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**Ref. No. MERC/FAC/2020-21/E-Letter**

**Date: 20 July, 2020**

**The Chief Executive Officer,**  
Adani Electricity Mumbai Limited,  
Devidas Lane, Off SVP Road,  
Near Devidas Telephone Exchange  
Borivali (W), Mumbai – 400 092

**Subject:** Prior approval of Fuel Adjustment Charges (FAC) submissions of AEML-D for the month of May, 2020.

**Reference:**

1. AEML-D's FAC submission for the month of May, 2020 vide email dated 19 June, 2020.
2. The data gaps were communicated vide email dated 22 June and 4 July, 2020.
3. AEML-D's complete response to data gaps by 8 July, 2020

Sir,

Upon vetting the FAC calculations for the months of May, 2020 as mentioned in the above reference, the Commission has accorded approval for charging FAC to its consumers as shown in the table below:

Month	FAC Amount (Rs. Crore)
May, 2020	<b>0</b>

The Commission allows the accumulation of FAC amount of Rs. 44.78 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 in Case No. 325 of 2019 dated 30 March, 2020. Further, as directed in the said Order, AEML-D 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.

AEML-D is 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 period of May, 2020.

**ANNEXURE**  
**Detailed Vetting Report**  
**Date: 20 July, 2020**

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

**Subject:** Prior approval of Fuel Adjustment Charges (FAC) submissions of AEML-D for the month May, 2020.

**Reference:** AEML-D's FAC submission dated 19 June and 8 July, 2020 for the month of May, 2020

**1. FAC submission by AEML-D:**

1.1 AEML-D has made FAC submissions for the months of May, 2020 as referred above. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by AEML-D, the Commission has accorded prior approval for the FAC amount to be charged in the billing month of July, 2020.

**2. Background**

2.1 On 30 March, 2020 the Commission has issued Tariff Order in respect of AEML-D (Case No. 325 of 2019) for approval of Aggregate Revenue Requirement and Multi Year Tariff for FY 2020-21 to FY 2024-25. Revised Tariff has been made applicable from 1 April, 2020.

2.2 Vide its letter dated 20 April, 2020, the Commission communicated the excel formats for filing of FAC submissions to all Distribution Licensees including SEZs. The Commission also directed all Distribution Licensees to submit FAC computations, including details pertaining to variation in fuel cost of generators for the approval of the Commission.

2.3 As per Prior Approval of FAC Guidelines dated 20 April, 2020, the Commission directed Distribution Licensee to seek prior approval for monthly FAC computations. Accordingly, AEML-D has filed FAC submissions for the month of May, 2020 for prior approval of the Commission. The Commission has scrutinized the submissions provided by AEML-D and has also verified the 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 AEML-D in the FAC submission and as approved by the Commission are as shown in the Table 1 below:

**Table 1: Energy Sales approved and Actual in MUs**

Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual Sales (May, 2020) (MU)
	(I)	(II=I/12)	(III)
<b>LT Category</b>			
BPL	0.01	0.00	0.00
LT -I Residential	4,506.33	375.53	295.45
LT II Commercial	2,629.50	219.13	95.77
LT III(A) - LT Industrial upto 20 kW TOD Option	182.89	15.24	15.97
LT III(B) - LT Industrial above 20 kW	388.81	32.40	2.32
LT-V : LT- Advertisements and Hoardings	3.04	0.25	-
LT VI: LT -Street Lights	52.30	4.36	-
LT-VII : LT -Temporary Supply	12.25	1.02	-
LT VIII: LT - Crematorium & Burial Grounds	1.41	0.12	-
LT X: LT -Public Service (A)	30.85	2.57	1.40
LT X: LT -Public Service (B)	171.62	14.30	9.70
LT X (A) : LT - Agriculture Pumpsets	0.09	0.01	0.00
LT X (B) : LT - Agriculture Others	0.30	0.03	0.01
LTIV - Public Water Works	12.77	1.06	-
LT IX : LT – EVCS	-	-	(0.00)
<b>HT Category</b>			
HT 1 (Industrial)	339.76	28.31	27.76
HT 2 (Commercial.)	304.26	25.36	22.05
HT 3 (Group Housing Soc.)	34.70	2.89	3.46
HT 4 (Temporary Supply)	19.30	1.61	-
HT – Railways	30.84	2.57	0.56
HT - Public Services (A)	6.45	0.54	0.38
HT - Public Services (B)	98.67	8.22	6.39
HT - Public Water Works	8.13	0.68	-
<b>Total</b>	<b>8,834.29</b>	<b>736.19</b>	<b>481.22</b>

3.2 It can be observed from above Table 1 that actual sales during the month May, 2020 is 481.22 MU which is 35% lower than approved energy sales of 736.19 MU per month for the FY 2020-21. AEML-D submitted that for billing its consumers, AEML-D follows a cycle month billing for LT-Residential, LT-Commercial (a) & (b), LT-Industrial (upto 20



kW) from mid of a month to the mid of the next month i.e. for e.g. May 15, 2020 to June 15, 2020. Accordingly, actual sales would have been available by around 20th June 2020. This process would have delayed the FAC filing submission. AEML-D has worked out energy sales as per the bills given to consumers from 1st May 2020 to 31st May 2020, from its SAP system, considering bill posting dates. Same approach was also taken for April 2020, the prior approval application for which has been submitted vide letter dated 18.05.2020.

- 3.3 AEML-D has also submitted that there are negative sales for certain categories provided in the FAC Return Financial Model. This is on account of the fact that, due to the current COVID-19 situation, where meter reading was not feasible/ possible, bills have been raised on assessment basis. Subsequently, where the actual meter reading is made available to AEML considering the meter being read/ consumer provided the metered data to AEML, the bills are modified to reflect the actual reading. Thus, in certain cases, where bills were assessed on a higher side vis-à-vis the actual metered consumption, credit is provided to the consumer, which reflects as negative sales.
- 3.4 Moreover, AEML-D has also submitted that the variation is also due to the unprecedented lockdown announced in the month of May due to Covid-19 emergency.

