5.31 BEST has entered into Long term PPA for 20 MW with M/s Walwahn Solar MH Ltd (earlier Welspun) to meet its Solar RPO. The Commission in the Tariff Order has approved the purchase of solar power from the said PPA at Rs. 8.56/kWh.

5.32 Further, the Commission has also approved purchase of non-solar and solar REC's at Floor Price of Rs.1.00/kWh for approximately 646 MUs towards shortfall in meeting RPO.

5.33 BEST has purchased 3.18 MUs of Solar Power at Rs 8.56/kWh for May 2020 from M/s. Walwahn Solar MH Ltd. The Commission has verified the said purchase from the invoice submitted by BEST and has accordingly considered the said solar purchase for FAC.

5.34 The Commission notes that BEST has not purchased any solar/non-solar REC in the month of May 2020.

**Short Term Purchase**

5.35 With regards to short term purchase, BEST has purchased 7.55 MUs at average rate of Rs. 2.84/kWh as compared to approved rate of Rs. 4.00/kWh. It was observed that in spite of availability of contracted sources, BEST purchased power from Power Exchange at lower rate to optimise its overall power purchase cost. Accordingly, the Commission has considered the power purchased from Power Exchange by BEST

5.36 To summarise, BEST has optimised its overall power purchase cost by taking following actions:

(a) Zero Schedule to Unit 8 (highest cost in MOD) under Zero Schedule for entire month.

(b) Running Unit 5 at Technical Minimum for entire month ($3^{rd}$ in MOD)

(c) Unit 7 is run at highest PLF among all the thermal/gas generators ($2^{nd}$ in MoD)

(d) Entire power purchased from Manikaran Power Ltd to the extent of its Availability having the least Variable Cost in MOD.

(e) Purchasing cheaper power from Power Exchange at Rs 2.84/kWh which is lower than Variable Cost of Unit 5.

**Imbalance Pool**

5.37 Further, it was observed that BEST has drawn 20.32 MUs from the imbalance pool during the month of May 2020. The said drawl from the pool may be on account of either increase in demand of consumers than estimated by the Licensee or due to lower generation than scheduled by the generator. In both the scenarios, power has been drawn by the Licensee and supplied to its consumers. The said power supplied to the consumers is already billed as per Tariff approved by the Commission. The Energy Charge approved also includes the element of power purchase. It is therefore pertinent that such cost of such power drawn from the pool is considered while computing FAC.

5.38 Due to historical issues of delay in computing imbalance pool quantum and cost of power, for which appropriate orders are already passed by the Commission, the imbalance pool quantum and cost is required to be considered on provisional basis to avoid any adverse impact in future. If the said cost and quantum is not considered, it will not only result in recovering the cost from the consumers as billing has already been done, but also increase the overall power purchase cost for the particular month having positive impact on FAC and burdening the consumers. Also, as and when the final bills are issued by MSDLC, the power purchase cost of the imbalance pool quantum will be levied in future months, thereby burdening the consumers in future in that month when such cost will be levied. Accordingly, to balance the overall interest of consumers and licensee, the Commission has considered imbalance pool quantum as submitted by the BEST at provisional rate of Rs. 2.86/kWh as considered in the MYT Order. This provisional consideration of cost for FAC computation will get adjusted during truing-up of the respective year

**Approved Cost of Power Purchase**

5.39 In view of the above, the overall cost approved in the Tariff Order and actual for the month of May, 2020 considered by the Commission is as shown below:

| Particulars | Source | Power Purchase Quantum (MU) | Fixed Cost (Rs. Crore) | Fixed Cost (Rs./kWh) | Variable Cost (Rs. Crore) | Variable Cost (Rs. /kWh) | Total Cost (Rs. Crore) | APPC (Rs. /kWh) |
|---|---|---|---|---|---|---|---|---|
| TPC-G | Approved | 299.04 | 36.66 | 1.23 | 98.19 | 3.28 | 134.85 | 4.51 |
| | Actual | 254.45 | 36.66 | 1.45 | 63.11 | 2.48 | 99.77 | 3.92 |
| TPC-G - Past Recovery | Approved | - | 6.98 | - | - | - | 6.98 | - |
| | Actual | - | 6.98 | - | - | - | 6.98 | - |
| Manikaran Power | Approved | 62.05 | 14.54 | 2.34 | 12.60 | 2.03 | 27.14 | 4.37 |
| | Actual | 70.39 | 12.65 | 1.72 | 15.97 | 2.17 | 28.62 | 3.89 |
| Renewable Power | Approved | 2.63 | - | - | 2.25 | 8.56 | 2.25 | 8.56 |
| | Actual | 3.18 | - | - | 2.72 | 8.56 | 2.72 | 8.56 |
| REC | Approved | - | - | - | 5.39 | 1.00 | 5.39 | 1.00 |
| | Actual | - | - | - | - | - | - | - |
| Short Term | Approved | 53.40 | - | - | 21.36 | 4.00 | 21.36 | 4.00 |
| | Actual | 7.55 | - | - | 2.15 | 2.84 | 2.15 | 2.84 |
| Imbalance Pool | Approved | - | - | - | - | - | - | - |
| | Actual | 20.32 | - | - | 5.81 | 2.86 | 5.81 | 2.86 |
| **Total** | **Approved** | **417.11** | **58.18** | **1.39** | **139.78** | **3.35** | **197.96** | **4.75** |
| | **Actual** | **359.08** | **57.33** | **1.60** | **88.73** | **2.47** | **146.05** | **4.07** |

5.40 Considering the above, the Commission allows the average power purchase cost of Rs.4.07/kWh for the month of May, 2020 as shown in Table above. The variation in power purchase cost is mainly on account of lower cost of power purchase from TPC-G Manikaran Power and power purchased in short term from Power Exchange, as already explained in para above.

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

6.1 The Commission has worked out the average power purchase cost for the month of May, 2020 as shown in above table. The same has been compared with the average power purchase cost approved by the Commission in Tariff Order dated 30 March, 2020 and accordingly arrived at differential per unit rate at which $Z_{FAC}$ is to be passed on to the consumers.

6.2 The following table shows the $Z_{FAC}$ worked out by the Commission on account of difference in fuel and power purchase cost for the month of May, 2020.

| S. No. | Particulars | Units | May 2020 |
|---|---|---|---|
| 1 | Average power purchase cost approved by the Commission | Rs./kWh | 4.75 |
| 2 | Actual average power purchase cost | Rs./kWh | 4.07 |
| 3 | Change in average power purchase cost (=2 -1) | Rs./kWh | (0.68) |
| 4 | Net Power Purchase | MU | 359.08 |
| **5** | **Change in fuel and power purchase cost (=3 x 4/10)** | **Rs. Crore** | **(24.37)** |

## 7. Adjustment for over recovery/under recovery (B)

7.1 The adjustment for over recovery/under recovery has to be done for the (n-2) month as per provisions of MYT Regulations, 2019. As the prior approval of FAC has started from April 2020, there would not be any adjustment factor for months prior to April 2020 while computing the allowable FAC.

## 8. Carrying Cost for over recovery/under recovery (B)

8.1 As explained in the above paragraph in absence of any adjustment factor for previous month, there is no carrying cost which is to be allowed in FAC for the month of May, 2020.

## 9. Disallowance due to excess Distribution Loss

9.1 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 $Z_{FAC}$ 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 $Z_{FAC}$ 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 annual sliding distribution losses of the Distribution Licensee exceed the level approved by the Commission, the amount of $Z_{FAC}$ corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total $Z_{FAC}$ recoverable"*

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

| S. N | Particulars | Units | Approved in Tariff Order | Actual upto May 2020 |
|---|---|---|---|---|
| 1 | Net Energy Input at Distribution Voltage | MU | 4846.23 | 660.95 |
| 2 | BEST Retail Sales | MU | 4643.66 | 603.69 |
| 3 | Distribution Loss (1 - 2) | MU | 202.57 | 57.26 |
| 4 | Distribution Loss as % of net energy input (3/1) | % | 4.18% | 8.66% |
| 5 | Excess Distribution Loss = [Actual Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1) | MU | - | - |
| **6** | **Disallowance of FAC due to excess Distribution Loss** | **Rs. Crore** | **-** | - |

9.3 As seen from the above table, Distribution Loss for the month of May, 2020 is 8.66% which is higher than the approved Distribution Loss of 4.18% which could be due to the estimated sales due to Covid-19 pandemic. The Commission has not worked out any disallowance on account of excess Distribution Loss since the standalone FAC for the month of May, 2020 is negative.

