

Date: 1 July, 2022

Ref. No. MERC/FAC/2022-23/E-Letter

To.

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 April 2022.

Reference: 1. Commission's letter regarding levy of FAC on consumers dated 5 April, 2022.

- 2. AEML-D FAC submission for the month of April 2022 vide email dated 31 May, 2022 and additional submissions vide email dated 1 June, 2022.
- 3. The data gaps were communicated vide email dated 4 June, 2022.
- 4. AEML-D replied vide email dated 9 June 2022.

Sir,

Upon vetting the FAC calculations for the month of April, 2022 as mentioned in the above reference, the Commission has accorded approval for charging FAC amount of Rs. 231.30 Crore. However, the net leviable amount after adjustment from the existing FAC fund (negative fund) is **Rs. 362.82 Crore.** The FAC leviable for the month of December 2021 was positive and the same was allowed to be carried forward and accumulated for next three-month period i.e. up to the month of February 2022 as per letter dated 5 April, 2022 issued by the Commission. The month of February 2022 is the third month of this three-month period and accordingly, net FAC leviable accumulated FAC upto February 2022 as per letter dated 5 April, 2022 issued by the Commission is recoverable equally in the months of April 2022, May 2022 and June 2022 along with the applicable carrying cost. However, as observed by the Commission during the approval of the FAC for the month of March 2022, there was a delay in filing of the FAC submissions by AEML-D and also the months of April 2022 and May 2022 have already passed. Further, AEML-D has also recently filed the FAC submission for the months of April 2022. AEML-D has also requested the Commission to consider the cumulative recovery amount till April 2022 to be recovered over a prospective three-month period subsequent to approval of April 2022 FAC. However, if recovery of the FAC accumulated over the five months' period is allowed to be recovered in three months' period as prayed by AEML-D would be against the objective of equal spread for FAC recovery. Accordingly, considering the delay, the Commission allows the combined recovery of the FAC accumulated for the period December 2021 to April 2022 in the months of July 2022, August 2022, September 2022, October 2022 and November 2022. Accordingly, the FAC chargeable to consumers is as shown in the table below:

Month	FAC Amount (Rs. Crore)
April, 2022	362.82

Further, considering delay in submission of FAC by AEML-D, the Commission has disallowed the carrying cost for the period of delay. The positive FAC for December 2021 to February 2022 was expected to be levied from 1 April 2022 onwards. On account of delay on part of AEML-D, the recovery is possible only from July 2022 onwards. Hence, the carrying cost for delayed period is disallowed and shall not be allowed to be passed through to AEML-D consumers.

The accumulation of positive FAC for five months instead of three months as per the guidelines issued by the Commission on 5 April 2022 and further recovery from consumers in five month's period is being allowed as an exceptional dispensation.

The Commission allows the recovery of FAC amount of **Rs. 362.82** Crore along with the applicable carrying cost over the next five month period i.e. July 2022 to November 2022.

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,

(Prafulla Varhade) Director (EE)

Encl: Annexure A: Detailed Vetting Report for the period of April 2022.

ANNEXURE A Detailed Vetting Report

Date: 1 July, 2022

PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF APRIL 2022

Subject: Prior approval of Fuel Adjustment Charges (FAC) submissions of AEML-D for the month April 2022.

Reference:

- 1. Commission's guideline regarding levy of FAC on quarterly basis issued on 5 April, 2022.
- 2. AEML-D FAC submission for the month of April 2022 vide email dated 31 May, 2022 and additional submissions vide email dated 1 June, 2022.
- 3. The data gaps were communicated vide email dated 4 June, 2022.
- 4. AEML-D replied vide email dated 9 June, 2022.

1. FAC submission by AEML-D:

- 1.1 AEML-D has made FAC submissions for the month of April 2022 as referred above. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by AEML-D, the Commission has accorded prior approval to AEML-D for the FAC amount of Rs. 231.30 Crore. The approved FAC amount is being adjusted from the FAC Fund (Negative fund) and the balance amount works out to Rs. 362.82 Crore.
- 1.2 The FAC leviable for the months of December 2021 was positive and the same was allowed to be carried forward and accumulated for next three-month period i.e. up to the month of February 2022 as per letter dated 5 April, 2022 issued by the Commission. However, considering the delayed FAC submissions on part of AEML-D, as an exceptional circumstances, the Commission is allowing accumulation of FAC for the five months' period (i.e. from December 2021 to April 2022) instead of three months' period as envisaged as per the guidelines dated 5 April 2022 and such accumulated FAC is being allowed in five months' period from July 2022 to November 2022.
- 1.3 Further, considering delay in submission of FAC by AEML-D, the Commission has disallowed the carrying cost for the period of delay. The positive FAC for December 2021 to February 2022 was expected to be levied from 1 April 2022 onwards. On account of delay on part of AEML-D, the recovery is possible only from July 2022 onwards. Hence, the carrying cost for delayed period is disallowed and shall not be allowed to be passed through to AEML-D consumers. The recovery is being allowed over a period of five months i.e. July 2022 to November 2022.

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. On 19 May, 2021, the Commission has also issued guidelines for considering consumer sales in FAC computation from April, 2021 onwards based on uniform methodology.
- 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, vide its email dated 31 May, 2022, AEML-D has filed FAC submissions for the month of April 2022 for prior approval of the Commission. The Commission has scrutinized the submissions provided by AEML-D and has also verified the power purchase bills and other fuel related invoices 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

Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual Sales (April 2022) (MU)
	(I)	(II=I/12)	(III)
LT Category			
BPL	0.01	0.00	0.00
LT -I: Residential	4,778.68	398.22	421.93
LT II: Commercial	2,690.58	224.22	219.44
LT III(A): LT Industrial up to 20 kW TOD Option	190.52	15.88	26.63
LT III(B): LT Industrial above 20 kW	378.08	31.51	30.95
LT-V: LT- Advertisements and Hoardings	2.87	0.24	-
LT VI: LT -Street Lights	48.70	4.06	1
LT-VII: LT -Temporary Supply	12.18	1.02	-
LT VIII: LT - Crematorium & Burial Grounds	1.61	0.13	-
LT IX: LT -Public Service (A)	39.92	3.33	2.46
LT IX: LT -Public Service (B)	248.53	20.71	14.54
LT X (A): LT - Agriculture Pumpsets	0.14	0.01	0.01
LT X (B): LT - Agriculture Others	0.48	0.04	0.01
LT IV: Public Water Works	12.77	1.06	-
LT IX: LT – EVCS	-	-	0.05
HT Category			

Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual Sales (April 2022) (MU)
	(I)	(II=I/12)	(III)
HT 1 (Industrial)	411.70	34.31	22.97
HT 2 (Commercial.)	249.75	20.81	44.00
HT 3 (Group Housing Soc.)	29.37	2.45	1.19
HT 4 (Temporary Supply)	30.13	2.51	-
HT – Railways	31.17	2.60	2.24
HT - Public Services (A)	5.96	0.50	0.63
HT - Public Services (B)	95.61	7.97	9.23
HT - Public Water Works	8.13	0.68	-
Total	9,266.90	772.24	796.26

^{*-} In Case of AEML-D, the sales is approved on annual basis. Monthly approved sales is derived based on approved annual sales for comparison purpose.