#### **4. Power Purchase Details**

4.1 The following are the list of sources from which AEML-D procures power to meet its demand:

- a) Purchase from Adani Dahanu Thermal Power Station (ADTPS)
- b) Renewable energy procurement (RPS) including Solar and Non-solar
- c) Bilateral Contracts and Imbalance pool

4.2 The Commission in its MYT Order dated 30 March, 2020 in Case No. 325 of 2019 had approved the Power Purchase for FY 2020-21 from three major sources i.e, Adani Dahanu Thermal Power Station, Renewable sources and Short-term sources.

4.3 Summary of power purchase of AEML-D is as under:

<b>Sr. No.</b>	<b>Particular</b>	<b>Compliance</b>
1	Purchase from Approved Sources	<b>Yes.</b> AEML-D has procured power from ADTPS, Solar and Non-solar Sources and Bilateral in the month of May 2020, which are approved sources of power purchase.
2	Merit Order Dispatch	<b>Yes.</b> AEML-D had scheduled power as per MoD
3	Fuel Utilization Plan	Yes. Since there is only one thermal generating station of AEML-G and there is shortage of indigenous coal and hence no scope for



		improvement in optimal fuel utilization corresponds to optimization of fuel mix.			
4	Pool Imbalance	AEML-D has purchased 36.15 MU from the imbalance pool to meet its power purchase requirement.			
5	Sale of Surplus Power	There was no sale of surplus of power during May, 2020.			
6	Power Purchase	Actual Power Purchase is 733.24 MU as against approved 822.47 MU due to lower sales			
7	Source wise Power Purchase	<b>Source Name</b>	<b>Approved (MU)</b>	<b>Actual (MU)</b>	<b>Proportion of each Source in Actual Purchase</b>
		ADTPS	311.08	284.76	38.84%
		Solar and Non-Solar	23.36	21.14	2.88%
		Exchange	488.03	391.20	53.35%
		Imbalance Pool	-	36.15	4.93%
		<b>Total</b>	<b>822.47</b>	<b>733.24</b>	<b>100.00%</b>

4.4 AEML-D has purchased power of 733.24 MUs as against approved 822.47 MUs from the sources approved by the Commission. The reduction in Power purchase is due to reduction in Sales of AEML-D in the month of May, 2020.

4.5 **Power Procurement from ADTPS:** AEML-D has a medium term PPA with ADTPS (own generation). The Commission in Case No. 325 of 2019 has approved an energy quantum of 311.08 MU. AEML-D has purchased 284.76 MU for the month of May, 2020.

4.6 **Power Procurement from Solar and Non-Solar:** AEML-D has an Energy Purchase Agreement (EPA) with Dhursar Solar Power Private Limited (DSPPL). AEML-D also has an EPA with five non-solar sources namely Reliance Innoventures, AAA Sons Enterprise, Vector Green Energy Private Limited, Tembhu Power Private Limited and Reliance Clean Power Private Limited. The Actual energy quantum purchased and Approved by the Commission in Case No. 325 of 2019 is as shown in the Table 2 below:

**Table 2: Approved and Actual Energy Quantum from Solar and Non-Solar Sources**

Source	Contracted Capacity (MW)	Approved (MU)	Actual (MU)
<b>Solar</b>			
DSPPL	40	5.52	5.45
<b>Non-Solar</b>			



Reliance Innoventures	45	6.57	6.36
AAA Sons Enterprise	3.38	0.52	0.18
Vector Green Energy Private Limited	18	2.63	1.76
Vector Green Energy Private Limited	6	0.88	0.28
Tembhu Power Private Limited	4.5	0.99	1.33
Clean Power Private Limited	45	6.26	5.79
<b>Total</b>		<b>23.36</b>	<b>21.14</b>

- 4.7 AEML-D has procured 0.34 MU more than the approved from Tembhu Power Private Limited but as the approval by the Commission is on yearly energy quantum, this minor variation is being accepted provided cumulative power procured is within the approved energy quantum. The Commission has noted reduction in power purchase is mainly from non-solar sources.
- 4.8 **Power Procurement from Exchange:** AEML-D has purchased power from IEX based on day ahead planning on daily basis. AEML-D has purchased 391.20 MU from all these sources which is within the approved quantum of 488.03 MU. The purchase of power is through Power Exchange.
- 4.9 **Power Procurement from Imbalance Pool:** AEML-D has purchased 36.15 MU from the imbalance pool for the month of May, 2020.
- 4.10 The Commission has noted that AEML-D has followed Merit Order Dispatch for scheduling of power. As solar and non-solar sources have must run status they have been scheduled first and all the other sources are scheduled according to SLDC instructions.

## 5. Power Purchase Cost

- 5.1 The Commission has scrutinised the detailed bills/invoices submitted for power purchase during the month of May, 2020, in order to verify the claim of AEML-D regarding Average Power Purchase Cost (APPC). The Commission has verified the actual as well as approved Net Purchase (MUs), Variable Cost (Rs. /kWh) and Power Purchase Cost considered in FAC computation from the invoices and applicable MYT Order respectively.
- 5.2 The Power Purchase cost incurred in May, 2020 is Rs. 276.25 Crore which is lower than the approved Power Purchase cost of Rs. 337.64 Crore by the Commission for the month of May, 2020. The approved and actual Quantum of power purchase (MU), Power Purchase Cost (Rs. Crore) and Average Power Purchase Cost (Rs./kWh) for the month of May, 2020 is shown in Table 3 below:

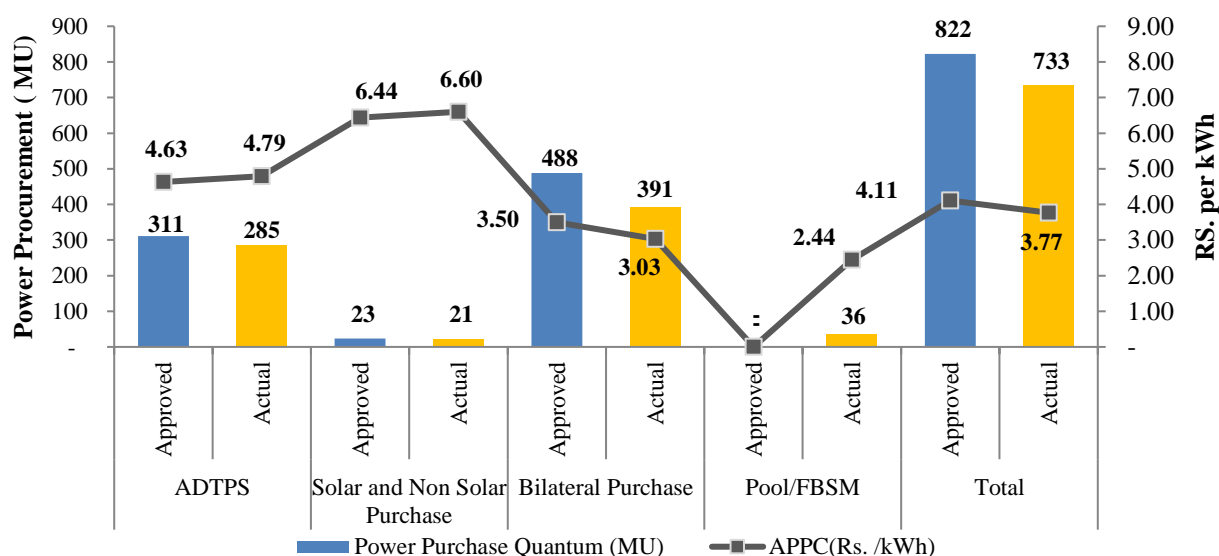
**Table 3: Approved and Actual APPC and Power Purchase Quantum & Cost**



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)
ADTPS	Approved	311.08	26.15	0.84	117.90	3.79	144.05	4.63
	Actual	284.76	26.08	0.92	110.29	3.87	136.37	4.79
Solar and Non Solar Purchase	Approved	23.36	-	-	15.04	6.07	15.04	6.07
	Actual	21.14	-	-	13.95	6.60	13.95	6.60
Bilateral Purchase	Approved	488.03	-	-	170.81	3.50	170.81	3.50
	Actual	391.20	-	-	118.51	3.03	118.51	3.03
Pool/FBSM	Approved	-	-	-	-	-	-	-
	Actual	36.15	-	-	10.34	2.86	10.34	2.86
Other Charges	Approved	-	-	-	7.74	-	-	-
	Actual	-	-	-	(2.92)	-	(2.92)	-
Total	Approved	822.47	26.15	0.32	311.49	3.79	337.64	4.11
	Actual	733.24	26.08	0.36	250.17	3.41	276.25	3.77

5.3 The Figure 1 shown below shows the variation in Approved & Actual Power Purchased Quantum and Approved & Actual APPC for all the sources of AEML-D.

Figure 1: Approved & Actual Power Purchase and APPC



## ADTPS

- 5.4 The Commission in Case No. 325 of 2019 has approved an energy quantum from ADTPS at the rate of Rs. 4.63/kWh. AEML-D has purchased at the rate of Rs. 4.79/kWh for the month of May, 2020.
- 5.5 **Fixed Cost:** The Fixed cost approved for FY 2020-21 in Case No. 325 of 2019 (AEML-D) is Rs. 313.81 Crore whereas the Fixed cost approved for FY 2020-21 in Case No. 298 of 2019 (AEML-G) is Rs. 312.99 Crore. The actual payment of Fixed Cost for the month of May, 2020 is to be done according to the entitlement under Case No. 298 of 2019 i.e 312.99 Crore, as the payment is to be done according to Generators Order. Due to decrease in sales and the reason as mentioned in the paragraph above, actual PLF of ADTPS in May is 84.77% as compared to approved PLF of 94.38%. Due to lower generation, per unit impact on Fixed Cost has increased by Rs. 0.08 /kWh and it has increased from approved FC rate of Rs. 0.84 /kWh to actual FC rate of Rs. 0.92/kWh. (8 ps/kWh)
- 5.6 **Energy Charges:** AEML-G has met the Operational parameters such as PLF, Availability, Auxiliary Energy Consumption (without FGD), Additional Auxiliary Energy Consumption for FGD, Station Heat Rate and Secondary fuel Oil Consumption as approved by the Commission in Case No. 298 of 2019 for the month of May, 2020.
- 5.7 AEML-D as a response to data gap submitted documents to verify the quantity of coal purchased and total cost including breakup of all the cost such as washing charges, Coal handling charges, transportation charges and liasoning charges incurred for Domestic Coal and Imported Coal for the month of May, 2020. Analysis of fuel segregated into two parts i.e. Washed Coal and Imported Coal.
- 5.8 **Washed Coal:** The Commission has sought for detailed computation and methodology for booking the coal consumption cost. In response to this, AEML-D stated that the total coal consumption cost is calculated on the basis of Moving Average Price Method by adding the purchases during the month in the opening inventory stock. The closing inventory is then obtained by deducting the coal consumed form the total of opening inventory and purchases during the respective month. The Commission sought details of coal purchased during the month of May 2020. AEML-D submitted that it has not purchased Coal from SECL in the month of May 2020. The Commission further sought reconciliation of coal cost considered in Form F12 along with other charges and associated costs including freight, insurance, sampling costs, loading and unloading costs, insurance and any other essential costs which were provided by AEML-D. AEML-D has also submitted the breakup and supporting documents for “Other Charges” of Rs. 0.26 Crore. The working of the washed coal fuel cost considered for May, 2020 is as shown in the Table 4 below:







**Table 4: Working of Washed Coal Rate for May, 2020**

Particular	Quantity (MT)	Cost (Rs. Crore)	Price (Rs./MT)
<b>Inventory</b>			
Opening (as on 1 <sup>st</sup> May)	3,31,964.10	184.47	5,556.87
Addition during month	60,587.07	32.30	5,331.52
Total	3,92,102.12	216.77	<b>5,528.42</b>
<b>Consumption</b>			
Actual	90,523.46	50.05	<b>5,528.42</b>
Additional Charges		0.26	
Total	98,351.84	50.30	<b>5,556.87</b>

5.9 With regards to the washed coal, the landed cost considered by ADTPS for the month of May, 2020 is Rs. 5556.87/MT as compared to MYT approved Rs. 5524.04 /MT.

**5.9.1** In absence of CIMFR results for month of May, 2020, AEML-D has considered as billed GCV of 3949 kcal/kg for washed coal and as received GCV of 3974 kcal/kg for May, 2020. AEML-D has submitted third party sampling report from Inspectorate Griffith India Pvt Ltd (IGI) for GCV of the washed coal. The GCV of washed coal matches with the GCV “As received” used for Energy Charge calculation. In MYT Order in Case No. 298 of 2019, the Commission has stated to consider the GCV as received or as billed whichever is higher. The relevant paragraph is produced below:

*“5.4.29 Based on the above analysis and the fact that AEML-G uses washed coal, it is evident that the GCV of coal is being improved due to washing. Thus, the relaxation of transit loss of 300 kcal/kg allowed as per the MYT Regulations, 2019 between GCV ‘as billed’ by supplier and GCV ‘as received’ at generating station” is not applicable in AEML-G’s case. Further, AEML-G itself has submitted that loss in calorific value is much less than 300 kcal/kg.*

*5.4.30 Considering the washery process undertaken by the AEML-G and having a yield loss of 15%, the burden of which is pass on to the consumers, the Commission is not inclined to provide any actual loss in calorific value of coal between ‘as billed’ and ‘as received’. However, in future, the Higher of GCV at Mine end or ADTPS (washed coal) will be considered for computation of energy charges, whereby GCV will be considered on ARB basis post moisture correction based on the formula as provided by MoP and World council.*

*5.4.31 However, while calculating the energy charges for the 4th MYT Control Period AEML-G has submitted GCV ‘as billed’ as 3,990 kcal/kg and GCV ‘as received’ as 3,912 kcal/kg. However, based on the data provided by AEML-G specified in Table 80 and as per the rationale provided in Para 5.4.29 of this Order, the Commission approves the GCV ‘as billed’ of 3,990 kcal/kg for computation of energy charges for the 4th MYT Control Period.*



*5.4.32 However, the Commission shall take a final call on GCV at the time of true-up based on the results of third-party analysis and prudence check by the Commission.”*

- 5.10 The transit loss claimed by AEML-D for the month of May, 2020 is 0.74%. AEML-D had submitted that it has made no purchase of domestic washed coal in the month of May, 2020. The Commission asked AEML-D to submit its reply on the same. AEML-D in its reply has submitted that raw coal was not lifted from SECL during May 2020. Hence, no analysis is done by CIMFR and no dispute pertaining to grade slippage has been raised in May 2020. The coal received at ADTPS in May 2020 is therefore the coal dispatched from the washery from the already existing stock at the washery. Transit loss of washed coal is calculated as the difference between net weight of coal in rakes sent by Indian Railways from washery end and the net weight of coal received at ADTPS railway siding. The net weight of coal sent by Railways is ascertained from Railway Receipts (RR). The net weight of coal at ADTPS railway siding is ascertained by weighment of coal at the time of its unloading through wagon tippler. The difference is reported as the transit loss which is 449.05 MT which is 0.741% of the total coal received during the month of May, 2020.
- 5.11 As submitted by AEML-D, actual stacking loss is 143 kcal/kg for month of May, 2020. As per MYT Regulations, 2019 for calculation of Energy Charge Rate, the Commission has ruled in Clause 50.7 for maximum stacking loss allowed as *“Any variation in Price and Gross Calorific Value of coal/lignite or gas or liquid fuel as billed by supplier less actual stacking loss subject to the maximum stacking loss of 85 kcal/kg or 120 kcal/kg, as the case may be, vis-a-vis approved values shall be adjusted on month to month basis on the basis of average Gross Calorific Value of coal/lignite or gas or liquid fuel in stock received and weighted average landed cost incurred by the Generating Company for procurement of coal/lignite, oil, or gas or liquid fuel, as the case may be for a power Station:”*
- 5.12 AEML-D in line with MYT Regulation, 2019 and MYT Order in case no. 298 of 2019 has considered a stacking loss of only 120 kcal/kg for calculation of Energy charge rate.
- 5.13 The Commission had sought reasons from AEML-D explaining the unusually high deviation in GCV as received and GCV as fired. AEML-D in its reply submitted that washed coal being consumed from previous stock available in the coal yard and partial feeding from rakes is also done. While reporting the “As received” GCV, the coal receipt during the month at ADTPS end is considered, whereas “as fired GCV” is determined based on coal fired during the month which has been fed to the boiler. Hence the comparison of “as received” GCV with “as fired” GCV on monthly basis would always provide varied results. Depending upon the quality of coal received during the month, the difference at times may show large variation when seen on standalone month basis.



However, if the same values are analyzed for the year as a whole, the stacking loss is found to be well within limits. AEML-D further submitted that the cumulative stacking loss for the months of April & May is computed which works out to 84 kCal/kg, which is well within the norm of 120 kCal/kg.