## 10. Summary of Allowable $Z_{FAC}$

10.1 The summary of the FAC amount as approved by the Commission for the month of May, 2020 is as shown in the Table below.

| S. No. | Particulars | Units | May 2020 - As per BEST | May 2020 – As Approved |
|---|---|---|---|---|
| **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 | (24.20) | (24.37) |
| 1.2 | Carrying cost for over-recovery/under-recovery (C) | Rs. Crore | 0.00 | 0.00 |
| 1.3 | Adjustment factor for over-recovery/uner-recovery (B) | Rs. Crore | 0.00 | 0.00 |
| **1.4** | **ZFAC = F+C+B** | Rs. Crore | (24.20) | (24.37) |
| **2.0** | **Calculation of Per Unit FAC** | | | |
| 2.1 | Energy Sales within the License Area | MU | 300.11 | 300.11 |
| 2.2 | Excess Distribution Loss | MU | 0.00 | 0.00 |
| 2.3 | ZFAC per kWh | Rs./kWh | (0.81) | (0.81) |
| **3.0** | **Allowable FAC** | | | |
| 3.1 | FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.3)/10] | Rs. Crore | 0.00 | 0.00 |
| 3.2 | FAC allowable [1.4-3.1] | Rs. Crore | (24.20) | (24.37) |
| **4.0** | **Utilization of FAC Fund** | | | |
| 4.1 | Opening Balance of FAC Fund | Rs. Crore | (17.43) | (17.43) |
| 4.2 | Holding Cost on FAC Fund | Rs. Crore | 0.13 | 0.13 |
| 4.3 | ZFAC for the month (Sr. N. 3.2) | Rs. Crore | (24.20) | (24.37) |
| 4.4 | Closing Balance of FAC Fund | Rs. Crore | (41.76) | (41.93) |
| 4.5 | ZFAC leviable/refundable to consumer | Rs. Crore | 0.00 | 0.00 |
| **5.0** | **Total FAC based on category wise and slab wise allowed to be recovered in the billing month of Jun-20** | **Rs. Crore** | 0.00 | 0.00 |
| **6.0** | **Carried forward FAC for recovery during future period (4.5-5.0)** | **Rs. Crore** | 0.00 | 0.00 |

10.2 It can be seen from the above table that standalone FAC for the month of May, 2020 is Rs. (24.37) Crore. As the FAC is negative, the said amount will be accumulated in FAC Fund for stabilisation of FAC rate over the period.

## 11. Recovery from Consumers:

11.1 Regulation 10.9 of MYT Regulations, 2019 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: —*

*$Z_{FAC\ Cat}$ (Rs/kWh) = [$Z_{FAC}$ / (Metered sales + Unmetered consumption estimates + Excess distribution losses)] * k * 10,*
*Where:*

*$Z_{FAC\ Cat}$ = $Z_{FAC}$ 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 $Z_{FAC}$ 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 $Z_{FAC}$ on account of such ceiling shall be carried forward and shall be recovered by the Distribution Licensee over such future period as may be directed by the Commission…."*

11.2 The Commission allows the FAC amount of Rs. (24.37) Crore for the month of May, 2020 to be accumulated as FAC Fund and shall be carried forward to the next billing cycle with holding cost.

11.3 The Commission in its approval for the month of April, 2020 has directed BEST to carry forward the approved FAC amount of Rs. (17.43) Crore to be accumulated as FAC Fund to be carried forward to the next billing cycle with holding cost. The opening balance of FAC fund along with holding cost is Rs. (17.56) Crore.

11.4 Accordingly, considering the approved standalone FAC amount of Rs. (24.37) Crore for the month of May, 2020 and opening balance FAC Fund of Rs. (17.56) Crore, the total amount of Rs. (41.93) Crore is being allowed to be accumulated in the FAC Fund and shall be carried forward to the next billing cycle with holding cost.

11.5 The Commission in the Tariff Order had held that negative FAC amount shall be carried forward to the next FAC billing cycle with holding cost till the accumulated negative FAC reaches the limit of Rs. 59 Crore.

11.6 In view of the above, the per unit $Z_{FAC}$ for the month of May, 2020 to be levied on consumers of BEST in the billing month of July 2020 is **Nil**.