



महाराष्ट्र विद्युत नियामक आयोग

Maharashtra Electricity Regulatory Commission

Ref. No. MERC/FAC/2022-23/ 0472

Date: 6 October 2022

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 May 2022.

- Reference:**
1. AEML-D FAC submission for the month of May 2022 vide email dated 13 July, 2022.
 2. The data gaps were communicated vide emails dated 19 July, 2022, 20 July, 2022 and 1 August, 2022.
 3. AEML-D replied vide email dated 1 August 2022 and 6 August, 2022.

Sir,

Upon vetting the FAC calculations for the month of May, 2022 as mentioned in the above reference, the Commission has accorded approval for charging FAC amount of **Rs. 280.99 Crore**. However, the said amount is being carried forward and will be accumulated for next three-months period i.e. up to the month of July 2022 as per letter dated 5 April, 2022 issued by the Commission. Accordingly, the FAC chargeable to consumers is as shown in the table below:

Month	FAC Amount (Rs. Crore)
May, 2022	0

Further, as directed in the Order in Case No. 325 of 2019, in order to maintain transparency in the management and use of FAC Fund, AEML-D shall maintain monthly account of such FAC fund and upload it on its website for information of 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), MERC

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

ANNEXURE

Detailed Vetting Report

Date: 6 October, 2022

PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF MAY 2022

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

- Reference:**
1. AEML-D FAC submission for the month of May 2022 vide email dated 13 July, 2022.
 2. The data gaps were communicated vide emails dated 19 July, 2022, 20 July, 2022 and 1 August, 2022.
 3. AEML-D replied vide email dated 1 August, 2022 and 6 August, 2022.

1. FAC submission by AEML-D:

- 1.1 AEML-D has made FAC submissions for the month of May 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. 280.99 Crore.
- 1.2 The FAC leviable for the month of May 2022 is positive, the same is allowed to be carried forward and accumulated for the next three month period i.e. up to the month of July 2022 as per letter dated 5 April, 2022 issued by the commission.

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 13 July, 2022, AEML-D has filed FAC submissions for the month of May 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 (May 2022) (MU)
	(I)	(II=I/12)	(III)
LT Category			
BPL	0.01	0.00	0.00
LT -I: Residential	4,778.68	398.22	464.34
LT II: Commercial	2,690.58	224.22	228.65
LT III(A): LT Industrial up to 20 kW TOD Option	190.52	15.88	25.79
LT III(B): LT Industrial above 20 kW	378.08	31.51	28.39
LT-V: LT- Advertisements and Hoardings	2.87	0.24	-
LT VI: LT -Street Lights	48.70	4.06	-
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	2.42
LT IX: LT -Public Service (B)	248.53	20.71	12.07
LT X (A): LT - Agriculture Pumpsets	0.14	0.01	0.01
LT X (B): LT - Agriculture Others	0.48	0.04	0.04
LT IV: Public Water Works	12.77	1.06	-
LT IX: LT – EVCS	-	-	0.05
HT Category			
HT 1 (Industrial)	411.70	34.31	45.51
HT 2 (Commercial.)	249.75	20.81	43.46
HT 3 (Group Housing Soc.)	29.37	2.45	1.24
HT 4 (Temporary Supply)	30.13	2.51	-
HT – Railways	31.17	2.60	2.41
HT - Public Services (A)	5.96	0.50	0.64
HT - Public Services (B)	95.61	7.97	10.22
HT - Public Water Works	8.13	0.68	-
Total	9,266.90	772.24	865.26

*- 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 May 2022 is 865.26 MU which is 12.05% 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 May 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 May 2022).
- For cycle consumers (LT cycle billing), consumption data provided is for meter reading from 1 May to 31 May, 2022. These energy sales will pertain to the period which will comprise on an average half of April and half of May.

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 2022-23)	Total (FY 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
Actual – May 2022	465.58	272.12	99.69	27.87	865.26	702.61
Approved - Cumulative till May 2022	801.34	490.06	163.38	89.70	1,544.48	1,508.15
Actual - Cumulative till May 2022	888.70	535.55	180.24	57.03	1,661.52	1,400.05

4. Power Purchase Details

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

- Purchase from Adani Dahanu Thermal Power Station (ADTPS)
- Renewable energy procurement (RPS) including Solar and Non-solar
- 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 May 2022

Sr. No.	Particular	Compliance
1	Purchase from Approved Sources	Yes. AEML-D has procured power from ADTPS, Solar and Non-solar Sources and Bilateral in the month of May 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



Approval of FAC Charges for the month of May 2022

Sr. No.	Particular	Compliance																								
		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 injected 6.64 MU into the imbalance pool as per DSM mechanism.																								
5	Sale of Surplus Power	AEML has sold 1.91 MU of surplus power during the month of May 2022.																								
6	Power Purchase	Actual Power Purchase is 944.35 MU as against approved 858.11 MU. The higher actual sales as compared to the approved sales for the month along with the higher distribution losses have led to higher power purchase during the month.																								
7	Source wise Power Purchase	<table border="1"> <thead> <tr> <th>Source Name</th> <th>Approved (MU)</th> <th>Actual (MU)</th> <th>Proportion of each Source in Actual Purchase</th> </tr> </thead> <tbody> <tr> <td>ADTPS</td> <td>311.08</td> <td>314.48</td> <td>33.30%</td> </tr> <tr> <td>RE Sources</td> <td>269.14</td> <td>191.49</td> <td>20.28%</td> </tr> <tr> <td>Exchange & banking transaction</td> <td>277.88</td> <td>443.54</td> <td>46.97%</td> </tr> <tr> <td>Imbalance Pool & Other</td> <td>-</td> <td>-5.15</td> <td>-0.54%</td> </tr> <tr> <td>Total</td> <td>858.11</td> <td>944.35</td> <td>100.00%</td> </tr> </tbody> </table> <p><i>*The power purchase quantum/cost approved in MYT Order on yearly basis, however monthly approved numbers are derived from comparison purpose.</i></p>	Source Name	Approved (MU)	Actual (MU)	Proportion of each Source in Actual Purchase	ADTPS	311.08	314.48	33.30%	RE Sources	269.14	191.49	20.28%	Exchange & banking transaction	277.88	443.54	46.97%	Imbalance Pool & Other	-	-5.15	-0.54%	Total	858.11	944.35	100.00%
Source Name	Approved (MU)	Actual (MU)	Proportion of each Source in Actual Purchase																							
ADTPS	311.08	314.48	33.30%																							
RE Sources	269.14	191.49	20.28%																							
Exchange & banking transaction	277.88	443.54	46.97%																							
Imbalance Pool & Other	-	-5.15	-0.54%																							
Total	858.11	944.35	100.00%																							
8	Power Purchase under Section 62 of Electricity Act, 2003	<p>AEML-D is purchasing power from only one source i.e. ADTPS under Section 62 of EA, 2003.</p> <p>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.</p> <p>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.</p>																								
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	Short-term power purchase invoices of May 2022 are submitted by AEML-D. All the power purchase quantum and rate are verified from the																								



Sr. No.	Particular	Compliance
		invoices, and it is ensured that same has been considered in the FAC calculation.

