



# महाराष्ट्र विद्युत नियामक आयोग

## Maharashtra Electricity Regulatory Commission

Ref. No. MERC/FAC/2022-23/199

Date: 4 May, 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 December 2021.

**Reference:** 1. AEML-D FAC submission for the month of December 2021 vide email dated 01 February, 2022.  
2. The data gaps were communicated vide email dated 04 February 2022.  
3. AEML-D replied vide email dated 24 March 2022.  
4. Commission's letter regarding levy of FAC on consumers dated 5 April, 2022.

Sir,

Upon vetting the FAC calculations for the month of December, 2021 as mentioned in the above reference, the Commission has accorded approval for charging FAC amount of **Rs. 23.72 Crore**. However, the net leviable amount after adjustment from the existing FAC fund is **Rs. 12.47 Crore** and the same is being carried forward and will be 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 and accordingly the FAC chargeable to consumers is as shown in the table below:

Month	FAC Amount (Rs. Crore)
December, 2021	0

The Commission allows the accumulation of FAC amount of **(-Rs. 12.47 Crore)** which shall be carried forward to next FAC billing cycle with carrying cost as per the Order dated 30 March, 2020 in Case No. 325 of 2019 and allowed for recovery as per letter dated 5 April, 2022 issued by the Commission.

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*  
(Prafulla Varhade)  
Director (EE), MERC

**Encl:** Annexure A: Detailed Vetting Report for the period of December, 2021.

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**PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF DECEMBER 2021**

**Subject:** Prior approval of Fuel Adjustment Charges (FAC) submissions of AEML-D for the month December 2021.

**Reference:** 1. AEML-D FAC submission for the month of December 2021 vide email dated 1 February, 2022.  
2. The data gaps were communicated vide email dated 04 February 2022.  
3. AEML-D replied vide email dated 24 March 2022.

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

1.1 AEML-D has made FAC submissions for the month of December 2021 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. 23.72 Crore. The approved FAC amount is being adjusted from the FAC Fund and the balance amount of Rs 12.47 Crore is being carried forward and will be 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. At the end of the three-month period, the Commission will allow the recovery of cumulative amount for three-month period equally over the next three-month period during prior approval of the third month along with carrying cost.

**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 01 February, 2022, AEML-D has filed FAC submissions for the month of December 2021 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 (December, 2021) (MU)
	(I)	(II=I/12)	(III)
<b>LT Category</b>			
BPL	0.01	0.001	0.00
LT -I: Residential	4,644.19	387.02	341.21
LT II: Commercial	2,661.44	221.79	184.69
LT III(A): LT Industrial up to 20 kW TOD Option	186.97	15.58	25.25
LT III(B): LT Industrial above 20 kW	383.85	31.99	31.60
LT-V: LT- Advertisements and Hoardings	2.95	0.25	-
LT VI: LT -Street Lights	50.47	4.21	-
LT-VII: LT -Temporary Supply	12.22	1.02	-
LT VIII: LT - Crematorium & Burial Grounds	1.50	0.13	-
LT X: LT -Public Service (A)	35.09	2.92	1.96
LT X: LT -Public Service (B)	206.62	17.22	12.55
LT X (A): LT - Agriculture Pumpsets	0.11	0.01	0.01
LT X (B): LT - Agriculture Others	0.38	0.03	0.02
LT IV: Public Water Works	12.77	1.06	-
LT IX: LT – EVCS	-	-	0.04
<b>HT Category</b>			
HT 1 (Industrial)	375.11	31.26	31.53
HT 2 (Commercial.)	276.26	23.02	35.37
HT 3 (Group Housing Soc.)	32.24	2.69	0.88
HT 4 (Temporary Supply)	24.13	2.01	-
HT – Railways	31.04	2.59	1.94
HT - Public Services (A)	6.21	0.52	0.47
HT - Public Services (B)	97.20	8.10	10.65
HT - Public Water Works	8.13	0.68	-



Approval of FAC Charges for the month of December, 2021

Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual Sales (December, 2021) (MU)
	(I)	(II=I/12)	(III)
<b>Total</b>	<b>9,048.92</b>	<b>754.08</b>	<b>678.17</b>

\*- 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 December 2021 is 678.17 MU which is 10.07%% lower than approved energy sales of 754.08 MU per month for the FY 2021-22.** AEML-D has considered the energy sales for FAC purposes for December 2021 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 n<sup>th</sup> month (i.e., for December 2021).
- For cycle consumers (LT cycle billing), consumption data provided is for meter reading from 1 December to 31 December 2021.

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 2021-22)	Total (FY 2020-21)
<b>Monthly Approved</b>	<b>390</b>	<b>245</b>	<b>79</b>	<b>41</b>	<b>754</b>	<b>736</b>
Actual – April, 2021	406	193	75	24	697	629
Actual – May, 2021	433	164	81	24	703	481
Actual – June, 2021	408	162	70	23	663	586
Actual – July, 2021	377	185	71	23	657	669
Actual – August, 2021	356	188	65	25	635	538
Actual – September, 2021	351	207	86	24	668	586
Actual – October, 2021	383	231	82	26	722	624
Actual – November, 2021	379	232	83	26	719	642
Actual – December, 2021	342	220	88	28	678	595
<b>Approved - Cumulative till December, 2021</b>	<b>3,507</b>	<b>2,203</b>	<b>709</b>	<b>367</b>	<b>6,787</b>	<b>6,626</b>
<b>Actual - Cumulative till December, 2021</b>	<b>3,436</b>	<b>1,782</b>	<b>701</b>	<b>223</b>	<b>6,142</b>	<b>5,351</b>



**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 2021-22 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 December, 2021**

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 December 2021, which are approved sources of power purchase.			
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	Pool Imbalance	AEML-D has injected 2.02 MU to the imbalance pool after meeting its power purchase requirement as per DSM mechanism.			
5	Sale of Surplus Power	AEML has sold 0.61 MU at the rate of Rs. 2.67/kWh during December 2021.			
6	Power Purchase	Actual Power Purchase is 672.08 MU as against approved 840.18 MU due to lower sales.			
7	Source wise Power Purchase	Source Name	Approved (MU)	Actual (MU)	Proportion of each Source in Actual Purchase
		ADTPS	311.08	260.61	38.78%
		RE Sources	278.86	77.95	11.60%
		Exchange	250.24	335.92	49.98%
		Imbalance Pool & Other	-	(2.40)	-0.36%
		<b>Total</b>	<b>840.18</b>	<b>672.08</b>	<b>100.00%</b>
*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	AEML-D is purchasing power from only one source i.e. ADTPS under Section 62 of EA, 2003.			