- 3.2 It can be observed from above Table 1 that actual sales during April 2022 is 796.26 MU which is 3.11% higher than approved energy sales of 772.24 MU per month for the FY 2022-23. AEML-D has considered the energy sales for FAC purposes for April 2022 as follows:
 - Energy sales data for HT consumers (AMR) & LT consumers (load above 20 kW) where meters are read remotely or where monthly reading are downloaded is considered for nth month (i.e., for April 2022).
 - For cycle consumers (LT cycle billing), consumption data provided is for meter reading from 1 April to 30 April, 2022. These energy sales will pertain to the period which will comprise on an average half of March and half of April.
- 3.3 The monthly and cumulative sales for major consumer categories are shown below in the Table 2 below:

Table 2: Monthly and Cumulative Sales for major Consumer Categories

Year\ Sales (MU)	Residential	Commercial	Industrial	Others	Total (FY	Total (FY
					2022-23)	2021-22)
Monthly Approved	400.67	245.03	81.69	44.85	772.24	754.08
Actual – April, 2022	423.12	263.43	80.55	29.16	796.26	697.44
Approved - Cumulative till April 2022	400.67	245.03	81.69	44.85	772.24	754.08
Actual - Cumulative till April 2022	423.12	263.43	80.55	29.16	796.26	697.44

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
- Apart from above, there are incidental purchases from Open Access and Rooftop.
- 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 2022-23 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 shown in Table 3 below:

Table 3: Summary of Power Purchase for April 2022

Sr.	Particular	Compliance
No.		
1	Purchase from Approved Sources	Yes. AEML-D has procured power from ADTPS, Solar and Non-solar Sources and Bilateral in the month of April 2022, which are approved sources of power purchase except for the RE Power source of Reliance Innoventures. The EPA with Reliance Innoventures was scheduled to expire on 31 March, 2022 and hence the Commission had not approved any power purchase from this source for FY 2022-23 in the MYT Order. However, AEML-D has negotiated with the Generator and extended the EPA under Clause No. 4.02 of the EPA for further period of 6 months at an agreed rate of Rs. 2.62/kWh.
2	Merit Order Dispatch	Yes. 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, hence there is no scope for improvement in optimal fuel utilization.
4	DSM Pool	AEML-D has drawn 6.02 MU from the imbalance pool to meet its power demand as per DSM mechanism.
5	Sale of Surplus Power	AEML has sold 2.01 MU of surplus power during the month of April 2022.
6	Power Purchase	Actual Power Purchase is 919.25 MU as against approved 858.11 MU. The higher actual sales as compared to the approved sales for the month along with the higher the distribution losses have led to higher power purchase during the month.

Sr. No.	Particular		Com	pliance				
7	Source wise Power Purchase	Source Name	Approved (MU)	Actual (MU)	Proportion of each Source in Actual Purchase			
		ADTPS	311.08	316.33	34.41%			
		RE Sources	269.14	166.67	18.13%			
		Exchange & banking transaction	277.88	432.14	47.01%			
		Imbalance Pool & Other	-	4.11	0.45%			
		Total 858.11 919.25 100.00						
		*The power purchase quantum/cost approved in MYT Order on yearly basis, however monthly approved numbers are derived from comparison purpose.						
8	Power Purchase under Section 62 of Electricity Act, 2003	AEML-D is purchasing power from only one source i.e. ADTPS under Section 62 of EA, 2003. As part of verification of fixed cost claimed by AEML-D, the same has been verified from the AEML-G MYT Order in Case No. 325 of 2019. As part of verification of energy charges claimed by AEML-D, verification of operational parameters, fuel cost, GCV etc. vis-à-vis the MYT Order is						
		carried out.						
9	RE Purchase	Monthly power purchase invoices are submitted by AEML-D. Power Purchase rates are verified from the PPA signed by AEML-D with each source of power. Monthly power purchase quantum and rate are verified from the invoices, and it is ensured that same has been considered in the FAC calculation.						
10	Short Term Power Purchase		rchase quantum	and rate are veri	e submitted by AEML- ified from the invoices, ne FAC calculation.			

- 4.4 **AEML-D** has purchased 919.25 MUs of power as against approved 858.11 MUs from the sources approved by the Commission. The sales of AEML-D in the month of April 2022 are higher than the approved sales, and these along with the higher distribution loss for the month, has led to higher power purchase as compared to the approved power purchase quantum.
- 4.5 **Power Procurement from ADTPS:** AEML-D has a PPA with ADTPS (own generation). The Commission in Case No. 325 of 2019 has approved monthly energy quantum of 311.08 MU. AEML-D has purchased 316.33 MU for the month of April 2022.
- 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 also has PPA with Adani Hybrid Energy Jaisalmer Four Limited for 700 MW. 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 EPA with Reliance Innoventures expired on 31 March, 2022, however, AEML-D has negotiated with the Generator and extended the PPA for further period of 6 months at an agreed rate of Rs. 2.62/kWh. AEML-D has also purchased 30.53 MU short term RE power based exchange linked contracts (linked to IEX DAM tariff). The Actual energy quantum purchased and approved by the Commission in Case No. 325 of 2019 is as shown in the Table 4 below:

Table 4: Approved and Actual Energy Quantum from Solar and Non-Solar Sources

Source	Contracted Capacity (MW)	Approved (MU)	Actual (MU)
Solar			
DSPPL – Solar	40.00	5.52	5.03
Adani Hybrid Energy Jaisalmer Four Limited -	700.00	255.50	126.03
Wind Solar Hybrid (AHEJFL)			
Non-Solar			
Reliance Innoventures	45.00#	-	1.16
AAA Sons Enterprise	3.38	0.01	0.02
Vector Green Energy Private Limited	-	-	-
Vector Green Energy Private Limited (April 2009)	6.00	0.88	0.46
Tembhu Power Private Limited	4.50	0.99	-
Reliance Clean Power Limited	45.00	6.25	3.44
Short Term RE/GDAM	-	_	30.53
Total	843.88	269.14	166.67

[#] The PPA with Reliance Innoventure expired on 31 March, 2022, however, AEML-D has negotiated and extended the PPA for a period of six months at a rate of Rs. 2.62/kWh.

- 4.7 AEML-D has procured 0.49 MU lower than the approved from DSPPL, 129.47 MU lower than approved from AHEJFL from wind solar hybrid (project partially commissioned with pure solar capacity of 270.88 MW (Solar) and with Hybrid capacity of 289.21 MW, which provided 126.03 MU for April 2022), 0.01 MU higher than approved from AAA Sons Enterprise, 0.42 MU lower than the approved from Vector Green Energy Private Limited, 0.99 MU lower than the approved from Tembhu Power Private Limited (small hydro plant affected due to flooding happened (Krishna river) in July 2021) and 2.81 MU lower than approved from Reliance Clean Power Private Limited. The EPA with Reliance Innoventures was scheduled to expire on 31 March, 2022 and hence the Commission had not approved any power purchase from this source for FY 2022-23 in the MYT Order. However, pursuant to the extension of the PPA for a period of 6 months, AEML-D has procured 1.16 MUs from Reliance Innoventures in April 2022. Further, as the approval by the Commission is on yearly energy quantum, this variation is being accepted provided cumulative power procured for majority of the sources is within the approved energy quantum. Also, AEML-D has purchased 30.53 MU short term RE power through exchange linked contracts (linked to IEX DAM tariff).
- 4.8 **Power Procurement from Exchange:** AEML-D has purchased power from exchange and exchange linked day ahead contracts on day ahead basis. **AEML-D has purchased**

- **297.18** MU from these sources which is higher than the monthly approved quantum of **277.88** MU. This purchase excludes the quantum of power procured under banking arrangement which is also part of the bilateral sources of purchase.
- 4.9 **Power procurement through banking transaction**: For the month of April 2022, AEML-D has also made a banking transaction of 134.95 MU. The quantum of Banking is presently considered as part of FAC for the month of April 2022. The cost related to the Banking will be considered in the month in which the banking power is returned. For the purpose of Banking, Open Access charges as well as Trading margin charges has been incurred, the cost thereof is proposed to be considered as part of Bilateral purchase cost, in FAC for April 2022. This transaction is considered as part of the short-term bilateral transactions. Accordingly, overall procurement from short term bilateral sources is 432.14 MUs which is significantly higher than the approved quantum of 277.88 MUs.
- 4.10 **Power Procurement from DSM Pool:** AEML-D has drawn 6.02 MU power from the imbalance pool under the DSM mechanism for the month of April 2022.
- 4.11 **Power Procurement from Open Access and Roof Top Solar Consumers:** AEML-D has purchased 0.11 MU from the Open Access and Roof top Solar Consumers for the month of April 2022.
- 4.12 **Sale of Power**: AEML has sold 2.01 MUs under bilateral sale for the month of April 2022.
- 4.13 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 April 2022, 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.
- As submitted by AEML-D, the **Power Purchase cost incurred in April 2022 is Rs.** 600.42 Crore which is significantly higher than the approved Power Purchase cost of Rs. 343.44 Crore by the Commission for the month of April 2022. This is on account of the higher cost of power purchase from ADTPS, bilateral sources and short term RE purchases. 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 April 2022 is shown in Table 5 below:

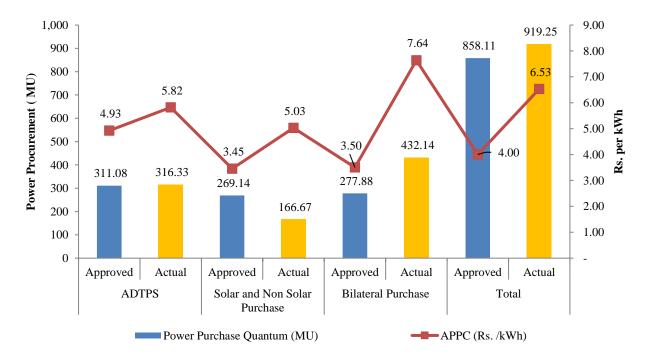
Table 5: Approved and Actual APPC and Power Purchase Quantum & Cost

Particulars	Source	Power Purchase Quantum (MU)	Fixed Cost (Rs. Crore)	Fixed Cost (Rs./k Wh)	Variable Cost (Rs. Crore)	Variable Cost (Rs. /kWh)	Total Cost (Rs. Crore)	APPC (Rs. /kWh)
ADTPS	Approved	311.08	28.16	0.91	125.06	4.02	153.22	4.93
	Actual	316.33	28.09	0.89	155.94	4.93	184.03	5.82
Solar and	Approved	269.14	-	-	92.97	3.45	92.97	3.45
Non-Solar Purchase	Actual	166.67	1	-	83.80	5.03	83.80	5.03
Bilateral	Approved	277.88		-	97.26	3.50	97.26	3.50
Purchase	Actual	432.14		-	330.03	7.64	330.03	7.64
Pool/ DSM	Approved	-		-	-	-	-	-
	Actual	6.02		-	6.05	10.05	6.05	10.05
OA/RTS	Approved	-		-	-	-	-	-
	Actual	0.11		-	0.03	2.66	0.03	2.66
Sale of	Approved	-		-	-	-	-	-
Power	Actual	(2.01)	-	-	(2.18)	10.87	(2.18)	10.87
Other	Approved	-	-	-	-	-	-	-
Charges	Actual	-	-	-	(1.35)	-	(1.35)	-
Total	Approved	858.11	28.16	0.33	315.28	3.67	343.44	4.00
	Actual	919.25	28.09	0.31	572.32	6.23	600.42	6.53

^{*-} In case of AEML-D, there is no monthly approval for purchases. The monthly approved power purchase is arrived based on annual approved power purchase for comparison purpose.

5.3 The Figure 1 below shows the variation in Approved & Actual Power Purchased Quantum and Approved & Actual APPC for all the power purchase 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. 4.93/kWh. AEML-D has purchased power at the rate of Rs. 5.82/kWh (including incentive) for the month of April 2022. The Commission has also worked out the rate for power purchase from AEML-D as Rs. 5.82/kWh for the month of April 2022.
- 5.5 **Fixed Cost:** The Fixed cost approved for FY 2022-23 in Case No. 325 of 2019 (AEML-D) is Rs. 337.97 Crore whereas the Fixed cost approved for FY 2022-23 in Case No. 298 of 2019 (AEML-G) is Rs. 337.11 Crore. The actual payment of Fixed Cost for the month of April 2022 is to be done according to the entitlement under Case No. 298 of 2019 i.e. Rs. 337.11 Crore, as the payment is to be done according to Generators Tariff Order.
- The actual PLF of ADTPS in April 2022 was 97.31% as compared to approved PLF of 94.38%. ADTPS was available for generation during the month, the average Plant Availability Factor for the month (PAFM) for both Units of AEML-G was 100%. The availability for April 2022 was 100% during peak hours and 100% during off peak hours. The capacity charge for peak hours works out to Rs. 5.62 Crore and the capacity charge for off peak hours works out to Rs. 22.47 Crore, totalling Rs. 28.09 Crore for the month of April 2022.
- 5.7 Due to higher generation as compared to approved generation, there is a reduction of Rs. 0.02 /kWh in the Fixed cost and accordingly the actual Fixed Cost per unit is Rs. 0.89/kWh as compared to the approved Fixed Cost of Rs. 0.91 /kWh.
- 5.8 **Energy Charges:** AEML-G has considered the normative 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 April 2022.
- 5.9 AEML-D has 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 liaisoning charges incurred for Domestic Coal and Imported Coal, as applicable, for the month of April 2022.
- 5.10 **Washed Coal:** AEML-D has submitted detailed computation and methodology for booking the coal consumption cost. AEML-D has calculated the total coal consumption cost on the basis of Weighted 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 from the total of opening inventory and purchases during the respective month. AEML-D has submitted supporting documents for purchase of 179,339.50 MT raw Coal from SECL in the month of April 2022. AEML-G has also stated that it has received 1,43,273.65 MT of washed coal at the plant boundary of ADTPS and has consumed 1,46,194.45 MT of washed coal in April 2022. AEML-D has also submitted the breakup and supporting documents for "Other Charges" of Rs. 2,885,093/-. AEML-D

has submitted that in the month of April 2022, Rs. 13,73,722/-, Rs 8,90,219/- and Rs. 3,30,220/- have been included as an adjustment under freight charges for raw and washed coal and for coal loading charges respectively, on account of diesel escalation for March 2022. Further, Rs (1,892)/- has been included as an adjustment under wash coal analysis for short quantity analysis done at unloading end by IGI for March 2022 and Rs. (45,676/-) has been considered under washed coal analysis charges at loading end for March 2022.

- 5.11 From May 2021 onwards SECL has started supplying coal of size 250 mm to ADTPS, apart from coal of size 100 mm. As per the washery contract, the additional washing charges for washing of coal of size more than 100 mm shall be reimbursed by AEML-G to the washery. The additional washing charges for washing coal of size 250 mm in April 2022 was Rs 26,42,764/- (Rs. 22,39,630/- plus 18% GST), which has been considered under washing charges.
- 5.12 The input tax credit (ITC) due to sale of coal rejects works out to Rs. (17,86,737)/-, which has been included as an adjustment under SECL coal purchase cost.
- 5.13 The ITC available to AEML-D for supply to SEEPZ area is set off against the GST paid on purchase of coal / LDO or against the GST paid for other services such as coal washing, coal analysis, liasoning and supervision etc. The ITC available for the GST paid for railway freight, supervision charges, analysis charges at loading and unloading end for April 2022, totalling Rs. (3,72,592)/- has been included as adjustment in April 2022.
- 5.14 The Commission has examined the invoices and the supporting excel working provided by AEML-D and has found it to be appropriate. The working of the washed coal fuel cost considered for April 2022 is as shown in the Table 6 below:

Table 6: Working of Washed Coal Rate for April, 2022

Particular	Quantity (MT)	Cost (Rs. Crore)	Price (Rs./MT)
Inventory			
Opening (as on 1st April)	13,929.73	7.54	5,415.90
Addition during month	143,273.65	76.78	5,358.85
Total	157,203.38	84.32	5,363.91
Consumption			
Actual	146,194.45	78.42	5,363.91
Other Charges	-	0.29	1
Total	146,194.45	78.71	5,383.64

5.15 The overall cost approved towards fuel expenses (Washed coal) is Rs. 78.71 Crore for the month of April 2022.

- 5.16 With regards to the washed coal, the landed cost for the month of April 2022 is Rs. 5,383.64/MT as compared to MYT approved Rs. 5,860.45 /MT, which is 8.14% lower than the approved MYT rate.
- 5.17 AEML-D has considered 'As billed' GCV of 3,860 kCal/kg for washed coal and 'As received' GCV of 3,848 kCal/kg for April 2022.
- 5.18 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 used for Energy Charge calculation matches with the GCV 'As billed' submitted by AEML-G. In MYT Order in Case No. 298 of 2019, the Commission has directed 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."
- 5.19 The transit loss claimed by AEML-D for the month of April 2022 is 0.655%. The coal received at ADTPS in April 2022 is the mix of coal dispatched from the washery from the already existing stock at the washery and Raw Coal purchased and washed at 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. As per weighment of coal at ADTPS, the washed coal received is 1,43,273.65 MT and as per weighment of coal at washery end, the washed coal dispatched was 1,44,218.49 MT. The difference is