- 4.4 **AEML-D has purchased 944.35 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 May 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 314.48 MU for the month of May 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 19.31 MU short term RE power through exchange linked contracts (linked to IEX DAM tariff), IEX Green Day Ahead Market (GDAM) and PXIL Green Term ahead Market (GTAM). 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	4.53
Adani Hybrid Energy Jaisalmer Four Limited – Wind Solar Hybrid (AHEJFL)	700.00	255.50	149.21
Non-Solar			
Reliance Innoventures	45.00 [#]	-	11.39
AAA Sons Enterprise	3.38	0.01	-
Vector Green Energy Private Limited	-	-	-
Vector Green Energy Private Limited (April 2009)	6.00	0.88	1.15
Tembhu Power Private Limited	4.50	0.99	0.00
Reliance Clean Power Limited	45.00	6.25	5.89
Short Term RE/GDAM/GTAM	-	-	19.31
Total	843.88	269.14	191.49

[#] 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 0.98 MU lower than the approved from DSPPL, 106.29 MU lower than approved from AHEJFL from wind solar hybrid (project partially



commissioned with pure solar capacity of 326.56 MW (Solar) and with Hybrid capacity of 289.21 MW, which provided 149.21 MU for May 2022), 0.27 MU higher than the approved from Vector Green Energy Private Limited, 0.98 MU lower than the approved from Tembhu Power Private Limited (small hydro plant affected due to flooding happened (Krishna river) in July 2021 and which was recommissioned on 31 May, 2022) and 0.36 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 11.39 MUs from Reliance Innoventures in May 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 19.31 MU short term RE power through exchange linked contracts (linked to IEX DAM tariff), IEX Green Day Ahead Market (GDAM) and PXIL Green Term ahead Market (GTAM).

- 4.8 **Power Procurement from Exchange:** AEML-D has purchased power from power exchange (both IEX and PXIL) and exchange linked day ahead contracts on day ahead basis. **AEML-D has purchased 443.54 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. No power has been purchased by AEML-D under the banking arrangement in the month of May 2022.
- 4.9 **Power Procurement from DSM Pool:** AEML-D has submitted that it has injected 7.09 MU power into the imbalance pool under the DSM mechanism for the month of May 2022. However, on scrutiny of the DSM bills provided by the SLDC for the month of May 2022, it was observed that the total deviation quantum was (6.43) MU at the T\diamondD interface. Based on the same, the quantum of energy injected at the G\diamondT periphery is computed as 6.64 MU. This energy at the G\diamondT interface is arrived by grossing the power injected at T\diamondD interface considering the normative transmission loss of 3.18%. The Commission had earlier directed AEML-D to consider power purchase units of imbalance pool as per SLDC DSM bills and calculate FAC. It is reiterated that AEML-D should consider both the power purchase units of imbalance pool and the associated cost as per SLDC DSM bills for the purpose of FAC computation. This is in line with the approach adopted for other Distribution Licensees in the state as well.
- 4.10 **Power Procurement from Open Access and Roof Top Solar Consumers:** AEML-D has purchased 3.40 MU from the Open Access and Roof top Solar Consumers for the month of May 2022.
- 4.11 **Sale of Power:** AEML has sold 1.91 MUs under bilateral sale for the month of May 2022.
- 4.12 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 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.

5.2 As submitted by AEML-D, the **Power Purchase cost incurred in May 2022 is Rs. 661.68 Crore** which is significantly higher than the **approved Power Purchase cost of Rs. 343.44 Crore** by the Commission for the month of May 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 May 2022 is shown in Table 5 below:

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

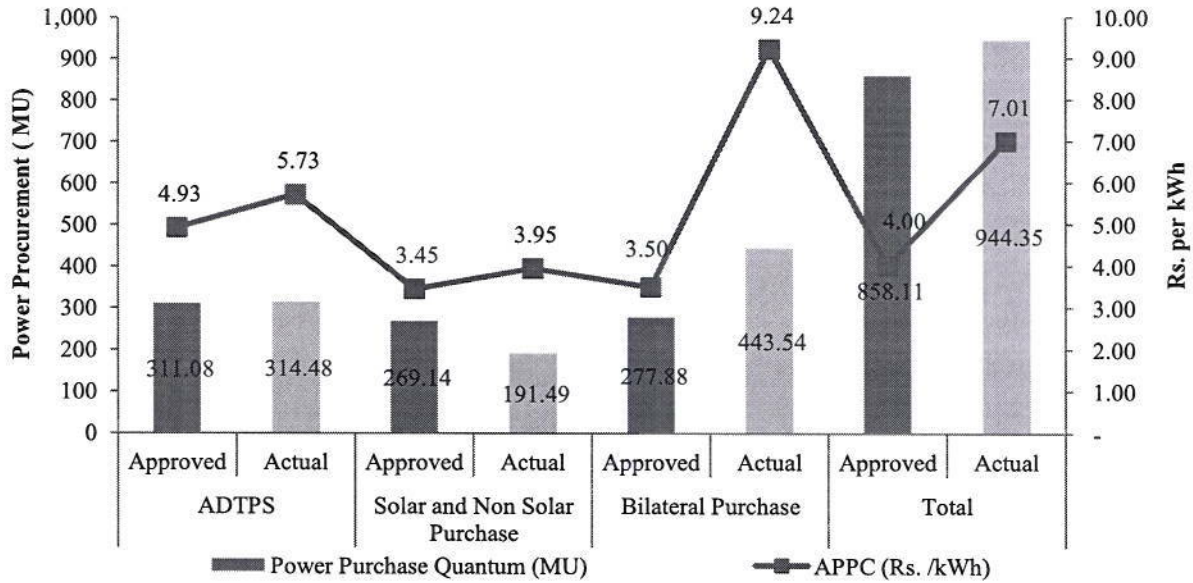
Particulars	Source	Power Purchase Quantum (MU)	Fixed Cost (Rs. Crore)	Fixed Cost (Rs./kWh)	Variable Cost (Rs. Crore)	Variable Cost (Rs./kWh)	Total Cost (Rs. Crore)	APPC (Rs./kWh)
ADTPS	Approved	311.08	28.16	0.91	125.06	4.02	153.22	4.93
	Actual	314.48	28.09	0.89	151.98	4.83	180.07	5.73
Solar and Non-Solar Purchase	Approved	269.14	-	-	92.97	3.45	92.97	3.45
	Actual	191.49	-	-	75.55	3.95	75.55	3.95
Bilateral Purchase	Approved	277.88	-	-	97.26	3.50	97.26	3.50
	Actual	443.54	-	-	409.67	9.24	409.67	9.24
Pool/ DSM	Approved	-	-	-	-	-	-	-
	Actual	(6.64)	-	-	(2.09)	3.14	(2.09)	3.14
OA/RTS	Approved	-	-	-	-	-	-	-
	Actual	3.40	-	-	1.27	3.72	1.27	3.72
Sale of Power	Approved	-	-	-	-	-	-	-
	Actual	(1.91)	-	-	(1.49)	7.80	(1.49)	7.80
Other Charges	Approved	-	-	-	-	-	-	-
	Actual	-	-	-	(1.30)	-	(1.30)	-
Total	Approved	858.11	28.16	0.33	315.28	3.67	343.44	4.00
	Actual	944.35	28.09	0.30	633.59	6.71	661.68	7.01