Approval of FAC Charges for the month of December, 2021

Sr. No.	Particular	Compliance
	of Electricity Act, 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	Short-term power purchase invoices of December, 2021 are submitted by AEML-D. All the power purchase quantum and rate are verified from the invoices, and it is ensured that same has been considered in the FAC calculation.

- 4.4 **AEML-D has purchased 672.08 MUs of power as against approved 840.18 MUs from the sources approved by the Commission.** The lower Power purchase is due to lower Sales of AEML-D in the month of December 2021.
- 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 260.61 MU for the month of December 2021.**
- 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. AEML-D has also purchased 40.17 MU short term RE power based on IEX Green Day Ahead Market (GDAM). 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)
<b>Solar</b>			
DSPPL - Solar	40	5.52	3.93
Adani Hybrid Energy Jaisalmer Four Limited – Wind Solar Hybrid (AHEJFL)	700	<b>255.50</b>	<b>29.22</b>
<b>Non-Solar</b>			
Reliance Innoventures	45	6.57	0.87
AAA Sons Enterprise	3.38	0.52	0.07



Approval of FAC Charges for the month of December, 2021

Source	Contracted Capacity (MW)	Approved (MU)	Actual (MU)
Vector Green Energy Private Limited (March 2009)	18	2.63	1.04
Vector Green Energy Private Limited (April 2009)	6	0.88	0.54
Tembhu Power Private Limited	4.5	0.99	-
Reliance Clean Power Limited	45	6.26	2.11
Short Term RE/GDAM			40.17
<b>Total</b>		<b>278.86</b>	<b>77.95</b>

- 4.7 AEML-D has procured 1.58 MU lower than the approved from DSPPL, 226.28 MU lower than approved from AHEJFL from wind solar hybrid (project partially commissioned with pure solar capacity of 99.84 MW (Solar) on 26<sup>th</sup> November 2021 and with Hybrid capacity of 117.77 MW (100.96 MW Solar and 85.80 MW Wind) on 8 December, 2021, which provided 29.22 MU for December 2021), 5.70 MU lower than the approved from Reliance Innoventures, 0.45 MU lower than approved from AAA Sons Enterprise, 1.93 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 4.16 MU lower than approved from Reliance Clean Power Private Limited. 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 40.17 MU short term RE power based on IEX Green Day Ahead Market.
- 4.8 Considering the lower availability of power from AHEJFL project, the Commission had also sought the details regarding the expected dates of commissioning for remaining capacity and if there are delay in CoD vis-à-vis the planned commissioning dates. AEML-D was also directed to provide the reasons for such delays and efforts being taken to ensure timely commissioning. AEML-D submitted that the requisite information has been sought from the generator and will be submitted to the Commission once received. The Commission has noted the submission and directs AEML-D to provide the information along with the next FAC filing for the month of January 2022.
- 4.9 Further, considering that AEML has been showing nil purchase from Tembu Power Pvt. Ltd. since July, 2021, the Commission had sought details regarding the expected resumption of power supply from the plant and also directed AEML-D to clarify whether the PPA entered into with the generator provides any remedy to the AEML-D in case of such non-supply of power and whether AEML-D has availed this remedy. In response AEML-D has communicated that as per the information provided by the generator, the reinstatement of the project is underway, and generation is likely to start in March 2022 after completion of repairs. Further, as regards to the remedy available with AEML-D as per the provisions of the EPA in case of such force majeure conditions, the relevant clause





of the EPA has been quoted by AEML-D in its response and the same is reproduced below for reference:

*“...Section 16.01 (d) In the event that any delay or failure of performance caused by a Force Majeure event continues for an uninterrupted period of three hundred sixty-five (365) days from its occurrence or inception, as noticed pursuant to Section 16.01 (a) and Section 16.01 (b) , the Party not claiming such Force Majeure Event may, at any time following end of such three hundred sixty-five (365) day period, terminate this Agreement to the extent applicable to power capacity in dispute, upon written notice to affected Party, without further obligation by either Party except as to rights and obligations incurred prior to the effective date of such termination”.*

Accordingly, the remedy can be exercised by AEML-D only after the completion of uninterrupted period 365 days of continuation of the force majeure event which is not yet achieved. The Commission has noted the submission.

- 4.10 **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 335.92 MU from these sources which is higher than the monthly approved quantum of 250.24 MU.**
- 4.11 **Power Procurement from Imbalance Pool:** AEML-D has underdrawn 2.02 MU as compared to its scheduled drawl under the DSM mechanism for the month of December 2021.
- 4.12 **Power Procurement from Open Access and Roof Top Solar Consumers:** AEML-D has purchased 0.24 MU from the Open Access and Roof top Solar Consumers for the month of December 2021.
- 4.13 **Sale of Power:** AEML has made bilateral sale of 0.61 MU and has received Rs. 0.16 crore at the rate of Rs. 2.67/kWh for the month of December 2021.
- 4.14 With regards to the sale of surplus power undertaken by AEML-D, the Commission had highlighted that the same has been done at a rate (Rs. 2.67/kWh) which is even lower than the variable cost of generation of ADTPS and hence may not be in the interest of the consumers. In response AEML-D has submitted the following rationale:
- AEML undertakes the day ahead demand forecast after taking into consideration demand trend, special events and forecasted weather parameters as available on day ahead basis by 9 am. After deducting the availability declarations from the contracted sources, day ahead purchase is undertaken to meet the demand in most optimum manner.
  - Also, during intraday operations, real time revisions are undertaken to match demand trend. Accordingly, under DSM regime, SLDC issues the Day Ahead & Intraday



schedules to the Generators under decentralized MOD operation to maintain utility wise LGB.