5.14 **Imported Coal:** AEML has submitted bid documents, Contract agreement and actual bills/Invoices of the vessels through which it has imported the coal. AEML-G had invited bids through International Competitive Bidding in two stages. Based on evaluation of the lowest evaluated base CIF price per tonne, M/S Taurus Commodities General Trading LLC was selected as the vendor. AEML-G has not purchased any imported coal during May, 2020.

5.15 For the purpose of computation of cost of coal consumption, AEML-G adopts FIFO method for computation of imported coal cost. AEML-G has provided imported coal inventory and its consumption detail which is as shown in Table 5 below:

**Table 5: Imported Coal Inventory**

S. N.	Date of Purchase	Vessel Name	Cost (Rs./MT)	Opening Quantity (as on 1 <sup>st</sup> May, 2020) (MT)	Purchase during Month of May (MT)	Consumption during Month of May (MT)	Closing Quantity (as on 31 <sup>st</sup> May, 2020) (MT)
1	Feb-20	MV Great Pioneer	6,028.55	56,849.23	-	56,849.23	-
2	Mar-20	MV CD Callao	6,095.49	60,425.44	-	30,504.01	29,921.43
3	Mar-20	MV Fast	5,745.19	55,364.37	-	-	55,364.37
4	Apr-20	MV Genoa	5,317.72	60,174.85	-	-	60,174.85
		<b>Total</b>		<b>2,32,813.89</b>	<b>-</b>	<b>87,353.24</b>	<b>1,45,285.86<sup>1</sup></b>

5.16 Working of weighted average cost and GCV of imported coal is as shown in Table 6 below:

**Table 6: Weighted average cost and GCV of Imported Coal**

S. No.	Vessel Name	Cost (Rs./MT)	Consumption (MT)	Coal Cost (Rs. Crore)	GCV (kcal/kg)
1	MV Great Pioneer	6,028.55	56,849.23	34.27	4,302
2	MV CD Callao	6,095.49	30,504.01	18.59	4,523
	<b>Total</b>	<b>6,034.45</b>	<b>87,353.24</b>	<b>52.87</b>	<b>4,379</b>

5.17 With regards to the imported coal, the landed cost considered by ADTPS for the month of May, 2020 is Rs. 6051.93/MT as compared to MYT approved Rs. 5561.98/MT. The Commission has noted that Coal Index has increased in February, 2020 as compared to January, 2020. FoB price of coal has increased to \$49.29/ MT as compared to \$48.19 / MT

<sup>1</sup> Including transit loss as claimed by AEML-D



for MV Great Pioneer and reduced to \$48.66/ MT as compared to \$ 50.02 /MT for MV CD Callao respectively due to difference in GCV of imported coal. The Commission has also observed that AEML-G has entered into new coal supply agreement with Taurus Commodities General Trading LLC on 13 November, 2019 for five years. As per new agreement, ocean freight price has increased to \$22.42 / MT as compared to \$15 / MT in old agreement. The ocean freight price applicable for MV Great Pioneer is \$22.42/MT and MV CD Callao is \$19.39/MT.

- 5.18 Due to above two reasons, actual imported coal cost has increased to Rs. 6051.93 /MT as compared to MYT approved Rs. 5661.98 / MT
- 5.19 The Imported Coal GCV “as billed” and “as received” considered for FAC calculation is weighted average of the coal used from all the three vessels and work out to 4379 kcal/kg.
- 5.20 As submitted by AEML-D, actual stacking loss is 156 kcal/kg for month of May, 2020. As per MYT Regulations, 2019 for calculation of Energy Charge Rate, the Commission has ruled in Clause 50.7 for maximum stacking loss allowed as *“Any variation in Price and Gross Calorific Value of coal/lignite or gas or liquid fuel as billed by supplier less actual stacking loss subject to the maximum stacking loss of 85 kcal/kg or 120 kcal/kg, as the case may be, vis-a-vis approved values shall be adjusted on month to month basis on the basis of average Gross Calorific Value of coal/lignite or gas or liquid fuel in stock received and weighted average landed cost incurred by the Generating Company for procurement of coal/lignite, oil, or gas or liquid fuel, as the case may be for a power Station:”*
- 5.21 AEML-D in line with MYT Regulation, 2019 and MYT Order in case no. 298 of 2019 has considered a stacking loss of only 120 kcal/kg for calculation of Energy charge rate.
- 5.22 AEML-D has submitted that it has not purchased any imported coal during the month of May, 2020 yet it has claimed a transit loss of 0.14%. The Commission had sought reply from AEML-D on the issue. AEML-D in its reply has submitted that ADTPS has consumed Imported coal from two vessels – MV Great Pioneer and MV CD Callao in May, 2020. AEML-D has submitted that imported coal was not purchased during May 2020, however, the same was consumed from already existing stock from the above-mentioned vessels. The actual landed cost of coal from the above vessels would account for the actual transit loss. However, for FAC, normative landed cost is to be computed by considering normative transit losses of 0.2% for imported coal, as Transit loss is a performance parameter. Therefore, in order to arrive at the normative cost of imported coal consumed, the weighted average landed rate from the above vessels is adjusted for actual and normative transit losses. AEML-D has submitted that as long as imported coal



is consumed in a month, corresponding actual transit loss will have to be considered depending upon the actual transit loss of the vessels from which such consumption took place.