*- 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. 5.73/kWh (including incentive) for the month of May 2022. The Commission has also worked out the rate for power purchase from AEML-D as Rs. 5.73/kWh for the month of May 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 May 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.
- 5.6 **The actual PLF of ADTPS in May 2022 was 93.62% 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 May 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 May 2022.
- 5.7 **Due to higher generation as compared to approved generation, there is a reduction of Rs. 0.012/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 May 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 May 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 1,65,343.79 MT raw Coal from SECL in the month of May 2022. AEML-G has also stated that it has received 1,64,172.92 MT of washed coal at the plant boundary of ADTPS and has consumed 1,57,157.89 MT of washed coal in May 2022. AEML-D has also submitted the breakup and supporting documents for “Other Charges” of Rs. 20,94,877/-. AEML-D has submitted that in the month of May 2022, Rs. 11,40,599/-, Rs. 7,47,085/- and Rs. 3,48,203/- 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 April 2022. Further, Rs (2,421)/- has been included as an adjustment under wash coal analysis for short quantity analysis done at unloading end by IGI for April 2022 and Rs. (52,673/-) has been considered under washed coal analysis charges at loading end for April 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 May 2022 was Rs 9,40,433/- (Rs. 7,96,977/- 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. (13,37,088)/-, 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, liaisoning and supervision etc. The ITC available for the GST paid for railway freight, supervision charges, analysis charges at loading and unloading end for May 2022, totalling Rs. (2,41,471)/- has been included as adjustment in May 2022. The difference between provisional ITC claimed for April 2022 and final ITC for



April 2022 works out to Rs. 16,936/-, which has been considered as an adjustment in washed coal charges. ITC for GST paid for purchase of coal from SECL from April 2022 is Rs. (1,48,835)/-, which has also been considered as an adjustment in washed coal charges.

- 5.14 AEML-G has also paid railway demurrages of Rs. 65,048/- for Washed coal rakes due to delay in unloading rakes in March 2022. Out of this amount, Rs. 46,463/- has been recovered from contractors, as this demurrage appeared due to non-availability of sufficient manpower from contractor side. The balance Rs. 18,585/- has been claimed in May 2022 through the FAC mechanism. AEML had earlier requested Railways to waive the demurrages entirely, however, the request was rejected by Railways. Further, AEML-G has received debit and credit notes from SECL against grade slippages for the period May 2021, June 2021, July 2021, Aug 2021 and September 2021 in May 2022. The net amount is Rs. (4,19,92,185)/- and the same has been considered as part of the cost of washed coal.
- 5.15 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 May 2022 is as shown in the Table 6 below:

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

Particular	Quantity (MT)	Cost (Rs. Crore)	Price (Rs./MT)
Inventory			
Opening (as on 1 st May)	11,008.94	5.91	5,363.91
Addition during month	1,65,343.79	84.44	5,107.08
Total	1,76,352.73	90.35	5,123.11
Consumption			
Actual	1,57,157.89	81.05	5,157.35
Other Charges		0.21	
Total	1,57,157.89	81.26	5,170.68

- 5.16 The overall cost approved towards fuel expenses (Washed coal) is Rs. 81.26 Crore for the month of May 2022.
- 5.17 **With regards to the washed coal, the landed cost for the month of May 2022 is Rs. 5,170.68 /MT as compared to MYT approved Rs. 5,860.45 /MT, which is 11.77% lower than the approved MYT rate.**
- 5.18 AEML-D has considered 'As billed' GCV of 3,853 kCal/kg for washed coal and 'As received' GCV of 3,839 kCal/kg for May 2022.
- 5.19 AEML-D has submitted third party sampling report from Inspectorate Griffith India Pvt Ltd (IGI) for "As received" 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.”

- 5.20 The transit loss claimed by AEML-D for the month of May 2022 is 0.708%. The coal received at ADTPS in May 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 1,64,172.92 MT and as per weighment of coal at washery end, the washed coal dispatched was 1,65,343.79 MT. The difference is reported as the transit loss which is **1,170.87 MT which is 0.708%** of the total coal dispatched during the month of May 2022.
- 5.21 The weighted average GCV of opening stock of washed coal in May 2022 was 3,883 kCal/kg. The ‘As received’ GCV of washed coal received in May 2022 was 3,839 kCal/kg and ‘As billed’ GCV was 3,853 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 3,855 kCal/kg for May 2022. The ‘As fired’ GCV of washed coal considered by AEML-D is 3,818 kCal/kg. Considering the difference between the ‘As received’ GCV and the ‘As Fired’ GCV, the stacking loss for washed coal works out to 37 kCal/kg which is within the limit of 120 kCal/kg.
- 5.22 **Raw Coal:** AEML-D has submitted that it has not received but it has consumed 91.60 MT of raw coal in May 2022. Also, an adjustment amount of Rs. (18,533)/- has been included in May 2022 under CIMFR Coal Analysis charges for raw coal due to analysis



of lower quantity of raw coal in earlier months as compared to the quantity considered earlier.