- reported as the transit loss which is **944.84 MT which is 0.655%** of the total coal received during the month of April 2022.
- 5.20 The weighted average GCV of opening stock of washed coal in April 2022 was 4,122 kCal/kg. The 'As received' GCV of washed coal received in April 2022 was 3,848 kCal/kg and 'As billed' GCV was 3,860 kCal/kg. As the 'As billed' GCV is higher than the 'As received' GCV of washed coal, the Commission has considered the 'As billed' GCV for computing the weighted average GCV of 3,883 kCal/kg for April 2022. The 'As fired' GCV of washed coal considered by AEML-D is 3,809 kCal/kg. Considering the difference between the 'As received' GCV and the 'As Fired' GCV, the stacking loss for washed coal works out to 74 kCal/kg which is within the limit of 120 kCal/kg.
- 5.21 **Raw Coal:** AEML-D has submitted that it has neither received nor consumed any raw coal in April 2022. However, adjustment relating to past months pertaining IGI Coal Analysis charges, CIMFR Raw coal analysis charges, Railway freight and SECL coal purchase, totalling to Rs. (3,09,902)/- has been included in April 2022, since these adjustments are relating to raw coal. Further, ITC of Rs. (33)/- available on GST paid for supervision charges has been included in April 2022.
- 5.22 The Commission has examined the invoices and the supporting excel working provided by AEML-D and has found it to be appropriate. The working of the raw coal fuel cost considered for April 2022 is as shown in the Table 7 below:

Particular	Quantity (MT)	Cost (Rs. Crore)	Price (Rs./MT)
Inventory			
Opening (as on 1 st April)	91.60	0.05	5,226.54
Addition during month	-	(0.03)	ı
Total	91.60	0.02	1,843.05
Consumption			
Actual	-	ı	ı
Other Charges	-	-	-
Total	-	-	-

Table 7: Working of Raw Coal Rate for April 2022

- 5.23 The overall cost approved towards raw coal expenses is Rs. 0.02 Crore for the month of April 2022.
- 5.24 With regards to the raw coal, the weighted average cost of the coal inventory for the month of April 2022 is Rs. 1,843.05/MT. AEML-D has not consumed any raw coal during the month of April 2022.
- 5.25 Accordingly, the stacking loss has not been computed for raw coal in the month of April 2022.

- 5.26 **Imported Coal:** AEML-G had procured imported coal through vessel MV Molyvos Luck and MV Kang Huan in the month of March 2022. The cost related details were provided by AEML-D in the filing for FAC approval for March 2022. AEML-D has consumed 58,584.66 MT of imported coal in April 2022. Further, the ITC of Rs. (893)/- on GST paid for IGI coal analysis charges has been included in April 2022.
- 5.27 In the application for prior approval of FAC for March 2022, AEML-D had submitted that it has booked an amount of Rs. 1,12,37,545/- towards the USD to Rupee conversion rate fluctuation between the rate as on date of coal purchase (Bill of Lading) and the rate as on 31 March, 2022. The said amount was claimed in March 2022. However, based on the rate fluctuation between the rate as on date of Bill of Lading and the rate as on date of payment for the coal works out to Rs. 1,93,95,536/-. Since Rs. 1,12,37,545/- has already claimed in March 2022, balance Rs. 81,57,990/- has being claimed in April 2022.
- 5.28 The Commission has examined the invoices and the supporting excel working provided by AEML-D and has found it to be appropriate. The working of the imported coal fuel cost considered for April 2022 is as shown in the Table 8 below:

Quantity Cost (Rs. **Price** Particular Crore) (MT) (Rs./MT) **Inventory** Opening (as on 1st April) 108,041.75 116.22 10,757.08 Addition during month 0.82 Total 108,041.75 117.04 10,832.58 Consumption Actual 58,584.66 63.46 10,832.58 Other Charges Total 63.46 10,832.58 58,584.66

Table 8: Working of Imported Coal Rate for April 2022

- 5.29 The overall cost approved towards imported coal expenses is Rs. 63.46 Crore for the month of April 2022.
- 5.30 With regards to the imported coal, the weighted average landed cost for the month of April 2022 is Rs. 10,832.58/MT. AEML-D has consumed 58,584.66 MT of imported coal during the month of April 2022.
- 5.31 No imported coal was procured by AEML-D in April 2022 and hence the transit loss has not been worked out.
- 5.32 The "As received" GCV of imported coal (weighted average of two vessels received in March 2022) is 4,026 kCal/kg and the "As fired" GCV of imported coal is 3,917 kCal/kg. The same has been used to work out the stacking loss of 109 kCal/kg for imported coal.

- 5.33 **LDO:** AEML-D has neither purchased or consumed any Light Diesel Oil in the month of April 2022.
- 5.34 The working of the LDO fuel cost considered for April 2022 is as shown in the Table 9 below:

Particular	Quantity (KL)	Cost (Rs. Crore)	Price (Rs./KL)
Inventory			
Opening (as on 1st April)	397.03	2.10	52,788.08
Addition during month	-	-	-
Total	397.03	2.10	52,788.08
Consumption			
Actual	-	-	-
Other Charges	-	_	-
Total	-	_	-

Table 9: Working of LDO Rate for April 2022

- 5.35 No cost has been approved towards LDO expenses for the month of April 2022. With regards to the LDO, the weighted average landed cost for the month of April 2022 is Rs. 52,788.08/KL.
- 5.36 As per MYT Regulations, 2019 for calculation of Energy Charge Rate, the Commission has notified the maximum stacking loss allowed in Clause 50.7 as reproduced below:
 - "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:"
- 5.37 In line with MYT Regulations, 2019 and MYT Order in Case No. 298 of 2019, the Commission has considered stacking loss of 84.14 kcal/kg (minimum of actual weighted average loss considering washed coal, raw coal and imported coal of 84.14 kcal/kg or 120 kcal/kg as per Regulation) for calculation of energy charge rate.
- 5.38 Considering the approved rates for Washed Coal, Imported Coal and LDO, the fuel cost, GCV and normative operational parameters, the revised energy charges works out to Rs. 4.893/kWh which is higher than the approved variable cost of Rs. 3.986/kWh as per the MYT Order for AEML-G (Case No. 298 of 2019).
- 5.39 **Incentive:** As per Regulation 46.3 of MYT Regulations, 2019, the target PLF for earning incentive is 85%. Since the cumulative PLF for April 2022, both for peak and off-peak hours, was 96.33% and 97.46% respectively, AEML-G has claimed Rs. 1.15 Crore as incentive for April 2022.

5.40 Variation in power purchase expenses from ADTPS on account of change in quantum and per unit rate is as shown in Table 10 below:

Table 10: Variation in Power Purchase expenses from ADTPS for April 2022

Source	Approved Quantum (MU)	Approved rate (Rs./kWh)	Actual quantum (MU)	Actual rate (Rs./kWh)	Variation due to quantum (Rs. Crore)	Variation due to rate (Rs. Crore)	Total variation (Rs. Crore)
ADTPS	311.08	4.93	316.33	5.82	2.58	28.23	30.81

- 5.41 Based on the above, APPC for ADTPS works out to Rs. 5.82/kWh (including incentive) as against approved Rs. 4.93/kWh. There is Rs. 0.89/kWh increase in APPC for month of April 2022. Fixed cost variation is contributing to reduction of Rs. 0.02/kWh and variable cost variation is contributing to Rs. 0.87/kWh increase. The increase in variable cost is due to significant increase in the price of imported coal which was procured in March 2022. AEML-G had to resort to procurement of imported coal due to continued shortage of availability of domestic coal from SECL.
- 5.42 **Solar Purchase:** The Commission has approved power purchase at the rate of Rs. 10.30/kWh from DSPPL. **AEML-D** has purchased 5.03 MUs at the same rate of Rs. 10.30/kWh as approved in the MYT Order. The Commission has verified the bills/invoices submitted and found them to be correct.
- 5.43 Wind Solar Hybrid: The Commission has approved 94.93% of renewable power purchase quantum at the rate of Rs. 3.24/kWh from wind solar hybrid for FY 2022-23. AEML-D has purchased 126.03 MU from wind solar hybrid source for month of April 2022.
- 5.44 **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 11 below:

Table 11: Approved and Actual APPC from Non-Solar Sources

Source	Approved (Rs/kWh)	Actual (Rs./kWh)
Reliance Innoventures	-	2.62
AAA Sons Enterprise	5.00	5.30
Vector Green Energy Private Limited	5.07	5.07
Tembhu Power Private Limited	4.26	-
Clean Power Private Limited	5.81	5.81

5.45 The Commission has approved power purchase rate at Rs.5.00/kWh for AAA Sons Enterprise and Vector Green Energy Limited based on the PPA signed by AEML-D with the sources. AEML-D in its MYT Petition had projected the rate of Rs. 5.30 per Unit for these purchases considering the escalation as per EPA. The Commission in MYT Order of Case No. 325 of 2019 has not considered the annual escalation as specified in PPA on

these sources and approved the base rate of FY 2019-20 for 4th Control Period. Therefore, considering the annual escalation as specified in PPA, per unit rate works out to Rs. 5.30/kWh for April 2021 and which was approved by the Commission in the FAC submission for April 2021. This rate is being considered as approved rate for calculation of FAC as the payments done to the generator is based on PPA.

- 5.46 The Commission has also approved power purchase rate for Vector Green Energy Limited, Tembhu Power Private Limited and Reliance Clean Power Private Limited and AEML-D has procured power from Vector Green Energy Limited and Reliance Clean Power Private Limited sources at the same rate during April 2022.
- As regards the power purchase from Reliance Innoventures Ltd., AEML-D submitted that the EPA with Reliance Innoventures Ltd. expired on 31 March 2022. However, AEML-D has negotiated with the Generator and extended the PPA for further period of 6 months at an agreed rate of Rs. 2.62/kWh. In this context, the Commission observed that the negotiated rate is on lower side as compared to original rate of Rs. 5.30/kWh. However, considering that the EPA has been extended, the Commission directed AEML-D to clarify if the Commission had been intimated regarding this development and also if the Commission's approval is required under the provisions of the MERC MYT Regulation, 2019. Further, AEML-D was also directed to clarify regarding how such negotiated route is permitted in terms of the MYT Regulations which prescribes competitive procurement and how it is ensured that the rate is competitive vis-à-vis the current competitively discovered rates.
- 5.48 AEML-D submitted that considering the higher prices in the Short-Term Market, they have extended the Energy Purchase Agreement (EPA) for period of 6 month as per Section 4.02 of the EPA which has earlier been approved by the Commission. Clause 4.02 of EPA is reproduced below for ready reference:

"Prior to the expiration of the Term then in effect, the Term may be renewed or extended only by written agreement of the parties hereto on terms and conditions mutually agreeable to the parties."

- 5.49 AEML-D further submitted, for the extension of this PPA, AEML has linked this contract with Competitive Day Ahead Market (DAM) of IEX subject to ceiling rate of Rs 2.62 per kWh. The tariff for procurement will therefore be monthly average RTC market clearing price of IEX or Rs. 2.62 per unit, whichever is lower. The relevant clause from the EPA extension letter is reproduced below for reference:
 - "2. The Tariff applicable for the above-mentioned extended Term shall be minimum of:
 - a. Rs 2.62 per kWh: and
 - b. Monthly average Market Clearing Price (MCP) of W2 region for Round the Clock power derived from Indian Energy Exchange website, for the respective month for which energy is supplied under the said extended Term of EPA."

- 5.50 AEML-D submitted that this extension is in the interest of AEML-D's consumers, and they will be benefitted by this extension of PPA considering the prevailing higher prices in the short-term market. Further, this is also a competitive procurement as rates are linked to IEX MCP and also subject to a ceiling. The Commission has noted the submission and considering the market linked rate discovery subject to a ceiling rate of Rs. 2.62/kWh which is lower than the original rate under the EPA with Reliance Innoventures and also compared rates observed in the short-term bilateral market and power exchange, approves the procurement of power under the extended PPA.
- 5.51 AEML-D has not purchased any power from Tembhu Power Pvt. Ltd. in April 2022. The Commission observed that while AEML-D in its earlier submissions had stated that the generation is likely to start in March 2022, however, no power has been procured from Tembhu Power Pvt. Ltd., either in month of March 2022 or April 2022. Accordingly, the Commission sought clarification from AEML-D regarding same and information pertaining to the status of reinstatement of the project.
- 5.52 AEML_D submitted that there is 'Nil' generation for the months of March and April 2022. Further, the project was recommissioned on May 31, 2022. The communication from Tembhu power received via e-mail was also submitted by AEML-D. As per the communication from the generator submitted by AEML-D, the project was recommissioned on 31 May, 2022 after completion of repairs to equipment damaged by flood in July 2021. Further, all the 3 units (3×1.5 MW) of the plant were tested individually for operational readiness by completing mechanical spinning and synchronizing activities prior to recommissioning of the plant. The generator is currently running 1 unit continuously at a load of around 0.5 MW since 31 May, 2022 evening based on the available head and discharge which is sufficient to operate and generate power through 1 unit only. The Commission has noted the submission.
- 5.53 AEML-D has submitted that the bills for the months of December 2020 to March 2022 of AAA Sons (name has been changed to 'Triumvirate Sons Enterprises Pvt. Ltd.' and communicated to the Commission in the July 2020 month FAC submission) are not yet received. Thus, the quantum of energy supplied from AAA Sons is proposed to be considered as per the provisional quantum considered in the financial books. Accordingly, the cost of power purchase is worked out provisionally as per the PPA rate. The Commission has scrutinized the bills/invoice submitted for RE sources and found that AAA Sons Enterprise invoices are not available. It is observed that historically AAA Sons has been delaying the raising of bill and as a result provisional numbers are being used.
- 5.54 The Commission notes that this delay is not observed with any other sources. Hence AEML-D shall take up matter of delay in raising invoices with AAA Sons Enterprise and such invoices should be raised as per timelines provided in the PPA.
- 5.55 AEML-D has also purchased short term RE power based on IEX Day Ahead Market (DAM) tariff minus discount of Rs 0.04/kWh. AEML-D submitted that power procured through exchange linked contracts is at a rate lower than the rate discovered in IEX DAM

tariff for corresponding time block. Through such contract, trading margin of Rs 0.02/kWh of IEX is also saved. AEML-D has requested the Commission to consider such sourcing of RE power towards meeting its RPO obligation.

5.56 The Commission in the past has approved such purchase of RE power through exchange linked contracts. During the approval of FAC charges for January 2022, the Commission had observed that AEML-D had changed the tariff linkage of the exchange linked RE contracts from IEX GDAM to IEX DAM. AEML-D had not clarified the reason for the change in the contractual arrangement for procuring short term RE power through market linked contracts. However, the Commission had observed that the average rate of Short Term RE power procurement for the month of January 2022 is Rs. 4.27/kWh as against Rs. 4.34/kWh observed in December 2021. Further, from the data available on the IEX website, it has been observed that the rates in the G-DAM segment were higher than that observed in DAM for most of the period in the month of January 2022. This would be beneficial to the consumers and accordingly, the Commission had approved the procurement of short term RE power through market linked contracts. However, the Commission had directed that AEML-D should ensure that the changes in contract terms should not adversely impact the consumers. The average rate of short term RE purchase (exchange linked contracts) in April 2022 is Rs. 11.54/kWh. This is higher than that observed in the month of December 2021 to March 2022. However, these rates are linked to the power markets and will vary according to the market trends. As regards the comparison between the rates in the GDAM and DAM segments in the month of April 2022, it is observed that the average DAM rates were lower than GDAM on some of the days and on other days the GDAM rates were lower than the DAM rates. The market was volatile in April 2022 with weighted average market clearing prices reaching Rs. 12.00/kWh (in both GDAM and DAM) on many occasions, especially during the latter part of April 2022. Accordingly, the Commission approves the power purchase of short term RE for the month of April 2022. However, AEML-D needs to track the market movements and ensure that the terms of the contract are beneficial for the consumers.