- 5.23 The Commission has noted that the stacking loss in case of imported coal is substantially higher and over the approved stacking loss of 120 kcal/kg. The Commission had sought a reply from AEML-D for the same. AEML-D has submitted its reply. In its reply AEML-D submitted that ADTPS does not have an all-weather port, the Imported Coal can only be received for six months in a year (i.e. not during Monsoon Period – May to October) and therefore coal quantity of entire year is received in the six month window, leading to average coal stock of imported of about 6 months. Such high Inventory period of coal would naturally lead to higher heat loss. In May 2020, AEML consumed coal from two vessels namely MV Great Pioneer & MV CD Callao which was received on 29 January 2020 and 7 March, 2020. As imported coal has more volatile matter, it evaporates by aging. Hence due to stacking of coal for more than 03 months, natural degradation of coal happened, which leads to deterioration in “As fired” GCV.
- 5.24 Based on the above actual fuel cost & GCV and normative operational parameters, actual energy charges work out to Rs. 3.87/kWh which is higher than the approved variable cost of Rs. 3.79/kWh. (8ps/kWh)
- 5.25 Based on the above, APPC for ADTPS works out to Rs. 4.79 /kWh as against approved Rs. 4.63 /kWh. Overall variation in APPC for month of May, 2020 is Rs. 0.16 /kWh in which fixed cost variation is contributing Rs. 0.08 /kWh and energy charge variation is contributing Rs. 0.08 /kWh.
- 5.26 In the basket of power, ADTPS is the costliest power after Solar/wind approved sources. Any reduction in Power procurement will necessitate reduction/backing down of ADTPS units which has happened in May 2020.
- 5.27 **Solar Purchase:** The Commission has approved power purchase at the rate of Rs. 10.30/kWh from DSPPL. AEML-D has purchased at the same rate of Rs. 10.30/kWh. The Commission has verified the bills/invoices submitted and found to be correct.
- 5.28 **Non-Solar Purchase:** The Commission has approved power purchase from non-solar sources. The actual APPC and approved APPC from all the sources is as shown in the Table 7 below:

**Table 7: Approved and Actual APPC from Non-Solar Sources**

Source	Approved	Actual
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Approval of FAC Charges for the month of May, 2020

	(Rs/kWh)	(Rs./kWh)
Reliance Innoventures	5.00	5.15
AAA Sons Enterprise	5.00	5.15
Vector Green Energy Private Limited	5.00	5.15
Vector Green Energy Private Limited	5.07	5.07
Tembhu Power Private Limited	4.26	4.26
Clean Power Private Limited	5.81	5.81

- 5.29 The Commission has approved power purchase rate at Rs.5/kWh for Reliance Innoventures, AAA Sons Enterprise and Vector Green Energy Limited based on the PPA signed by AEML-D with the sources. The Commission in MYT Order of Case No. 325 of 2019 has not considered the annual escalation of 3% on these sources and approved the base rate of FY 2019-20 for FY 2020-21. Therefore, considering the annual escalation of 3% per unit rate works out to Rs. 5.15/kWh for May, 2020. This rate is being considered as approved rate for calculation of FAC as the payments done to the generator is on PPA basis.
- 5.30 The Commission has also approved power purchase rate for Vector Green Energy Limited, Tembhu Power Private Limited and Clean Power Private Limited and AEML-D has procured power from these sources at the same rate during May, 2020.
- 5.31 The Commission has scrutinized the bills/invoice submitted for RE sources and found that AAA Sons Enterprise invoices are not available. The Commission has sought details of the same and in response to the same, AEML-D has submitted that invoices are yet to be raised by AAA Sons and hence rate is considered based on the agreement. It is observed that historically AAA Sons has been delaying the raising of bill and as a result provisional numbers are being used. The Commission notes that this delay is not observed with any other sources. AEML-D should ensure that the bills are raised in time and are submitted on actual basis for levying the FAC in future.
- 5.32 APPC for renewable sources for the month May, 2020 works out to Rs. 6.60/kWh as against approved level of Rs. 6.44/kWh.
- 5.33 **Bilateral Purchase:** AEML-D has purchased power from IEX at the average rate of Rs. 3.03/kWh from all these sources which is within the approved rate of Rs. 3.50/kWh. As part of data gap, AEML-D has submitted the bill/invoices regarding the purchase of power from exchange and the Commission has verified the energy quantum and power purchase cost and found it to be appropriate.
- 5.34 **FBSM/ Imbalance Pool:** The Commission observes that AEML-D has purchased 36.15 MU and considered associated charges with regards to imbalance pool for the month May, 2020 on provisional basis at the rate of Rs. 2.86/kWh.



- 5.35 AEML-D has drawn 36.15 MUs from the imbalance pool. 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.
- 5.36 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 AEML-D 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.
- 5.37 **Other Charges:** In the FAC return submission for 'Prior approval for April, 2020', AEML-D had submitted provisional quantum of purchase from imbalance pool at 49.31 MUs. The Pool imbalance continues to vary due to factors such as variation in InSTS Losses between what is considered by AEML-D provisionally vs the figure determined by SLDC and uploaded on its website later, Generation Credit Note from Open Access consumers and change in generation and consumption observed based on receipt of metered data.
- 5.38 The transmission loss considered by AEML-D for April, 2020 was 3.18% as approved by the Commission in its InSTS order. Subsequently, MSLDC has declared InSTS loss of 2.97% for the month of April, 2020.
- 5.39 Due to the above stated reasons, the imbalance pool quantum for April, 2020 stands at 49.95 MUs as against 49.31 Mus approved for April, 2020 i.e. an additional quantum of 0.65 Mus having a cost implication to the tune of Rs. 0.18 crore at the approved rate of Rs. 2.86 per kWh.





- 5.40 The Commission has therefore approved previous period adjustment for Pool imbalances of Rs. 0.18 Crore.
- 5.41 The Commission has also approved the refund of WRPC DSM Bills as submitted by AEML-D to be passed onto the consumers of Rs. (5.03) Crore. AEML-D has also submitted Fixed Charges for SLDC of Rs. 3.34 Crore towards Corpus charges as demanded by MSLDC considering DSM Procedure approved by the Commission and Registration fees for registration at MSLDC, which is approved by the Commission. AEML-D has passed on rebate received from Generators to the Consumers as part of FAC which is Rs. (1.42) Crore.
- 5.42 Considering the above, the Commission allows the average power purchase cost of Rs.3.77/kWh for the month of May, 2020 as shown in Table 3 above as the actual APPC is within the approved limit of Rs. 4.11/kWh.