- 5.23 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 May 2022 is as shown in the Table 7 below:

Table 7: Working of Raw Coal Rate for May 2022

Particular	Quantity (MT)	Cost (Rs. Crore)	Price (Rs./MT)
Inventory			
Opening (as on 1 st May)	91.60	0.02	1,843.05
Addition during month	-	(0.00)	-
Total	91.60	0.02	1,640.74
Consumption			
Actual	91.60	0.02	1,640.74
Other Charges	-	-	-
Total	91.60	0.02	1,640.74

- 5.24 The overall cost approved towards raw coal expenses is Rs. 0.02 Crore for the month of May 2022.
- 5.25 The weighted average GCV of opening stock of raw coal in May 2022 was 3,899 kCal/kg. The 'As fired' GCV of washed coal considered by AEML-D is 3,607 kCal/kg. Considering the difference between the weighted average GCV of opening stock and the 'As Fired' GCV, the stacking loss for raw coal works out to 291.86 kCal/kg which is more than the limit of 120 kCal/kg.
- 5.26 **Imported Coal:** AEML-G has procured 16,070 MT of imported coal from Adani Enterprises Ltd (AEL). AEL has procured the imported coal at Dahej port and thereafter the coal has been transported to AEML-G through Railways. Hence AEML-G has incurred railway freight for the imported coal in addition to the cost of coal in the month of May 2022. AEML-D has consumed 48,778.41 MT of imported coal in May 2022. Further, the ITC of Rs. (6,469)/- on GST paid for Railway freight has been included in May 2022 as an adjustment under Railway freight. Also, an amount of Rs. 1,00,000/- has been paid to custom department towards penalty for handling cargo in custom area.
- 5.27 As regards the penalty of Rs. 1,00,000/- paid to the custom department, AEML-D has submitted that the penalty has been levied by customs department for failure to file messages / manifests with customs department relating to the vessels used for imported coal, under Regulation 13 of Sea Cargo Manifest Transshipment Regulation (SCMTR), 2018 and Regulation 12(B) of the Handling of Cargo in Customs Area, Regulation (HCCAR), 2009. AEML had contested before customs department that formalities under these Regulations are required to be fulfilled by master of the vessel or the person authorized as sea carrier. AEML is not the master of any vessel nor has it been authorized as sea carrier by the Central Government. Hence AEML had not violated any provisions of SCMTR 2018 and HCCAR 2009. However, customs department did not



consider the contentions of AEML and imposed a penalty of Rs. 1,00,000/-. AEML has paid the amount under protest and has filed an Appeal before CESTAT, Mumbai. Since AEML has paid the penalty, the same has been claimed in May 2022 FAC. In case AEML succeeds in the Appeal, the amount will be reversed in future. The Commission has noted the submission and observes that this dispute regarding the legitimacy of the penalty must be addressed by AEML-D with the Customs dept. and the consumers should not be burdened with any penalties levied on AEML-D on account of any shortcomings on the part of AEML-D noted by any authorities as per the prevailing law. Accordingly, the penalty if Rs. 1,00,000/- is not allowed for recovery through the FAC mechanism.

5.28 The Commission had also raised queries regarding the purchase of imported coal by AEML-D from vendors other than those contracted for supplying imported coal earlier. The issues raised by the Commission include the following:

- AEML-G has procured 16,070 MT of imported coal from Adani Enterprises Ltd (AEL) in May 2022. AEML-G as a part of compliance of MYT Order, has stated that AEML-G is procuring imported coal through competitive bidding process. AEML-G has tied up for imported coal with M/S Taurus Commodities General Trading LLC after inviting bids through International Competitive Bidding in two stages. In the present submission, AEML-D has not mentioned about the reasons for not sourcing the imported coal from its contracted vendor.
- AEML has not mentioned the process adopted by AEML-G for procuring the coal, (whether MoU basis or international competitive bidding basis) and whether it meets the requirements of competitively discovered prices.
- AEML-D to provide details regarding the process adopted by AEML-G for procurement of coal.
- Further, the coal is being imported at Dahej port instead of Dahanu port which entails additional transportation cost to be paid to railways for transportation of coal. AEML-D to clarify the reason for procuring coal at Dahej Port instead of Dahanu port and justify the passing on of additional cost to the consumers.
- AEML to clarify as to how such procurement of imported coal is in permissible under the MYT Regulations, 2019 and is consistent with the fuel utilization plan approved in MYT Order dated 30 March 2020.

5.29 In response to the queries, AEML-D has submitted the following:

- AEML's captive Jetty at Dahanu is not an all-weather jetty and remains closed during the months of May – September. As per the contract with M/s Taurus Commodities General Trading LLC, the point of delivery is Dahanu anchorage port. Taking the above into consideration and in view of the requirement of coal at AEML-G (due to shortage of supply of domestic coal by CIL), AEML has floated enquiries for offers from credible suppliers for supply of coal on ex stock basis from



Dahej Port on 3 May, 2022. The Bidding documents are also shared by AEML-D with the response.

- AEML has procured the coal through competitive bidding process. AEML has received offers from 3 suppliers and the details of offer received are as below:

S. No.	Supplier	Quantity Offered (MT)	Price Offered (Rs/MT)
1	M/s Adani Enterprises Ltd	40,000-50,000 +/-10%	13,320 + 5% GST + 400
2	M/s Thrans Infrastructure Pvt Ltd	50000 +/-10%	13,550 + 5% GST + 400
3	M/s Adi Enterprises	70000 +/-10%	14,000 + 5% GST + 400

- Accordingly, M/s Adani Enterprises Ltd emerged as L1 from the Tender process with whom the coal supply agreement was entered into on 10 May, 2022. The Offers received from Suppliers and coal supply agreement entered with L1 Bidder were also shared by AEML-D with the response.
- Considering the unavailability of Dahanu port between May to September and also in view of requirement of coal for AEML-G due to shortage of supply of domestic coal by CIL, AEML-G has procured imported coal through competitive bidding route through Dahej Port. Procurement of coal from Dahej Port to AEML involves transportation cost to be paid to Railways. However, the landed cost of coal at AEML-G through price discovered in the above said tender process (including the cost of transportation) is lesser than the landed cost of coal discovered through long term coal supply agreement entered with M/s Taurus Commodities General Trading LLC. AEML-D has submitted the comparative statement of landed cost along with the response. The landed price of the imported coal from M/s Taurus Commodities General Trading LLC. is Rs. 19233 /MT whereas the landed price of the coal purchased in May 2022 is Rs. 15223/MT.
- The Commission had approved a blending ratio of 74:26 (washed coal and imported coal) in the MYT Order dated 30 March, 2020, based on the projections made by AEML-G in the MYT Petition. As per Regulation 40.9 of the MYT Regulations, 2019, at time of truing up of respective year, the Commission shall scrutinise the actual fuel utilisation vis-à-vis approved plan, deviations, if any, and justification submitted by a Generating Company thereon. Hence the MYT Regulations, 2019 contain the provision for scrutiny of actual Fuel Utilisation Plan, which can be different from approved Fuel Utilisation Plan. It is for this reason that the Commission, in the MYT Order dated 30 March, 2020, had directed AEML to make every effort to optimise the fuel cost based on the market conditions.
- Due to the increase in price of imported coal in FY 2021-22, AEML-G had executed an MOU with SECL and MCL for supply of 1 million ton of raw coal in FY 2021-22. However, raw coal supply under this route was limited and AEML-G availed the supply of raw coal to the maximum extent possible, in order to avoid imported coal, which resulted in optimization of fuel cost in FY 2021-22.