5.57 Variation in power purchase expenses from RE sources on account of change in quantum and per unit rate is as shown in Table 12 below:

Table 12: Variation in Power Purchase expenses from Renewable Energy Sources for April 2022

Source	Approved Quantum (MU)	Approved rate (Rs./ kWh)	Actual quantu m (MU)	Actual rate (Rs./ kWh)	Variation due to quantum (Rs. Crore)	Variation due to rate (Rs. Crore)	Total variati on (Rs. Crore)
DSPPL	5.52	10.30	5.03	10.30	(0.50)	(0.00)	(0.50)
Wind Solar Hybrid	255.50	3.24	126.03	3.24	(41.95)	0.00	(41.95)
Reliance Innoventure	-	-	1.16	2.62	-	0.30	0.30
AAA Sons Enterprise	0.01	5.00	0.02	5.30	0.01	0.00	0.01
Vector Green Energy Pvt Ltd	-	-	-	-	-	-	-
Vector Green Energy Pvt Ltd	0.88	5.07	0.46	5.07	(0.21)	0.00	(0.21)

Source	Approved Quantum (MU)	Approved rate (Rs./ kWh)	Actual quantu m (MU)	Actual rate (Rs./ kWh)	Variation due to quantum (Rs. Crore)	Variation due to rate (Rs. Crore)	Total variati on (Rs. Crore)
Tembhu Power Pvt. Ltd.	0.99	4.26	-	-	(0.42)	-	-
Reliance Clean Power Ltd.	6.25	5.81	3.44	5.81	(1.63)	0.00	(1.63)
Short Term RE	-	-	30.53	11.54	-	35.24	35.24
Total RE Sources	269.14	3.45	166.67	5.03	(44.71)	35.55	(9.16)

- 5.58 APPC for renewable sources for the month April 2022 works out to Rs. 5.03/kWh as against approved level of Rs. 3.45/kWh. The increase is on account of lower power purchase from wind solar hybrid source which is the cheapest source as the Commission has approved 94.93% of total quantum from wind solar hybrid at the rate of 3.24/kWh. The purchase from short term RE sources is also at a rate higher than that approved for wind solar hybrid source. Also, the escalations provided in EPA to the approved cost which is not reflected in the present approved rates.
- 5.59 **Bilateral Purchase:** AEML-D has purchased power from PXIL, IEX and IEX linked bilateral contracts at the average rate of Rs. 11.10/kWh which is significantly higher than the approved rate of Rs. 3.50/kWh. It is observed that the power prices in the short-term market have increased significantly in the month of April 2022 as compared to the prices in the months of November 2021 to March 2022, and the same is also seen in the average price of power purchase from bilateral contracts seen in November 2021 (Rs. 3.32/kWh), December 2021 (Rs. 3.99/kWh), January 2022 (Rs. 3.81/kWh), February 2022 (Rs. 5.19/kWh) and March 2022 (Rs. 9.27/kWh). This is also evident from the rates discovered on IEX (at regional periphery) which are shown herein below:

Table 13: Power Prices in short term market (Rs./kWh)

Month	Oct - 21	Nov- 21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22
RTC	8.01	3.08	3.54	3.39	4.35	8.17	9.55
Evening (17-23 Hrs)	11.09	4.12	4.69	4.27	5.00	10.70	10.56
Day (10-17 Hrs)	5.86	2.74	3.39	3.41	4.11	6.11	7.75
Night (0-6, 23-34 Hrs)	8.10	2.13	2.05	1.98	2.82	7.83	10.90
Morning (6-10 Hrs)	7.00	3.76	4.60	4.49	6.44	8.55	8.85

5.60 Due to limited long-term tie-up, AEML-D relies significantly on the short-term purchase. AEML-D has purchased 297.18 MUs through bilateral purchase (PXIL, IEX and IEX linked contracts) which is 32.33% of its total power purchase for April 2022. 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 considering. AEML-D has also submitted the sample LOAs for day ahead exchange linked contract. Accordingly, the Commission approves the aforesaid bilateral purchase with APPC of Rs. 11.10/kWh.

- 5.61 AEML-D has to pay fees of Rs. 7,500 per month to MSLDC towards IEX standing clearance in advance, for next month. The said amount is as per the amount approved by the Commission in SLDC Order in Case No. 291 of 2019 and the same is considered as part of Bilateral purchase cost in FAC for April 2022 towards fees paid for April and May 2022. Further, AEML-D has submitted that the amount of Rs. 7,500 has not been claimed in March 2022 for the amount paid for the month of April 2022. Accordingly, AEML-D has claimed an amount of Rs. 15,000 in FAC for April 2022. Further, AEML-D has also paid Rs. 5,90,000 towards annual fees for IEX and the same is claimed in FAC for April 2022. The Commission has noted the submissions.
- 5.62 In addition, AEML-D, for the month of April 2022, has made a banking transaction of 134.95 MU. The quantum of Banking is considered as part of FAC for the month of April 2022. However, the cost related to the Banking will be considered in the month in which the banking power is returned. For the purpose of Banking, OA charges as well as Trading margin charges has been incurred, the cost thereof (Rs. 0.29 Crore) is proposed to be considered as part of Bilateral purchase cost, in FAC for April 2022. Accordingly, the consolidated cost of power purchase from bilateral sources is Rs. 7.64/kWh.
- 5.63 The Commission, taking cognisance of the submissions of AEML-D in the context of the process adopted for entering into the banking arrangement and the likely benefit for the consumers, had directed AEML-D to submit the details of the savings accrued from the banking arrangement after the transaction is completed and also at the time of truing up for the respective year. Considering the same, the Commission has presently approved the banking arrangement for consideration in the FAC approval for April 2022.
- 5.64 As regards bilateral purchases, it is observed that AEML has been purchasing short term power on a regular basis from power exchange or exchange linked bilateral contracts. Considering the variation in prices on exchange, AEML should explore the option of tying up partial quantum for slightly longer duration contracts after assessing the market conditions through competitive bidding to avoid variation in short term prices on a daily/monthly basis. Such longer period may be up till 100% availability of hybrid contracted power, as the availability of cheaper source of Hybrid power will take some time.
- 5.65 Variation in power purchase expenses from Bilateral on account of change in quantum and per unit rate is as shown in Table 14 below:

Table 14: Variation in Power Purchase expenses from Bilateral for April 2022

Source	Approved Quantum (MU)	Approved rate (Rs./kWh)	Actual quantum (MU)	Actual rate (Rs./kWh)	Variation due to quantum (Rs. Crore)	Variation due to rate (Rs. Crore)	Total variation (Rs. Crore)
Bilateral Purchase	277.88	3.50	432.14	7.64	53.99	178.78	232.77
including	277.00	3.20	132.11	7.01	23.77	170.70	232.77

Source	Approved Quantum (MU)	Approved rate (Rs./kWh)	Actual quantum (MU)	Actual rate (Rs./kWh)	Variation due to quantum (Rs. Crore)	Variation due to rate (Rs. Crore)	Total variation (Rs. Crore)
banking							
transaction							

Note: The average rate of power purchase of Rs. 7.64/kWh is computed considering the quantum of power procured through the banking transaction (134.95 MU) as well as through PXIL/IEX/Exchange linked contracts (297.18 MU), however, the cost towards the banked power is not included in the power purchase cost.

- 5.66 **DSM Pool:** AEML-D has submitted that for the month of April 2022, it has drawn 6.02 MU under the DSM mechanism and has incurred cost of Rs. 6.05 Crore.
- 5.67 **Power Procurement from Open Access and Roof Top Solar Consumers:** As per MERC (Distribution Open Access) (First Amendment) Regulations, 2019:
 - "20.5. The unutilised banked energy at the end of the month, limited to 10% of the actual total generation by such Renewable Energy generator in such month, shall be considered as deemed purchase by the Distribution Licensee at a rate equivalent to that stipulated under yearly Generic RE Tariff Order applicable for respective technology...

...Provided further that provision relating to Banking of the Principal Regulations shall continue to apply for existing Open Access Agreements or contracts as on date of notification of the first amendment of the Principal Regulations, till the expiry of the approved period for such OA transactions, beyond which provision relating to Banking under Regulation 20 of the first amendment of the Principal Regulations shall apply."