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

- 6.1 The Commission has worked out the average power purchase costs for the May, 2020 as shown in Table 3 above. The same has been compared with the average power purchase cost approved by the Commission in MYT Order dated 30 March, 2020 to arrive at the differential per unit rate at which  $Z_{FAC}$  is to be passed on to the consumers.
- 6.2 It is noted that AEML-D has incurred the per unit Power Purchase cost within the limits of Approved per unit Power Purchase Cost hence the  $Z_{FAC}$  worked out by the Commission on account of difference in power purchase cost for the month of May, 2020 is negative as shown in the Table 8 below.

**Table 8: FAC on account of Power Purchase Cost**

Sr. No.	Particulars	Units	May, 2020
1	Average power purchase cost approved by the Commission	Rs./kWh	4.11
2	Actual average power purchase cost	Rs./kWh	3.77
3	Change in average power purchase cost (=2 -1)	Rs./kWh	(0.34)
4	Net Power Purchase	MU	733.24
5	<b>Change in power purchase cost (=3 x 4/10)</b>	<b>Rs. Crore</b>	<b>(24.76)</b>

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

- 7.1 The Commission has determined a negative FAC for the month of April, 2020 contributing to the FAC Pool. The Commission has ruled in its Order No. 325 of 2019 that negative FAC shall be accrued and carried forward by the Licensee till the accumulated



negative FAC reaches the limit of Rs. 110 Crore and further accumulated FAC thereafter shall be refunded to the consumers. Since Rs. 19.87 Crores was considered as FAC Fund no under recovery or over recovery is approved by the Commission.

**8. Carrying Cost for over recovery/under recovery (C)**

- 8.1 The Commission has determined a negative FAC for the month of April, 2020 of Rs. 19.87 crore which is contributed to the FAC Pool. The Commission has taken into consideration the submission made by AEML-D towards holding cost of Rs. 0.15 Crore to be contributed to the FAC Pool.
- 8.2 AEML-D has computed the holding cost considering the MCLR + 150 basis points. This turns out to be 8.9% for April, 2020 and 8.75% for May, 2020 and worked out holding cost of Rs. 0.22 Crore. AEML-D has inadvertently calculated holding cost for 1.5 months in place of 1 month.
- 8.3 The Commission has considered MCLR rate of May month plus 150 basis points which works out to 8.79%. Accordingly, the Commission has calculated holding cost of Rs. 0.15 Crore to be contributed to the FAC Pool.

**9. Disallowance due to excess Distribution Loss**

- 9.1 Regulation 10.8 of MYT Regulations, 2019 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 9 provides the comparison of approved and actual distribution loss and disallowance due to excess distribution loss, if any:

**Table 9: Disallowance of FAC due to excess Distribution Loss**



Sr. No.	Particulars	Units	Approved in Tariff Order	Actual for May, 2020
1	Net Energy input at Distribution Voltages	MU	796.32	733.64
2	Energy sales at Distribution voltages	MU	736.19	481.22
3	Distribution Loss (1 - 2)	MU	60.13	252.43
4	Distribution Loss as % (3/1)	%	7.55%	34.41%
5	Excess Distribution Loss = [Actual Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	197.03
6	<b>Disallowance of FAC due to excess Distribution Loss</b>	<b>Rs. Crore</b>	-	-

- 9.3 As seen from the above Table 9, distribution loss for the month of May, 2020 is 34.41% which is abnormally higher than the MYT approved distribution loss of 7.55% mainly due to 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.
- 9.4 AEML-D has submitted that this abnormally high distribution loss is on account of the fact that while T-D energy input reflects lower consumption of energy due to lockdown, the energy sales to consumers is assessed as per Supply Code Regulations. In the month of May, 2020 a lot of such assessed bills have been reversed leading to lower energy sales, while power purchase at T-D interface reflects the actual energy consumption of consumers for May 2020.
- 9.5 AEML-D has requested the Commission to temporarily suspend application of the provision of assessing distribution losses on the basis of energy sales at Distribution level, till the time normalcy is restored and the billed energy starts reflecting the actual consumption of the consumer, instead of some theoretically assessed amount.
- 9.6 The Commission has asked AEML-D to submit the details of all such bills reversed in its data gaps. AEML-D has submitted the details of the same. AEML-D has submitted details of 83,438 such cases for Residential category consumers where bills were reversed. The total quantum of energy sales reversed is 18.44 MUs. AEML-D has submitted that in the month of May 2020, the energy sales considered is based on bill posting dates from 01 May, 2020 to 31 May, 2020. In this period, while energy sales for almost all residential consumers and some consumers from other categories continued to be assessed as meters were not read due to lockdown and considering safety of employees and public at large. In



case of residential consumers, the actual consumption would be high due to people staying largely at home and using air conditioners, but the assessment was based on previous three months as per Supply Code Regulations, where due to winter, consumption was less. Hence, energy sales to residential, being based on average consumption, is significantly under-stated, while the T<>D quantum will reflect the actual consumption of the consumers.