- Therefore, if the demand reduces, SLDC gives lower dispatch schedule to ADTPS till technical minimum, and on the other hand, if demand increases, AEML undertakes RTM purchase.
- On 1 and 2 December 2021, Mumbai witnessed unseasonal rainfall of ~ 100 mm, which drastically reduced the ambient temperature, resulting in an unprecedented decrease in demand to the tune of 250 MW to 350 MW in some time blocks during night period over the forecasted demand. Around 85% of consumption of AEML is from Residential & Commercial consumers, whose consumption is sensitive to the weather parameters.
- Therefore, based on the real time demand trend, AEML undertook the demand revision and accordingly lower dispatch schedules were issued to ADTPS by SLDC, however, the reduction in demand was greater than the backing down capacity of ADTPS, hence AEML was surplus from must absorb power (Tech minimum/ RE/ Interstate purchase).
- Therefore, during these exceptional time blocks, AEML had two options i.e. either sell the surplus on Power Exchange through RTM or under draw from the Grid.
- Under DSM Regulation, DISCOM can under-draw up to its volume limit, in case of under-drawl beyond deviation limits, the realization is zero. Relevant Regulation 9(4) is reproduced herein below:

*“(4) The Charges for Deviation of under-drawal by the Buyer in a time block in excess of 12% of the schedule or [X]MW, whichever is less, shall be zero; wherein limit of [X] MW shall be determined as per the methodology specified under Clause (B) of the regulation 10 of these Regulations;”*

- As the under-drawl was beyond the volume limit, AEML had no option but to sell such surplus power in RTM at the market rate to get at least market rate instead of zero rate. Considering this, AEML has sold the power in RTM during 23:00 to 24 :00 Hrs on 1 December 2021 and for a few time blocks on 2 December 2021.
  - The sale undertaken by AEML was at market determined rate and as such proactive actions taken by AEML have benefitted the consumers, as in case of under-drawl in state pool, the realization would have been nil, thereby increasing the power purchase cost.
- 4.15 The Commission has noted the submission of AEML-D in this regard and allows the sale of power in the month of December 2021.
- 4.16 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



Approval of FAC Charges for the month of December, 2021

- 5.1 The Commission has scrutinised the detailed bills/invoices submitted for power purchase during the month of December 2021, 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 December 2021 is Rs. 261.73 Crore which is lower than the approved Power Purchase cost of Rs. 334.06 Crore by the Commission for the month of December 2021. This is on account of the variation in power purchase quantum due to lower sales and reversal of unpaid power purchase cost of RINL from April, 2021 to December, 2021. The Commission has examined the submissions made by AEML-D, especially those pertaining to the reversal of the unpaid power purchase cost of RINL and opined that the same could not be considered as it is not in line with the regular practise adopted by the Commission to consider all the power purchase costs incurred by the Licensee on accrual basis. Accordingly, the Commission has reworked the actual Power Purchase Cost as Rs. 291.03 Crore with APPC of Rs. 4.33 per Unit. The actual purchase for same month in FY 2020-21 i.e., December 2020 was 627.39 MU and power purchase cost was Rs. 210.95 Crore with APPC of Rs. 3.36/Unit. 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 December 2021 is shown in Table 5 below:

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

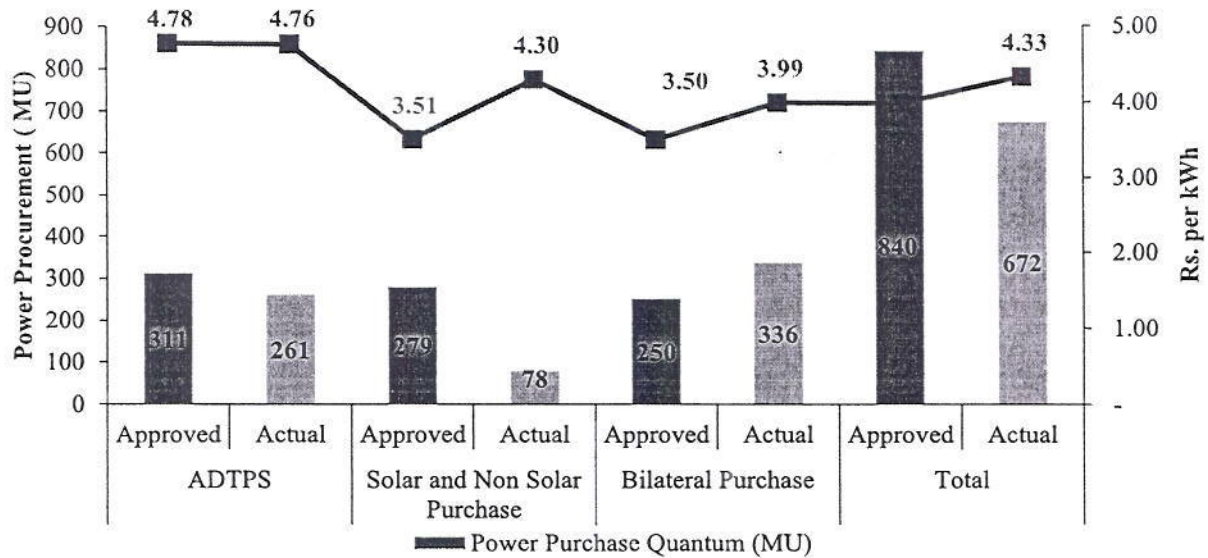
Particulars	Source	Power Purchase Quantum (MU)	Fixed Cost (Rs. Crore)	Fixed Cost (Rs./kWh)	Variable Cost (Rs. Crore)	Variable Cost (Rs./kWh)	Total Cost (Rs. Crore)	APPC (Rs./kWh)
ADTPS	Approved	311.08	27.24	0.88	121.42	3.90	148.66	4.78
	Actual	260.61	27.17	1.04	96.94	3.72	124.11	4.76
Solar and Non Solar Purchase	Approved	278.86	-	-	97.82	3.51	97.82	3.51
	Actual	77.95			33.51	4.30	33.51	4.30
Bilateral Purchase	Approved	250.24			87.59	3.50	87.59	3.50
	Actual	335.92			134.03	3.99	134.03	3.99
Pool/ DSM	Approved							
	Actual	(2.02)			(0.06)	0.29	(0.06)	0.29
OA/RTS	Approved							
	Actual	0.24			0.06	2.41	0.06	2.41
Sale of Power	Approved							
	Actual	(0.61)			(0.16)	2.67	(0.16)	2.67
Other Charges	Approved							
	Actual				(0.46)		(0.46)	
Total	Approved	840.18	27.24	0.32	306.82	3.65	334.06	3.98
	Actual	672.08	27.17	0.40	263.86	3.93	291.03	4.33