Further, as per MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015:

- "10.3. The unadjusted net credited Units of electricity as at the end of each financial year shall be purchased by the Distribution Licensee at its Average Cost of Power Purchase as approved by the Commission for that year, within the first month of the following year:"
- 5.68 The surplus energy of RE Open Access consumers (Firm and Non-firm) purchased by AEML-D as per the aforementioned regulations is 0.11 MU at a cost of Rs. 0.03 Crore and is considered in the FAC for the month of April 2022. AEML-D has submitted the details of the power procured as a part of the submission which has been verified based on consumer wise detail provided by AEML-D.
- 5.69 **Sale of Power:** AEML has sold 2.01 MUs under bilateral sale and received Rs. 2.18 Crore for the month of April 2022.
- 5.70 **Other Charges:** AEML-D has considered rebate pertaining to payments made towards power purchase from contracted generators of Renewable energy, traders from short term power purchase, payment made for InSTS charges, SLDC charges etc. in the month of April 2022. The Commission has scrutinized the details and has approved Rs. 1.35 Crore

as rebate to be considered as part of Power purchase cost for the month of April 2022. There is no standby previous year adjustment for the month of April 2022.

5.71 Summarised reasons for the rate variation for various sources are given in Table 15 below:

Table 15: Reasons for the rate variation for various sources for April 2022

Sr.	Source	Approved Rate	Actual Rate	Reason for rate variation
No.		(Rs. /kWh)	(Rs./kWh)	
1	ADTPS	4.93	5.82	The fixed charges are lower by Rs. 0.02/kWh due to higher generation as compared to the approved generation. The variable cost variation has increased by Rs. 0.87/kWh due to increase in the price of imported coal procured in March 2022. The imported coal was procured due to shortage of availability of domestic coal from SECL.
2	RE Sources	3.45	5.03	The main reason is the lower purchase of power from wind solar hybrid source which is the cheapest source approved by the Commission in the MYT Order and it contributes to around 94.93% of total approved renewable quantum. The rate of purchase is Rs. 3.24/kWh which is lower than the other sources. Rest of the RE power is purchased at approved rate. There is also purchase of RE from short term sources through market linked contracts at the rate of Rs. 11.54/kWh which is higher than the hybrid power source. Non-consideration of escalation in EPA has resulted in the approved rate being lesser than actual rate. The EPA with Reliance Innoventure which expired on 31 March, 2022 was extended for a period of 6 months at a negotiated price linked with Competitive Day Ahead Market (DAM) of IEX subject to ceiling rate of Rs 2.62 /kWh. This has helped in slightly reducing the average rate of power purchase from RE sources in April 2022.
3	Power Exchange / Banking power	3.50	7.64	Market discovered rate; Short term power purchase from Power Exchange and through day ahead exchange linked bilateral contracts is done at an average rate of Rs. 11.10/kWh. AEML-D has done a banking transaction during the month for which the quantum of power procured has been considered and only the related open access charges have been

Sr.	Source	Approved Rate	Actual Rate	Reason for rate variation
No.		(Rs./kWh)	(Rs./kWh)	
				considered. The cost of this power purchased
				will be considered when the return transaction
				is undertaken. Hence, the average rate of power
				purchase from bilateral sources is lower at Rs.
				7.64/kWh.
	Total	4.00	6.53	Variation due to above reasons

5.72 Considering the above, the Commission allows the actual average power purchase cost of Rs. 6.53/kWh for the month of April 2022 as shown in Table 15 above as compared to approved average power purchase cost of Rs. 4.00/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 April 2022 as shown in Table 15 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 higher than the 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 April 2022 is positive as shown in the Table 15 below.

Table 16: FAC on account of Power Purchase Cost

Sr. No.	Particulars Particulars	Units	April 2022
1	Average power purchase cost approved by the Commission	Rs./ kWh	4.00
2	Actual average power purchase cost	Rs. /kWh	6.53
3	Change in average power purchase cost (= 2-1)	Rs./ kWh	2.53
4	Net Power Purchase	MU	919.25
5	Change in power purchase cost (=3 x 4/10)	Rs. Crore	232.50

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

7.1 The adjustment for over recovery/under recovery has to be done for the (n-4) month as per provisions of MYT Regulations, 2019. As the prior approval of FAC has started from April 2020 and no FAC recovery has been done till now, there would not be any adjustment for over recovery/ under recovery.

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

8.1 As there is no adjustment for over recovery/under recovery as mentioned in para, 7.1 above, there is no carrying cost on account of such adjustment.

- 8.2 The holding cost is computed considering the MCLR + 150 basis points. This turns out to be 8.50% for April 2022, however, there is no carrying cost worked out for April 2022 as there is no over/under-recovery mentioned is para 7.1 above.
- 8.3 The carrying cost on the unrecovered FAC fund due to non-recovery of the positive FAC in the months of December 2021, January 2022, February 2022, March 2022 and April 2022 is discussed separately in para 10 of the report.

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 17 provides the comparison of approved and actual distribution loss and disallowance due to excess distribution loss, if any:

Table 17: Disallowance of FAC due to excess Distribution Loss

Sr. No.	Particulars	Units	Approved in Tariff Order	Actual for April 2022	Cumulative up to April 2022	Annual Sliding Distribution Loss up to April 2022
1	Net Energy input at	MU	830.82	909.73	909.73	8,715.08
	Distribution Voltages					
2	Energy sales at Distribution	MU	772.24	796.26	796.26	8,061.14
	voltages					
3	Distribution Loss (1 - 2)	MU	58.58	113.47	113.47	653.94
4	Distribution Loss as %	%	7.05%	12.47%	12.47%	7.50%
	(3/1)					
	Excess Distribution Loss =		-	-	-	4.12
	[Annual Sliding					
5	Distribution Loss (4) -	MU				
	Distribution loss approved]					
	x Net Energy Input (1)					

Sr. No.	Particulars	Units	Approved in Tariff Order	Actual for April 2022	Cumulative up to April 2022	Annual Sliding Distribution Loss up to April 2022
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore				1.20

- 9.3 As seen from the above Table 17, distribution loss for the month of April 2022 is 12.47% which is higher than the MYT approved distribution loss of 7.05%. Similarly, the cumulative distribution loss upto April 2022 is also 12.47% which is higher than the distribution losses approved in the MYT Order. AEML-D submitted that the distribution losses are being reported considering the difference between the input and sales attributable to AEML-D's own consumers. Further, the sales being reported for LT cycle billing is as per bill posting date, whereas the input will be pertaining to the concerned month itself and thus there will be variation in losses on account of the differing period of purchase and sales.
- 9.4 Further, the Annual Sliding Distribution Loss up to April 2022 is 7.50% which is higher than the approved distribution loss of 7.05% as approved in MYT Order.
- 9.5 As part of the analysis, monthly as well as cumulative distribution losses trend is also examined with reference to approved by the Commission and similar period of last financial year as shown in Table 18 below:

Table 18: Monthly and Cumulative Distribution Loss trend of AEML-D

Year	FY 2022-23	FY 2021-22
Approved	7.05%	7.30%
Actual – April	12.47%	7.46%
Actual - Cumulative till April	12.47%	7.46%

9.6 As seen from the above Table 17, disallowance of FAC due to excess distribution loss for the month of April 2022 is Rs. 1.20 Crore since the standalone FAC for the month of April 2022 is positive and also the annual sliding distribution loss is higher than approved distribution loss by the Commission.

10. Summary of Allowable ZFAC

10.1 The summary of the FAC amount as approved by the Commission for the month of April 2022 as shown in the Table 19 below.