9.7 The Commission issued Practice Directions dated May 9, 2020, where the Commission directed that for industrial and commercial premises under lockdown, the billing will be at 10% of average energy consumption. Now, towards the mid to end of May 2020, many commercial and industrial premises had actually reopened and due to which their consumption had increased. However, as the lockdown restrictions prevailed, energy was assessed even for such premises based on the Commission's Practice Directions. This resulted in under-statement of consumption for such consumers. In the month of May 2020, for approx. 93% consumers, the energy sales is based on average assessed consumption, instead of actual. Out of approx. 24 lac consumers in our licensed area, approx. 20 lac consumers reside in Residential areas i.e. around 83%, and approx. 4 lac consumers are categorized in other categories, where again most of them are commercial and industrial. Therefore, energy consumption of all residential consumers forming 83% of total was assessed as per Supply Code, where there definitely is under-assessment due to summer-winter difference, while for majority of the remaining i.e. about 10% of the remaining 17% was assessed as per the Commission's directions of limiting the consumption to 10% of average. In many such cases, bill reversals occurred after issuance of the Practice Directions as the estimation was done prior to 09 May, 2020. This resulted in net reversal of about 18.44 MU for a total of 83,438 cases.

9.8 As seen from the above Table 9, disallowance of FAC due to excess distribution loss for the month of May, 2020 is nil, because actual FAC on account of power purchase 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 as shown in the Table 10 below.

**Table 10: Summary of Allowable  $Z_{FAC}$  for May, 2020**

Sr. No.	Particulars	Units	As Claimed	As Approved
<b>1</b>	<b>Calculation of <math>Z_{FAC}</math></b>			
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	(24.76)	(24.76)



Sr. No.	Particulars	Units	As Claimed	As Approved
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	(0.22)	(0.15)
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	-	-
<b>1.4</b>	<b><math>Z_{FAC} = F+C+B</math></b>	<b>Rs. Crore</b>	<b>(24.98)</b>	<b>(24.91)</b>
<b>2</b>	<b>Calculation of FAC Charge</b>			
2.1	Energy Sales within the License Area	MU	481.22	481.22
2.2	Excess Distribution Loss	MU	197.03	197.03
2.3	$Z_{FAC}$ per kWh	Rs./kWh	0.50	0.50
<b>3</b>	<b>Recovery of FAC</b>			
3.1	FAC disallowed corresponding to excess Distribution Loss $[(2.1+2.2) \times 2.3]/10]$	Rs. Crore		
3.2	Allowable FAC	Rs. Crore	(24.76)	(24.76)
<b>4</b>	<b>Utilization of FAC Fund</b>			
4.1	Opening Balance of FAC Fund	Rs. Crore	(19.87)	(19.87)
4.2	Holding Cost on FAC Fund	Rs. Crore	-	(0.15)
4.3	$Z_{FAC}$ for the month (Sr. No. 3.2)	Rs. Crore	(24.76)	(24.76)
4.4	Closing Balance of FAC Fund	Rs. Crore	<b>(44.63)</b>	<b>(44.78)</b>
4.5	$Z_{FAC}$ leviable/refundable to consumer	Rs. Crore	<b>(44.85)</b>	-
<b>5</b>	<b>Total FAC based on category wise and slab wise allowed to be recovered</b>	<b>Rs. Crore</b>	<b>(22.70)</b>	-
6	Carried forward FAC for recovery during future period (3.1-3.2-4)	Rs. Crore	<b>(22.15)</b>	-

10.2 It can be seen from the above Table 10 that opening FAC fund for month of May, 2020 is Rs. (19.87) Crore and standalone FAC for the month of May, 2020 is Rs. (24.76) Crore. The Commission has also approved a holding cost of Rs. (0.15) Crore for the negative FAC accrued during the month of April, 2020. The overall FAC amount for the month of May, 2020 is Rs. (44.78) Crore. As the FAC is negative, the said amount will be accumulated in FAC Fund for stabilisation of FAC in future and the benefit will not be passed to consumers.

## 11. Recovery from Consumers:

11.1 Regulation 10.9 of MERC 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  $Z_{FAC}$  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 had invoked power of removing difficulties under MYT Regulation, 2019 and made following changes for computation of FAC.

“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:

- Negative FAC amount shall be carried forward to the next FAC billing cycle with holding cost.
- 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.
- 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 AEML-D such limit shall be Rs.110 Crore. Any accumulated amount above such limit shall be refunded to consumers through FAC mechanism.



- *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, upon seeking prior approval from the Commission.”*

11.3 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. 110 Crore. Accordingly, the Commission allows the FAC amount of Rs. (44.78) Crore to be accumulated as FAC Fund and shall be carried forward to the next billing cycle with holding cost.

11.4 AEML-D has submitted an application dated 18 May 2020 pertaining to post facto approval of FAC for the 4<sup>th</sup> Quarter of FY 2019-20 and revised submission of chargeable FAC for Q1 to Q3 of FY 2019-20. AEML-D submitted that it has already accumulated negative FAC of Rs. 160.89 Crore at the end of FY 2019-20. AEML-D has requested to considered Rs.50.89 Crore FAC to be passed on to the consumers after netting off Rs. 110 Crore as FAC Fund as per MYT Order. The Commission has already replied to the query in its letter MERC/Tech/FAC/E-Letter dated 10 May, 2020 regarding Levy/ Refund of FAC for balance consumption months of FY 2019-20 to Consumers in FY 2020-21. The relevant part of the same is reproduced here below:

*“3. The Commission has in the interim received one request for prior approval of FAC for the month of February 2020 to be levied to the Consumers in the billing month of May 2020.*

*4. In light of the aforesaid request, I am directed to clarify that while according the approval to the FAC quarterly proposals of FY 2019-20, Commission will appropriately direct as to the treatment that is required to be given to the amount that gets computed based on the scrutiny of FAC proposals of January-March, 2020.”*

11.5 Hence, treatment to negative FAC of Rs. 160.89 Crore as submitted by AEML-D at the end of FY 2019-20 will be given separately based on scrutiny of FAC proposals of January- March, 2020. No impact of the same has been considered as part of FAC approval for May, 2020.

**11.6 In view of the above, per unit Z<sub>FAC</sub> for the month of May, 2020 to be levied on consumer of AEML-D in the billing month of July 2020 is Nil.**