\*- 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. 4.78/kWh. AEML-D has purchased power at the rate of Rs. 4.76/kWh for the month of December 2021. The Commission has also worked out the rate for power purchase from AEML-D as Rs. 4.76/kWh for the month of December 2021.

5.5 **Fixed Cost:** The Fixed cost approved for FY 2021-22 in Case No. 325 of 2019 (AEML-D) is Rs. 326.87 Crore whereas the Fixed cost approved for FY 2021-22 in Case No. 298 of 2019 (AEML-G) is Rs. 326.03 Crore. The actual payment of Fixed Cost for the month of December 2021 is to be done according to the entitlement under Case No. 298 of 2019 i.e. Rs. 326.03 Crore, as the payment is to be done according to Generators Tariff Order.

5.6 **The actual PLF of ADTPS in December 2021 was 77.58% as compared to approved PLF of 94.38%.** ADTPS was available for generation, the Plant Availability Factor for the month (PAFM) for both Units of AEML-G was considered to be 100%. The cumulative availability for June 2021, July 2021, August 2021, September 2021, October 2021, November 2021 and December 2021 was 88.90% during peak hours and 89.22% during off peak hours. The capacity charge for peak hours works out to Rs. 5.43 Crore and the capacity charge for off peak hours works out to Rs. 21.74 Crore, totalling Rs. 27.17 Crore for the month of December 2021.



- 5.7 **Due to lower generation, per unit impact on Fixed Cost has increased by Rs. 0.16 /kWh and accordingly the Fixed Cost per unit has increased from approved FC rate of Rs. 0.88 /kWh to actual FC rate of Rs. 1.04/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 December 2021.
- 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 for the month of December 2021.
- 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 1,95,919.74 MT raw Coal from SECL in the month of December 2021. AEML-G has also stated that it has received 14,69,55.15 MT of washed coal at the plant boundary of ADTPS and has consumed 1,58,486.88 MT of washed coal in December 2021. AEML-D has also submitted the breakup and supporting documents for “Other Charges” of Rs. 0.27 Crore. AEML-D has submitted that in the month of December 2021, Rs. 9,19,987/-, Rs 6,45,268/- and Rs. 2,74,946/- have been included as an adjustment under freight charges for washed coal and for coal loading charges respectively, on account of diesel escalation for November 2021.
- 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 December 2021 was Rs. 20,96,872/- (Rs. 17,77,010/- 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. (19,56,951)/-, which has been included as an adjustment under SECL coal purchase cost. ITC on GST (Rs. 60,985/-) paid for supervision & liaisoning charges in November 2021 and passed on in FAC for November 2021 has been reversed due to non-filing of GST return by vendor.
- 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 on SECL coal purchase for November 2021 was Rs (1,06,123)/-, which has been considered in



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December 2021. The ITC available for the GST paid on freight charges of Indian Railways, coal analysis charges at ADTPS end and at washery end amounting to Rs. (2,86,393)/- has been adjusted in December 2021.

- 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 December 2021 is as shown in the Table 6 below:

**Table 6: Working of Washed Coal Rate for December, 2021**

Particular	Quantity (MT)	Cost (Rs. Crore)	Price (Rs./MT)
<b>Inventory</b>			
Opening (as on 1st December)	24,874.60	13.49	5,421.51
Addition during month	1,46,955.15	79.69	5,422.98
<b>Total</b>	<b>1,71,829.75</b>	<b>93.18</b>	<b>5,422.77</b>
<b>Consumption</b>			
Actual	1,58,486.88	85.94	5,422.77
Other Charges		0.27	
<b>Total</b>	<b>1,58,486.88</b>	<b>86.22</b>	<b>5,439.95</b>