- Currently, there is country wide severe shortage of supply of domestic coal by CIL. Hence AEML-G is forced to procure imported coal, even though the prices of imported coal have significantly increased in FY 2022-23 due to geopolitical conditions. However, as submitted above, the landed cost of coal at AEML-G through price discovered in the above said tender process (including the cost of transportation) is lesser than the landed cost of coal discovered through long term coal supply agreement entered with M/s Taurus Commodities General Trading LLC. AEML shall continue to take steps to optimize the fuel sourcing for ADTPS and keep the fuel cost to the minimum.

- 5.30 The Commission has noted the submissions of AEML-D in the matter of procurement of the imported coal from newly contracted vendor and considers the cost variation for recovery through the FAC mechanism. However, AEML-G is directed to make a detailed submission on this issue during the MTR Petition for further scrutiny, detailing the further justifications such as shortage of domestic coal, inadequate inventory of imported coal, reasons for not arranging imported coal in April 2022 itself considering the fact that from May 2022 onwards, there would be restrictions on procurement of imported coal etc. AEML is also directed to ensure that appropriate and timely steps are taken to optimise the fuel sourcing so as to ensure that the undue burden of higher cost of power procurement does not adversely impact the consumers.
- 5.31 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 May 2022 is as shown in the Table 8 below:

Table 8: Working of Imported Coal Rate for May 2022

Particular	Quantity (MT)	Cost (Rs. Crore)	Price (Rs./MT)
Inventory			
Opening (as on 1 st May)	49,457.09	53.57	10,832.58
Addition during month	16,144.92	24.59	15,230.17
Total	65,602.01	78.16	11,914.85
Consumption			
Actual	48,778.41	58.19	11,928.47
Other Charges		-	-
Total	48,778.41	58.19	11,928.47

- 5.32 The overall cost approved towards imported coal expenses is Rs. 58.19 Crore for the month of May 2022.
- 5.33 **With regards to the imported coal, the weighted average landed cost for the month of May 2022 is Rs. 11,928.47 /MT.** AEML-D has consumed 48,778.41 MT of imported coal during the month of May 2022.
- 5.34 The “As Received” GCV for opening stock of imported coal for May 2022 was 4026 kCal/kg and the “As Received” GCV of imported coal received in May 2022 is 4453



kCal/kg. Hence the weighted average GCV of 4131 kCal/kg has been considered as the “As Received” GCV of imported coal for May 2022. The “As fired” GCV of imported coal is 3,922 kCal/kg. The same has been used to work out the stacking loss of 209 kCal/kg for imported coal.

- 5.35 **LDO:** AEML-D has neither purchased nor consumed any Light Diesel Oil in the month of May 2022.
- 5.36 The working of the LDO fuel cost considered for May 2022 is as shown in the Table 9 below:

Table 9: Working of LDO Rate for May 2022

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

- 5.37 No cost has been approved towards LDO expenses for the month of May 2022. **With regards to the LDO, the weighted average landed cost for the month of May 2022 is Rs. 52,788.08/KL.**
- 5.38 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:”*
- 5.39 In line with MYT Regulations, 2019 and MYT Order in Case No. 298 of 2019, the Commission has considered stacking loss of 77.69 kcal/kg (minimum of actual weighted average loss considering washed coal, raw coal and imported coal of 77.69 kcal/kg or 120 kcal/kg as per Regulation) for calculation of energy charge rate.
- 5.40 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. 4.758/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).
- 5.41 **Incentive:** As per Regulation 46.3 of MYT Regulations, 2019, the target PLF for earning incentive is 85%. Since the cumulative PLF for May 2022, both for peak and



off-peak hours, was 96.15% and 95.69% respectively, AEML-G has claimed Rs. 2.36 Crore as incentive for May 2022.

- 5.42 Variation in power purchase expenses from ADTSP 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 ADTSP for May 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)
ADTSP	311.08	4.93	314.48	5.73	1.67	25.18	26.85

- 5.43 Based on the above, **APPC for ADTSP works out to Rs. 5.73/kWh (including incentive) as against approved Rs. 4.93/kWh. There is Rs. 0.80/kWh increase in APPC for month of May 2022. Fixed cost variation is contributing to reduction of Rs. 0.012/kWh and variable cost variation is contributing to Rs. 0.74/kWh increase.** The increase in variable cost is due to significant increase in the price of imported coal which was procured in May 2022. AEML-G had to resort to procurement of imported coal due to continued shortage of availability of domestic coal from SECL.
- 5.44 **Solar Purchase:** The Commission has approved power purchase at the rate of Rs. 10.30/kWh from DSPPL. **AEML-D has purchased 4.53 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.
- 5.45 **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 149.21 MU from wind solar hybrid source for month of May 2022.**
- 5.46 **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	-
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

- 5.47 No power has been procured from AAA Sons Enterprises in May 2022 as the PPA has expired in April 2022. The Commission in the MYT Order in Case No. 325 of 2019 had approved generation equivalent to 8 days in the FY 2022-23.



- 5.48 The Commission has approved power purchase rate for Vector Green Energy Limited, Tembhu Power Private Limited and Reliance Clean Power Private Limited in the MYT Order in Case No. 325 of 2019 and AEML-D has procured power from Vector Green Energy Limited, Tembhu Power Private Limited and Reliance Clean Power Private Limited sources at the same rate during May 2022.
- 5.49 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 which has been linked 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.
- 5.50 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.
- 5.51 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 was Rs. 4.27/kWh as against Rs. 4.34/kWh observed in December 2021. Further, from the data available on the IEX website, it was 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 was 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 May 2022 is Rs. 7.88/kWh. This is higher than that observed in the month of December 2021 to March 2022, however, lower than April 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 May 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 May 2022 with weighted average market clearing prices reaching Rs. 12.00/kWh (in both GDAM and DAM) on many occasions, especially during the early part of May 2022. Accordingly, the Commission approves the power purchase of short term RE (market linked contracts) for the month



of May 2022. However, AEML-D needs to track the market movements and ensure that the terms of the contract are beneficial for the consumers.