Table 19: Summary of Allowable Z_{FAC} for April 2022

Sr. No.	Particulars	Units	As Claimed April 2022	As Approved April 2022
1	Calculation of Z _{FAC}			

Sr. No.	Particulars	Units	As Claimed April 2022	As Approved April 2022
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	232.50	232.50
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	-	-
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	-	-
1.4	$\mathbf{Z}_{FAC} = \mathbf{F} + \mathbf{C} + \mathbf{B}$	Rs. Crore	232.50	232.50
2	Calculation of FAC Charge			
2.1	Energy Sales within the License Area	MU	796.26	796.26
2.2	Excess Distribution Loss	MU	-	4.12
2.3	Z _{FAC} per kWh	Rs./kWh	2.92	2.92
3	Recovery of FAC			
3.1	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.3)/10]	Rs. Crore	-	1.20
3.2	Allowable FAC	Rs. Crore	232.50	231.30
4	Utilization of FAC Fund			
4.1	Opening Balance of FAC Fund	Rs. Crore	132.00	131.53
4.2	Carrying Cost on FAC	Rs. Crore	1.16	-
4.3	Z _{FAC} for the month (Sr. No. 3.2)	Rs. Crore	232.50	231.30
4.4	Cumulative refund of FAC upto April, 2021	Rs. Crore	-	-
4.5	Holding Cost on Cumulative refund of FAC	Rs. Crore	-	-
4.6	Closing Balance of FAC Fund	Rs. Crore	365.66	362.82
4.7	Z _{FAC} leviable/refundable to consumer	Rs. Crore	365.66	362.82
5	Total FAC based on category wise and slab wise allowed to be recovered in billing months of July 2022, August 2022, September 2022, October 2022 and November 2022	Rs. Crore	365.66#	362.82
6	Carried forward FAC for recovery during future period (3.1-3.2-4)	Rs. Crore	-	-

AEML-D has sought recovery of the cumulative FAC amount in prospective three-month period subsequent to approval of April 2022 FAC as against the period of five months considered by the Commission.

- The difference is due to disallowance of the carrying cost for the month of March 2022 (impacting the opening value of FAC fund for April 2022) and April 2022 due to delay in filing of FAC submissions by AEML-D and also on account of disallowance due to excess distribution loss considered by the Commission.
- 10.2 It can be seen from the above Table 19 that opening FAC fund for month of April 2022 is Rs. 131.53 Crore and standalone FAC for the month of April 2022 approved by the Commission is Rs. 231.30 Crore. As discussed in para. 1.3 of the report, the Commission has disallowed the carrying cost for April 2022 on the FAC fund accrued during the period April 2020 to April 2022. Accordingly, the FAC amount leviable on the consumer for the month of April 2022 is Rs. 362.82 Crore.

10.3 The recovery of FAC amount from the consumers will be allowed in line with the provisions of the letter dated 5 April, 2022 issued by the Commission and based on the decision of the Commission elaborated in para 1.2 of this Report.

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 allows the FAC amount of Rs. 231.30 Crore for the month of April 2022.
- 11.3 The Commission in its FAC approval for the month of March 2022 has directed AEML-D to carry forward the approved FAC amount of Rs. 131.53 Crore to be recovered from FAC Fund with allowable carrying cost.

- 11.4 Accordingly, considering the approved opening balance FAC Fund of Rs. 131.53 Crore, standalone FAC amount of Rs. 231.30 Crore for the month of April 2022, the total amount of Rs. 362.82 Crore is leviable on the Consumers.
- 11.5 The FAC leviable for the month of December 2021 was positive and the same was allowed to be carried forward and accumulated for next three-month period i.e. up to the month of February 2022 as per letter dated 5 April, 2022 issued by the Commission. The month of February 2022 is the third month of this three-month period and accordingly, net FAC leviable accumulated FAC upto February 2022 as per letter dated 5 April, 2022 issued by the Commission is recoverable equally in the months of April 2022, May 2022 and June 2022 along with the applicable carrying cost. However, as observed by the Commission during the approval of the FAC for the month of March 2022, there was a delay in filing of the FAC submissions by AEML-D and also the months of April 2022 and May 2022 have already passed. Further, AEML-D has also recently filed the FAC submission for the months of April 2022. AEML-D has also requested the Commission to consider the cumulative recovery amount till April 2022 to be recovered over a prospective threemonth period subsequent to approval of April 2022 FAC. However, if recovery of the FAC accumulated over the five months' period is allowed to be recovered in three months' period as prayed by AEML-D would be against the objective of equal spread for FAC recovery. Accordingly, considering the delay, the Commission allows the combined recovery of the FAC accumulated for the period December 2021 to April 2022 in the months of July 2022, August 2022, September 2022, October 2022 and November 2022.
- 11.6 The accumulation of positive FAC for five months instead of three months as per the guidelines issued by the Commission on 5 April 2022 and further recovery from consumers in five month's period is being allowed as an exceptional dispensation
- 11.7 Further, considering delay in submission of FAC by AEML-D, the Commission has disallowed the carrying cost for the period of delay. The positive FAC for December 2021 to February 2022 was expected to be levied from 1 April 2022 onwards. On account of delay on part of AEML-D, the recovery is possible only from July 2022 onwards. Hence, the carrying cost for delayed period is disallowed and shall not be allowed to be passed through to AEML-D consumers.
- 11.8 Accordingly, considering the approved FAC amount of Rs. 231.30 Crore for the month of April, 2022 and the same after being added to the FAC fund of Rs. 131.53 Crore, the total amount to be recovered is Rs. 362.82 Crore. The said amount of Rs 362.82 is being allowed to be recovered equally over five months from July 2022 to November 2022. Considering the concept of Equated Monthly Instalments (EMI) with the period of recovery as five months and rate of interest as 8.50%, the amount to be recovered for each month along with carrying cost is Rs. 73.59 Crore (Rs. 367.96 Crore over the five-month period).
- 11.9 Further, while determining the FAC payable by each category of consumer, the rate of FAC is rounded to the nearest 0, 5 or 10 paise as per the Commission's letter dated 5

April, 2022. Considering the same, the estimated recovery falls within the 20% ceiling of variable component of tariff as specified in the MYT Regulations for most of the category of consumers. Accordingly, the Commission has allowed an estimated recovery of Rs 74.87 Crore considering the ceiling at 20% of the variable component of tariff and the rounding off process. The Commission has allowed the equal recovery to avoid tariff variation every month for the Consumers. The total estimated recovery for five months considering the applicable FAC is Rs. 374.35 Crore. The adjustments on account of variation in the actual recovery vis-à-vis the approved FAC recovery will be considered during the FAC approval for subsequent months along with the applicable carrying / holding cost.

11.10 In view of the above, per unit Z_{FAC} for the month of April 2022 to be levied on consumer of AEML-D in the billing months of July 2022, August 2022, September 2022, October 2022 and November 2022 is given below.

Table 20: Per unit Z_{FAC} for the month of April 2022 to be levied on consumers of AEML-D in the billing months of July 2022 to November 2022

(Rs./kWh)

Consumer Categories	Per unit $Z_{\rm FAC}$ for the month of April 2022 to be levied on consumers of AEML-D in the billing months of July 2022 to November 2022				
LT Category					
LT I - Below Poverty Line	0.20				
LT -I Residential (Single Phase)					
0-100	0.60				
101-300	0.90				
301-500	1.10				
500 and above	1.25				
LT -I Residential (Three Phase)					
0-100	0.60				
101-300	0.85				
301-500	1.10				
500and above	1.20				
LT II: LT - Non - Residential or					
Commercial					
LT II (a) - 0-20 kW	1.00				
LT II (b) - 20-50 kW	1.15				
LT II (c) - above 50 kW	1.20				
LT - Industrial					
LT III (A) - LT Industrial upto 20 kW	0.90				
LT III (B) - LT Industrial above 20 kW	1.10				
LT - Others					
LT IX (A): LT -PS - Govt. Hospitals & EI	0.90				
LT IX (B): LT -PS - Others	0.95				
LT X (A): LT - Agriculture Pumpsets	0.65				

Consumer Categories	Per unit Z _{FAC} for the month of April 2022 to be levied on consumers of AEML-D in the billing months of July 2022 to November 2022		
LT X (B): LT - Agriculture Others	0.85		
LT IX : LT - EVCS	0.50		
HT Category			
HT I: HT-Industry	1.00		
HT II: HT- Commercial	1.15		
HT III: HT-Group Housing Society	0.95		
HT V - HT Metro & Monorail	1.00		
HT VI (A) : HT - PS - Govt. Hospitals & EI	1.00		
HT VI (B): HT - PS - Others	1.00		
HT VIII - HT - EVCS	0.60		