- 5.15 The overall cost approved towards fuel expenses is Rs. 86.22 Crore for the month of December 2021.
- 5.16 With regards to the washed coal, the landed cost for the month of December 2021 is Rs. 5,439.95/MT as compared to MYT approved Rs. 5,689.76 /MT, which is 4.39% lower than the approved MYT rate.
- 5.17 AEML-D has considered 'As billed' GCV of 4,070 kCal/kg for washed coal and 'As received' GCV of 4,076 kCal/kg for December 2021. The GCV gain (difference between As Billed GCV and As Received GCV) for washed coal for the month of December 2021 is 6 kCal/kg, which implies that As Received GCV is higher than As Billed GCV.
- 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 received' 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 December 2021 is 0.92%. The coal received at ADTPS in December 2021 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. The difference is reported as the transit loss which is **1,360.76 MT which is 0.92%** of the total coal received during the month of December 2021.
- 5.20 The GCV of opening stock of washed coal in December 2021 was 4,195 kCal/kg and the GCV of washed coal received in December 2021 was 4,076 kCal/kg. Hence the weighted average GCV of 4,093 kCal/kg has been considered as the 'As Received' GCV of washed coal in December 2021. Considering this method, the stacking loss for washed coal works out to 115.65 kCal/kg which is within the limit of 120 kCal/kg.
- 5.21 **Raw 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 purchased 11,278.79 MT Raw Coal from SECL but has consumed 13,171.12 MT of raw coal in the month of December 2021.
- 5.22 AEML-D has submitted that ITC on GST paid for coal from SECL in November 2021 is Rs. (6,220)/- has been included as an adjustment in December 2021. ITC on GST paid on railway freight and coal analysis charges at ADTPS end for December 2021 amounting to Rs. (8,580/-) in total, has been included as an adjustment in December 2021. ITC on GST



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(Rs. 12,656/-) paid for supervision & liasioning charges in November 2021 and passed on in FAC for November 2021 has been reversed due to non-filing of GST return by vendor.

- 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 washed coal fuel cost considered for December 2021 is as shown in the Table 7 below:

**Table 7: Working of Raw Coal Rate for December , 2021**

Particular	Quantity (MT)	Cost (Rs. Crore)	Price (Rs./MT)
<b>Inventory</b>			
Opening (as on 1st December)	3013.77	1.46	4,841.46
Addition during month	11,025.69	5.32	4,826.58
<b>Total</b>	<b>14,039.46</b>	<b>6.78</b>	<b>4,829.78</b>
<b>Consumption</b>			
Actual	13,171.12	6.36	4,829.78
Other Charges		-	
<b>Total</b>	<b>13,171.12</b>	<b>6.36</b>	<b>4,829.78</b>

- 5.24 The overall cost approved towards raw coal expenses is Rs. 6.36 Crore for the month of December 2021.
- 5.25 **With regards to the raw coal, the landed cost for the month of December 2021 is Rs. 4,829.78/MT.**
- 5.26 AEML-D has submitted that in December 2021, AEML-G has purchased raw coal both from SECL and MCL. AEML-D submitted that invoice for one rake of raw coal received from MCL mine has not been received till now. The cost of the same has been considered on provisional basis at present and the difference of cost, after receiving the invoice for the same shall be adjusted in the cost of raw coal for January 2022. AEML-D has considered 'As received' GCV of 3,256 kcal/kg for December 2021. As per clause 50.6 of MYT Regulations, 2019, actual loss in GCV of coal between "as billed by Supplier" and "as received at generating station" is allowed subject to maximum loss of 300 kcal/kg. Hence, GCV loss is 283 kcal/kg and 'As received" GCV for calculation is considered as 3,256 kcal/kg.
- 5.27 The transit loss claimed by AEML-D for the month of December 2021 is (2.24)%. AEML-D has submitted that raw coal was lifted from SECL during December 2021 and has raised dispute pertaining to grade slippage in the results declared by CIMFR in the month of December 2021. Transit loss of raw coal is calculated as the difference between net weight of coal in rakes sent by Indian Railways and the net weight of coal received at ADTPS railway siding. The net weight of coal sent by Railways is ascertained from Railway Receipts (RR). The net weight of coal at ADTPS railway siding is ascertained by weighment of coal at the time of its unloading through wagon tippler. The difference is





reported as the transit loss which is (253.10) MT which is (2.24)% of the total coal received during the month of December 2021.

- 5.28 The GCV of opening stock of raw coal in December 2021 was 3,299 kCal/kg and the GCV of raw coal received in December 21 was 3,256 kCal/kg. Hence the weighted average GCV of 3,265 kCal/kg has been considered as the 'As Received' GCV of raw coal in December 2021. Considering the method explained in the section of washed coal, the stacking loss for raw coal works out to 121.16 kCal/kg.
- 5.29 **Imported Coal:** AEML-G has neither purchased nor consumed any imported coal in December 2021.
- 5.30 **LDO:** AEML-D has not purchased Light Diesel Oil for the month of December 2021. AEML-D has consumed NIL in the month of December 2021. The working of the LDO fuel cost considered for December 2021 is as shown in the Table 8 below:

**Table 8: Working of LDO Rate for December, 2021**

Particular	Quantity (MT)	Cost (Rs. Crore)	Price (Rs./MT)
<b>Inventory</b>			
Opening (as on 1st December)	453.11	2.21	48667.11
Addition during month	-	-	-
<b>Total</b>	<b>453.11</b>	<b>2.21</b>	<b>48,667.11</b>
<b>Consumption</b>			
Total	-	-	-

- 5.31 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.”*

- 5.32 In line with MYT Regulations, 2019 and MYT Order in Case No. 298 of 2019, the Commission has considered stacking loss of 115.656 kcal/kg (minimum of actual weighted average stacking loss considering washed coal, raw coal and imported coal of 115.65 kcal/kg or 120 kcal/kg as per Regulation) for calculation of energy charge rate.