- 5.52 Further, AEML-D has also procured short term RE power through IEX Green Day Ahead Market (GDAM) and PXIL Green Term ahead Market (GTAM) at an average rate of Rs. 8.22/kWh. Considering the same and the other short term RE sources (market linked contracts), the average rate of power purchase from short term RE sources is Rs. 8.05/kWh.
- 5.53 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 May 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)
DSPPL	5.52	10.30	4.53	10.30	(1.01)	(0.00)	(1.01)
Wind Solar Hybrid	255.50	3.24	149.21	3.24	(34.44)	0.00	(34.44)
Reliance Innoventure	-	-	11.39	2.62	-	2.98	2.98
AAA Sons Enterprise	0.01	5.00	-	-	(0.01)	-	(0.01)
Vector Green Energy Pvt Ltd	0.88	5.07	1.15	5.07	0.14	0.00	0.14
Tembhu Power Pvt. Ltd.	0.99	4.26	0.001	4.26	(0.42)	-	-
Reliance Clean Power Ltd.	6.25	5.81	5.89	5.81	(0.21)	0.00	(0.21)
Short Term RE	-	-	19.31	8.05	-	15.55	15.55
Total RE Sources	269.14	3.45	191.49	3.95	(35.95)	18.53	(17.41)

- 5.54 **APPC for renewable sources for the month May 2022 works out to Rs. 3.95/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.**

- 5.55 **Bilateral Purchase:** AEML-D has undertaken bilateral purchase of power from power exchange, both PXIL and IEX and also through exchange price linked bilateral contracts at the average rate of Rs. 9.24/ 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 May 2022 as compared to the prices in the months of December 2021 to February 2022, which is also seen in the average price of power purchase from bilateral contracts seen in December 2021 (Rs. 3.99/kWh), January 2022 (Rs. 3.81/kWh) and February 2022 (Rs. 5.19/kWh). However, the rate observed in May 2022 is lower as compared to the prices observed in March 2022 and April 2022 which is also reflected in the average price of power purchase from bilateral contracts in March 2022 (Rs. 9.27/kWh) and April 2022 (Rs. 11.10 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	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22
RTC	3.54	3.39	4.35	8.17	9.55	5.88
Evening (17-23 Hrs)	4.69	4.27	5.00	10.70	10.56	7.39
Day (10-17 Hrs)	3.39	3.41	4.11	6.11	7.75	4.63
Night (0-6, 23-34 Hrs)	2.05	1.98	2.82	7.83	10.90	7.10
Morning (6-10 Hrs)	4.60	4.49	6.44	8.55	8.85	3.63

- 5.56 Due to limited long-term tie-up, AEML-D relies significantly on the short-term purchase. AEML-D has purchased 443.54 MUs through bilateral purchase (PXIL, IEX and exchange linked contracts) which is 46.99% of its total power purchase for May 2022. Further, it is also observed that AEML-D in the recent past has been procuring power only from IEX power exchange. However, AEML-D has also procured power from PXIL power exchange in the month of May 2022. The summary of the power procured from the various short-term sources is reproduced in the table below:

Table 14: Summary of power procured from short term sources

Sr. No.	Source	Net Purchase (MU)	Power Purchase Cost (Rs. Crore)	Average Power Purchase Cost (Rs./kWh)
Bilateral Sources				
1	IEX	103.39	84.80	8.20
2	PXIL	122.95	185.24	15.07
3	STPP	217.19	139.62	6.43
	TOTAL	443.54	409.66	9.24

- 5.57 As evident from the above, the cost of power purchase from PXIL is significantly higher compared to power purchase cost from IEX and exchange linked contracts. AEML-D has also purchased higher quantum of power from PXIL during May 2022 as compared to purchase from IEX leading to higher cost of power purchase in May 2022. In this context, AEML-D was directed to clarify the reason for procuring power from PXIL instead of IEX or exchange linked contracts when the power sourced from these sources was cheaper than PXIL

- 5.58 In response, AEML-D submitted that:

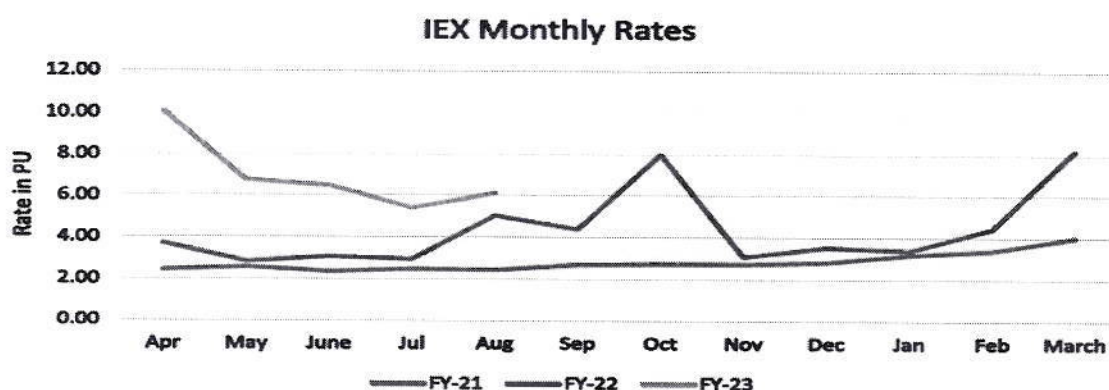
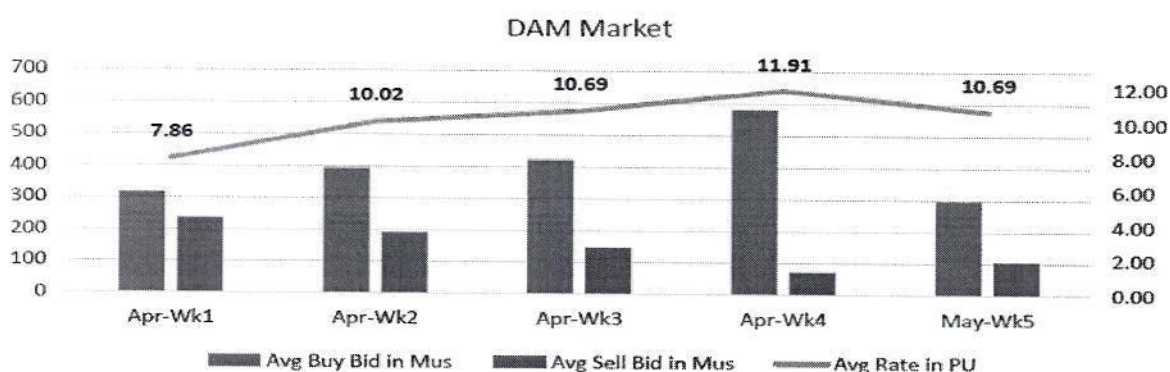
- a. The procurement from IEX and PXIL is not comparable as purchase was done in different timeframes and from different products. IEX purchase includes power procurement from day ahead product and Term ahead Product, whereas PXIL purchase includes procurement from Term Ahead Product. All the purchases made by AEML either through IEX or PXIL was on the competitive basis considering the prevailing Market conditions and requirement of power at that point in time.
- b. Further, it is pertinent to note there had been significant increase in power demand across country during April and May 2022. On 29th April 2022, India recorded an all time high peak power demand of 207.111 GW (207,111 MW). Main factors like rise in temperature causing early onset of summers and increase in economic activities with lifting of COVID-19-related restrictions,