- 5.33 Considering the approved rates for Washed Coal and Imported Coal fuel cost, GCV and normative operational parameters, the revised energy charges works out to Rs. 3.720/kWh which is lower than the approved variable cost of Rs. 3.871/kWh.
- 5.34 **Incentive:** As per Regulation 46.3 of MYT Regulations, 2019, the target PLF for earning incentive is 85%. Since the cumulative PLF for June 2021, July 2021, August 2021, September 2021, October 2021, November 2021 and December 2021 both for peak and off-peak hours were less than 85%, AEML-G has not claimed any incentive for December 2021.
- 5.35 Variation in power purchase expenses from ADTPS on account of change in quantum and per unit rate is as shown in Table 9 below:

**Table 9: Variation in Power Purchase expenses from ADTPS for December , 2021**

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	4.78	260.61	4.76	(24.12)	(0.42)	(24.54)

- 5.36 Based on the above, **APPC for ADTPS works out to Rs. 4.76/kWh as against approved Rs. 4.78/kWh. There is Rs. 0.02/kWh decrease in APPC for month of December 2021. Fixed cost variation is contributing to Rs. 0.17/kWh increase and variable cost variation is contributing to Rs. 0.18/kWh decrease.**
- 5.37 **Solar Purchase:** The Commission has approved power purchase at the rate of Rs. 10.30/kWh from DSPPL. **AEML-D has purchased at the same rate of Rs. 10.30/kWh as approved in the MYT Order.** The Commission has verified the bills/invoices submitted and found them to be correct.
- 5.38 **Wind Solar Hybrid:** The Commission has approved 92% of renewable power purchase quantum at the rate of Rs. 3.24/kWh from wind solar hybrid for FY 2021-22. **AEML-D has purchased 29.22MU from wind solar hybrid source for month of December 2021.**
- 5.39 **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 10 below:

**Table 10: Approved and Actual APPC from Non-Solar Sources**

Source	Approved (Rs./kWh)	Actual (Rs./kWh)
Reliance Innoventures	5.00	5.30
AAA Sons Enterprise	5.00	5.30
Vector Green Energy Private Limited	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



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- 5.40 The Commission has approved power purchase rate at Rs.5.00/kWh for Reliance Innoventures, 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 4<sup>th</sup> Control Period. Therefore, considering the annual escalation as specified in PPA, per unit rate works out to Rs. 5.30/kWh for December 2021. This rate is being considered as approved rate for calculation of FAC as the payments done to the generator is based on PPA.
- 5.41 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 December 2021.
- 5.42 AEML-D has submitted that the bills for the months of December 2020 to December 2021 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.
- 5.43 **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.**
- 5.44 AEML-D has also purchased short term RE power based on IEX Green Day Ahead Market (GDAM) 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 GTAM DAC tariff for 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.
- 5.45 Based on the invoices raised by Reliance Innoventures Limited (RINL), AEML-D had considered the associated cost in each month's FAC from April 2021 to November 2021, cumulatively amounting to Rs. 28.83 Crore (Rs. 28.97 Crore minus Rs. 0.14 Crore [impact of revised bill claimed in Aug-21 month]). AEML-D has submitted that the accounts of RINL have been frozen by ICICI Bank and as per request of RINL, payment has not been made to RINL. AEML-D has been communicating to RINL on regular basis on the status of the unfreezing of its account for making the payment. AEML-D has also provided a sample of the latest letter dated 24 December, 2021 from AEML-D to RINL wherein



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AEML-D has categorically stated that as and when the payment will be made, the invoices shall be deemed to have been paid as per the due date of invoices.

- 5.46 In view of the above, as the actual payment to RINL has not been made for the whole of FY 2021-22 so far, AEML-D in the present December 2021 FAC submission, has written back the already claimed amount of Rs. 28.83 Crore (from April 2021 to November 2021). AEML-D has also reworked the FAC for the period April 2021 to November 2021 for what it would have been if RINL cost was not included. This has resulted in variation in the carrying cost of Rs. 0.77 Crore. Accordingly, the same has also being reversed in the FAC of December 2021 as part of the holding / carrying cost working for December 2021 month. Further, the December month cost for RINL has also not been considered as the same is not actually paid, however, the quantum as per invoice is being considered as the same has actually been consumed.
- 5.47 The Commission has examined the submission of AEML-D and stated that the Discoms need to consider cost for the energy purchase for FAC calculation. AEML-D has been also following the same methodology wherein in absence of invoices, AEML-D was considering cost on provisional basis for power purchase from Pool or even in case of AAA Sons who were not raising invoices on time. While in the present submission, AEML-D has reversed the power purchase cost of RINL for the period from April 2021 to December 2021 citing reason of non-payment to RINL, it is to be noted that AEML-D has received invoices for power purchase from RINL and hence there is no dispute on liability. Accordingly, AEML-D would need to pay the amount immediately as and when informed by RINL which will unnecessarily burden the consumers in that particular month. In view of the same the Commission had directed AEML-D to provide justification for the change in methodology adopted for December, 2021.
- 5.48 In response, AEML-D stated that the analogy in the data gap with reference to RINL and AAA sons is not correct to the extent that in case of AAA sons, as and when the bill is received, albeit a little late, the same is paid to the generator. In case of RINL, the matter is the reverse, in the sense that the bill is received on time, but the payment is not being made for reasons elaborated in the December 2021 monthly FAC submission. Thus, the actual payment to AAA Sons is ascertained and is being made, whereas the actual payment to RINL is not being made.
- 5.49 Further, AEML-D also stated that initially, the cost of sourcing from RINL was being claimed as part of power purchase cost in the monthly submission for prior approval of the Commission with an intention that the issue of payment to RINL would likely get resolved at the earliest. But as can be seen, the matter is pending for a long time with no resolution in sight. In FAC mechanism, wherein the power purchase cost is to be recovered from the consumers, burdening the consumers with cost that's not actually incurred is undesirable. Normally, some costs are always considered on accrual basis in any given month, but there's a certainty about payment and hence they are considered for recovery. In case of RINL also, the payments will eventually be made, but as there is no visibility



of that currently, it is felt that recovery from consumers can be avoided till such time payments resume.

- 5.50 AEML-D has submitted that the Company's books recognise this cost on monthly accrual basis and hence the same shall be considered in ARR / true-up petitions. This process will not impact the consumers immediately as is the case with FAC mechanism.
- 5.51 AEML-D has also requested that in the event, the Commission does not accept the submission of AEML-D in the present matter, the Commission is requested to consider the resultant positive/ negative Fund at the time of the trueing-up of FY 2021-22 (till March 2022) as part of the MTR Petition to be filed.
- 5.52 Subsequently, AEML-D, through an additional submission dated 8 April, 2022, reiterated that AEML-D has not made any payment to RINL since February 2021 due to frozen bank account and there is no certainty in sight for making payments to RINL, as well. Therefore, the power procurement cost from RINL **shall be recognized in ARR in the year in which it is actually paid**. AEML-D has also quoted the Regulation 10.4 of MYT Regulations 2019, which states that the FAC component shall be computed and charged on the basis of actual variation in cost and subsequent to such costs being incurred. The same is reproduced below for reference:

*"..10.4 The ZFAC component shall be computed and charged on the basis of actual variation in cost of fuel and power purchase, and inter-State Transmission Charges relating to power procured during any month subsequent to such costs being incurred, in accordance with these Regulations, and shall not be computed on the basis of estimated or expected variations in fuel and/or power purchase costs .."*

- 5.53 Accordingly, AEML-D, has requested the Commission to take on record its additional submission w.r.t. FAC of Dec. 2021 that since FY 2021-22 is already over and no payment has yet been made to RINL for the said financial year, the power purchase cost will be considered as part of the Annual Revenue Requirement (ARR) in the Financial Year in which the payment will actually be made. Accordingly, the same is also not considered for the purpose of FAC and the said cost considered in FAC on accrual basis till Nov. 2021, has also been reversed. However, the Company's books will continue to recognise this cost on accrual basis and hence this amount will appear as a element or reconciliation at the time of ARR submission (ARR Vs Audited actuals for AEML-D).
- 5.54 The Commission has examined the submissions of AEML-D in the present matter and opines that the change in methodology adopted by AEML-D is only deferring the imminent impact on the consumers. AEML-D by its own submission has stated that the payments will eventually be required to be made, albeit the timeline for the same is not clear presently. Further, the Company's books of accounts do recognise these expenses on accrual basis and hence would be considered by AEML-D in its ARR / True-up petitions. AEML-D through its additional submission has only additionally submitted that



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they would consider the cost pertaining this power purchase in the ARR of the financial year in which it is actually paid.

- 5.55 As stated earlier, AEML-D is not denying that eventually the payments to RINL will have to be made and the cost will be recovered from the consumers, albeit at a different point of time. So, the consumers may be subject to the significant impact of this payment due to consolidation of the outstanding dues at the time when the payment is to be made. This is not desirable, and it may be better for the consumers if the smaller impacts are passed on periodically rather than levying a higher impact in a single month. The Commission in effect has ensured that the impact is spread out over a period of time through FAC levy on monthly basis. In view of the above, the Commission does not see the requirement to allow for change in methodology of recovery of expenses on accrual basis as adopted presently. Accordingly, the Commission has not considered the reversal of the cost of power purchase from RINL for the period April 2021 to November 2021, the impact on carrying cost computed by AEML-D and has also considered the cost of power purchase incurred for the month of December 2021 (Rs. 0.46 Crore).
- 5.56 Variation in power purchase expenses from RE sources on account of change in quantum and per unit rate is as shown in Table 11 below:

**Table 11: Variation in Power Purchase expenses from Renewable Energy Sources for December , 2021**

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	3.93	10.30	(1.63)	-	(1.64)
Wind Solar Hybrid	255.50	3.24	29.22	3.24	(73.31)	-	(73.31)
Reliance Innoventure	6.57	5.00	0.87	5.30	(2.85)	0.03	(2.82)
AAA Sons Enterprise	0.52	5.00	0.07	5.30	(0.22)	0.00	(0.22)
Vector Green Energy Pvt Ltd	2.63	5.00	1.04	5.30	(0.79)	0.03	(0.76)
Vector Green Energy Pvt Ltd	0.88	5.07	0.54	5.07	(0.17)	-	(0.17)
Tembhu Power Pvt. Ltd.	0.99	4.26	-	-	(0.42)	-	(0.42)
Reliance Power Ltd.	6.26	5.81	2.11	5.81	(2.41)	-	(2.41)
Short Term RE			40.17	4.34	-	17.45	17.45
<b>Total RE Sources</b>	<b>278.86</b>	<b>3.51</b>	<b>77.95</b>	<b>4.30</b>	<b>(81.82)</b>	<b>17.51</b>	<b>(64.31)</b>

- 5.57 **APPC for renewable sources for the month December 2021 works out to Rs. 4.30/kWh as against approved level of Rs. 3.51/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 92% of total quantum from wind solar hybrid at the rate of 3.24/kWh. Also, the escalations provided in EPA to the approved cost which is not reflected in the present approved rates.