have contributed significantly to the increase in electricity demand and also there was supply side constraints due to prevailing coal shortage and higher imported coal prices in the International Market.

- c. As per data available on Central Electricity Authority (CEA) website, it showed that as on 28-04-2022, as many as 88 of 150 power plants running on domestic coal had critically low levels of coal. Also, of the 15 plants designed on imported coal, 12 had a critical coal stock. Due to this there has been limitation on electricity generation across the country.
- d. Above factors has significantly impacted the Day ahead Market. During April and May 2022, Short Term Market price have skyrocketed and at number of instances, the spot prices have hit the ceiling rate of Rs. 12/kWh. The major reason for increased price in day ahead Market was drastic reduction in the sell bids. It is important to note that Sell Bid had reduced as low as 45 MU (1,875 MW) and on the other had Buy Bid had witnessed sharp rise. Buy Bids was as high as 762 MU (31,750 MW). There was no assurance of clearance of bid in the Day Ahead Market of IEX even though the Utilities were bidding at the ceiling rate i.e., Rs. 12/kWh in DAM and RTM Market. Market snapshot of recent price surge as shared by AEML-D in its response is depicted in the graphs below:

Figure 2: Market snapshot



- e. Due to this dynamic market condition, it was very difficult for Discoms to secure power for its consumers from Power Exchanges. AEML was also impacted by



this dynamic market conditions and were facing curtailment issues like partial or non-clearance of bid on power exchanges. This situation created serious challenge of supply assurance to our consumers in our licensed area. The details of few instances of curtailment are shown in the table below:

Date	Bid in IEX DAM Market (MU)	Cleared Quantum (MU)	Average Curtailment % of total Bid
30-04-2022	1.68	0.32	81%
29-04-2022	9.06	1.31	86%
28-04-2022	4.04	1.13	72%
27-04-2022	0.47	0.14	70%
26-04-2022	2.99	1.49	50%
25-04-2022	2.03	0.35	83%
23-04-2022	1.51	0.27	82%
22-04-2022	0.48	0.16	67%

f. Hence, considering the crisis situation, security of supply to consumers was of paramount importance to AEML. Therefore, like any other utility in India, AEML had decided to secure part of its supply from Term Ahead Market of Exchanges (i.e. IEX and PXIL) through their daily and weekly contracts. The supply secured through weekly and daily contracts were immensely helpful in meeting the power requirement.

- 5.59 The Commission has noted the submissions of AEML-D in the matter of power purchase from IEX and PXIL and directs AEML-D to optimise the cost of power procurement on a regular basis.
- 5.60 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. 9.24/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 May 2022 towards fees paid for June 2022. Further, AEML-D has also paid Rs. 17,700 towards annual fees for PXIL and the same is claimed in FAC for May 2022. The Commission has noted the submissions.
- 5.62 AEML-D had made banking transaction for which power was availed in the months of February, March and April 2022. This was approved by the Commission for consideration in the FAC approval. The power is to be returned from July 2022 onwards. For this purpose, corridor has been booked for the month of July 2022 for which charges have been paid in May 2022. The same (Rs. 0.08 Crore) is proposed to be considered as part of Bilateral purchase cost, in FAC for May 2022. Accordingly, the consolidated cost of power purchase from bilateral sources is Rs. 9.24/kWh.



- 5.63 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.
- 5.64 Variation in power purchase expenses from Bilateral on account of change in quantum and per unit rate is as shown in Table 15 below:

Table 15: Variation in Power Purchase expenses from Bilateral for May 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	443.54	9.24	57.98	254.52	312.49

- 5.65 **DSM Pool:** AEML-D has submitted that for the month of May 2022, it has injected 7.09 MU under the DSM mechanism and has incurred cost of Rs. (2.09) Crore. As discussed in para 4.9 of this report, based on the scrutiny of the DSM bills provided by the SLDC for the month of May 2022, it was observed that the total deviation quantum was (6.43) MU at the T\diamondD interface. Based on the same, the quantum of energy injected at the G\diamondT periphery is computed as 6.64 MU. This energy at the G\diamondT interface is arrived by grossing the power injected at T\diamondD interface considering the normative transmission loss of 3.18%. AEML-D is directed to consider both the power purchase units of imbalance pool and the associated cost as per SLDC DSM bills for the purpose of FAC computation. This is in line with the approach adopted for other Distribution Licensees in the state as well.
- 5.66 **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:”

- 5.67 **The surplus energy of RE Open Access consumers (Firm and Non-firm) purchased by AEML-D as per the aforementioned regulations is 3.40 MU at a cost of Rs. 1.18 Crore and is considered in the FAC for the month of May 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.
- 5.68 **Sale of Power:** AEML has sold 1.91 MUs under bilateral sale and received Rs. 1.49 Crore for the month of May 2022.
- 5.69 **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 May 2022. The Commission has scrutinized the details and has approved Rs. 1.30 Crore as rebate to be considered as part of Power purchase cost for the month of May 2022. There is no standby previous year adjustment for the month of May 2022.
- 5.70 Summarised reasons for the rate variation for various sources are given in Table 16 below:

Table 16: Reasons for the rate variation for various sources for May 2022

Sr. No.	Source	Approved Rate (Rs. /kWh)	Actual Rate (Rs. /kWh)	Reason for rate variation
1	ADTPS	4.93	5.73	<ul style="list-style-type: none"> The fixed charges are lower by Rs. 0.012/kWh due to higher generation as compared to the approved generation. The variable cost variation has increased by Rs. 0.74/kWh due to increase in the price of imported coal procured in May 2022. Also, there is an incentive of Rs. 2.36 Cr. which contributed to increase in APPC. The imported coal was procured due to shortage of availability of domestic coal from SECL.
2	RE Sources	3.45	3.95	<ul style="list-style-type: none"> The main reason for cost increase 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. Purchase of RE from short term sources like IEX GDAM, PXIL GTAM and through



Sr. No.	Source	Approved Rate (Rs. /kWh)	Actual Rate (Rs. /kWh)	Reason for rate variation
				market linked contracts at an average power purchase rate of Rs. 8.05/kWh which is higher than the hybrid power source.
				<ul style="list-style-type: none"> 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 May 2022.
3	Power Exchange / Banking power	3.50	9.24	<ul style="list-style-type: none"> Market discovered rate; Short term power purchase from Power Exchange (both IEX and PXIL) and through day ahead exchange linked bilateral contracts is done at an average rate of Rs. 9.24/kWh. The open access charges related to banking have been considered.
	Total	4.00	7.01	Variation due to above reasons

5.71 Considering the above, the Commission allows the actual average power purchase cost of Rs. 7.01/kWh for the month of May 2022 as shown in Table 16 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 May 2022 as shown in Table 16 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 May 2022 is positive as shown in the Table 17 below.

Table 17: FAC on account of Power Purchase Cost

Sr. No.	Particulars	Units	May 2022
1	Average power purchase cost approved by the Commission	Rs./ kWh	4.00
2	Actual average power purchase cost	Rs. /kWh	7.01
3	Change in average power purchase cost (= 2-1)	Rs./ kWh	3.00
4	Net Power Purchase	MU	944.35
5	Change in power purchase cost (=3 x 4/10)	Rs. Crore	283.72

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 8.70% for May 2022, however, there is no carrying cost worked out for May 2022 as there is no over/under-recovery mentioned in para 7.1 above.

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

Table 18: Disallowance of FAC due to excess Distribution Loss

Sr. No.	Particulars	Units	Approved in Tariff Order	Actual for May 2022	Cumulative up to May 2022	Annual Sliding Distribution Loss up to May 2022
1	Net Energy input at Distribution Voltages	MU	830.82	977.48	1,887.21	8,929.40
2	Energy sales at Distribution voltages	MU	772.24	865.26	1,661.52	8,223.79
3	Distribution Loss (1 - 2)	MU	58.58	112.22	225.69	705.60
4	Distribution Loss as % (3/1)	%	7.05%	11.48%	11.96%	7.90%
5	Excess Distribution Loss = [Annual Sliding Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	-	-	8.32



Approval of FAC Charges for the month of May 2022

Sr. No.	Particulars	Units	Approved in Tariff Order	Actual for May 2022	Cumulative up to May 2022	Annual Sliding Distribution Loss up to May 2022
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	-	-	2.73

9.3 As seen from the above Table 18, distribution loss for the month of May 2022 is 11.48% which is higher than the MYT approved distribution loss of 7.05%. Similarly, the cumulative distribution loss upto May 2022 is also 11.96% 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 May 2022 is 7.90% 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 19 below:

Table 19: 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 – May	11.48%	7.93%
Actual - Cumulative till May	11.96%	7.70%

9.6 As seen from the above Table 18, disallowance of FAC due to excess distribution loss for the month of May 2022 is Rs. 2.73 Crore since the standalone FAC for the month of May 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 May 2022 as shown in the Table 20 below.

Table 20: Summary of Allowable Z_{FAC} for May 2022

Sr. No.	Particulars	Units	As Claimed May 2022	As Approved May 2022
1	Calculation of Z_{FAC}			
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	283.91	283.72
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	-	-
1.3	Adjustment factor for over-recovery/under-	Rs. Crore	-	-



Approval of FAC Charges for the month of May 2022

Sr. No.	Particulars	Units	As Claimed May 2022	As Approved May 2022
	recovery (B)			
1.4	$Z_{FAC} = F+C+B$	Rs. Crore	283.91	283.72
2	Calculation of FAC Charge			
2.1	Energy Sales within the License Area	MU	865.26	865.26
2.2	Excess Distribution Loss	MU	-	8.32
2.3	Z_{FAC} per kWh	Rs./kWh	3.28	3.28
3	Recovery of FAC			
3.1	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.3)/10]	Rs. Crore	-	2.73
3.2	Allowable FAC	Rs. Crore	283.91	280.99
4	Utilization of FAC Fund			
4.1	Opening Balance of FAC Fund	Rs. Crore	-	-
4.2	Carrying Cost on FAC	Rs. Crore	-	-
4.3	Z_{FAC} for the month (Sr. No. 3.2)	Rs. Crore	283.91	280.99
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	283.91	280.99
4.7	Z_{FAC} leviable/refundable to consumer	Rs. Crore	283.91	280.99
5	Total FAC based on category wise and slab wise allowed to be recovered in future billing months	Rs. Crore	-	-
6	Carried forward FAC for recovery during future period (4.7-5)	Rs. Crore	283.91 [#]	280.99

[#] AEML-D has sought recovery of the FAC amount from the month of May 2022 onwards in the period from December 2022 onwards.

- The difference the FAC amount to be carried forward as estimated by AEML-D and that that approved by the Commission is on account of disallowance due to excess distribution loss considered by the Commission.
- 10.2 It can be seen from the above Table 20 that opening FAC fund for month of May 2022 is nil and standalone FAC for the month of May 2022 approved by the Commission is Rs. 280.99 Crore. Accordingly, the FAC amount leviable on the consumer for the month of May 2022 is Rs. 280.99 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 **Error! Reference source not found.** 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: —



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

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. 280.99 Crore for the month of May 2022 to be added to the FAC fund and FAC amount accumulated shall be carried forward to the next billing with carrying cost to the next billing cycle.
- 11.3 The Commission in its approval for the month of April, 2022 has allowed recovery of accumulated FAC fund. Hence, the opening balance of FAC fund is Nil.
- 11.4 **Accordingly, the approved FAC amount of Rs. 280.99 Crore for the month of May 2022 is allowed to be carried forward and accumulated for next three-month period i.e. up to the month of July 2022 as per letter dated 5 April, 2022 issued by the Commission.**
- 11.5 **In a view of above, the per unit Z_{FAC} for the month of May, 2022 to be levied on consumers of TPC-D in the billing month of July 2022 is Nil.**