- 5.58 **Bilateral Purchase:** AEML-D has purchased power from IEX and IEX linked bilateral contracts at the average rate of Rs. 3.99/ kWh which is higher than the approved rate of Rs. 3.50/ kWh. It is observed that the power prices in the short-term market has increased in the month of December 2021 after reduction from the month of October 2021 to November 2021 and is evident from the rates discovered on IEX (at regional periphery) which are shown herein below:

**Table 12: Power Prices in short term market**

Month	Jul -21	Aug-21	Sept- 21	Oct - 21	Nov- 21	Dec-21
RTC	2.95	5.06	4.40	8.01	3.08	3.54
Evening (17-23 Hrs)	3.81	7.87	7.07	11.09	4.12	4.69
Day (10-17 Hrs)	2.29	3.44	3.19	5.86	2.74	3.39
Night (0-6, 23-34 Hrs)	3.12	4.63	3.83	8.10	2.13	2.05
Morning (6-10 Hrs)	2.50	4.46	3.49	7.00	3.76	4.60

- 5.59 Due to limited long-term tie-up, AEML-D relies significantly on the short-term purchase. AEML-D has purchased 335.92 MUs through bilateral purchase which is 50% of its total power purchase for December 2021. 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. 3.99/Unit. AEML-D has also considered the STOA fees paid to SLDC towards IEX standing clearance as Rs. 7,500 per application.
- 5.60 The Commission approves the charges as part of bilateral purchase for the month of December 2021.
- 5.61 It is observed that AEML has been purchasing short term power on a daily 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.
- 5.62 Variation in power purchase expenses from Bilateral on account of change in quantum and per unit rate is as shown in Table 13 below:



**Table 13: Variation in Power Purchase expenses from Bilateral for December , 2021**

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	250.24	3.50	335.92	3.99	29.99	16.46	46.44

5.63 **DSM/ Imbalance Pool:** AEML-D has submitted that for the month of December 2021, it has underdrawn 2.02 MU under the DSM mechanism. SLDC has issued the provisional bill for December 2021 as per which AEML-D will get Rs. 0.06 crore. Accordingly, Rs. 0.06 crore is being considered as credit adjustment in the present FAC. AEML-D has submitted the provisional bill of SLDC in the submission.

5.64 **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:”*

5.65 The surplus energy of RE Open Access consumers (Non-firm) purchased by AEML-D as per the aforementioned regulations is 0.24 MU at a cost of Rs. 0.06 Crore and is considered in the FAC for the month of December 2021. 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 Licence.

5.66 **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 December 2021. The Commission has scrutinized the details and has approved Rs. (0.50) Crore as rebate to be considered as part of Power purchase cost for the month of December





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2021. AEML has also considered standby previous year adjustment of Rs. 0.04 Crore during month of December 2021.

5.67 Summarised reasons for the rate variation for various sources are given in Table 14 below:

**Table 14: Reasons for the rate variation for various sources for December , 2021**

Sr. No.	Source	Approved Rate (Rs. /kWh)	Actual Rate (Rs. /kWh)	Reason for rate variation
1	ADTPS	4.78	4.76	Fixed charges are higher by Rs. 0.17/ kWh due to lower generation and energy charges are lower by Rs. 0.18/ kWh.
2	RE Sources	3.51	4.30	There is very less purchase from wind solar hybrid source which is the cheapest source as the Commission, in MYT Order, has approved 92% of total renewable quantum from wind solar hybrid source at the rate of Rs. 3.24/kWh. Rest of the RE power is purchased at approved rate. Also, due to non-consideration of escalation in EPA the approved rate is lesser than actual rate.
3	Power Exchange	3.50	3.99	Market discovered rate; Short term power purchase from Power Exchange and through day ahead exchange linked contracts.
	<b>Total</b>	<b>3.98</b>	<b>4.33</b>	<b>Variation due to above reasons</b>

5.68 Considering the above, the Commission allows the actual average power purchase cost of Rs. 4.33/kWh for the month of December 2021 as shown in Table 14 above as compared to approved average power purchase cost of Rs. 3.98/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 December 2021 as shown in Table 14 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<sub>FAC</sub> 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<sub>FAC</sub> worked out by the Commission on account of difference in power purchase cost for the month of December 2021 is positive as shown in the Table 15 below.

**Table 15: FAC on account of Power Purchase Cost**

Sr. No.	Particulars	Units	December 2021
1	Average power purchase cost approved by the Commission	Rs./ kWh	3.98



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Sr. No.	Particulars	Units	December 2021
2	Actual average power purchase cost	Rs. /kWh	4.33
3	Change in average power purchase cost (= 2-1)	Rs./ kWh	0.35
4	Net Power Purchase	MU	672.08
5	Change in power purchase cost (=3 x 4/10)	Rs. Crore	23.80

**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. However, the Commission has determined a negative FAC of Rs. (8.90) Crore for November 2021 which is added to the FAC fund and the total carrying cost on FAC Fund of Rs. 0.22 Crore for November 2021. Thus, the opening balance for FAC fund for December 2021 is Rs. (11.40) Crore. The Commission has taken into consideration the submission made by AEML-D and worked out carrying cost of Rs. 0.16 Crore to be contributed to the FAC Pool.

8.2 AEML-D has computed the holding cost considering the MCLR + 150 basis points. This turns out to be 8.50% for December 2021 and carrying cost worked out is Rs. 0.16 Crore.

8.3 The Commission has considered MCLR rate of December month plus 150 basis points which works out to 8.50%. Accordingly, the Commission has calculated carrying cost of Rs. 0.16 Crore to be recovered from the FAC Fund.

**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:*



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*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<sub>FAC</sub> corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total Z<sub>FAC</sub> recoverable”*

- 9.2 The following Table 16 provides the comparison of approved and actual distribution loss and disallowance due to excess distribution loss, if any:

**Table 16: Disallowance of FAC due to excess Distribution Loss**

Sr. No.	Particulars	Units	Approved in Tariff Order	Actual for December, 2021	Cumulative up to December, 2021	Annual Sliding Distribution Loss up to December, 2021
1	Net Energy input at Distribution Voltages	MU	813.46	653.51	6,548.45	8,545.05
2	Energy sales at Distribution voltages	MU	754.08	678.17	6,142.33	7,888.36
3	Distribution Loss (1 - 2)	MU	59.39	-24.66	406.12	656.69
4	Distribution Loss as % (3/1)	%	7.30%	-3.77%	6.20%	7.68%
5	Excess Distribution Loss = [Annual Sliding Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	-	-	2.51
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	-	-	0.09

- 9.3 As seen from the above Table 16, distribution loss for the month of December 2021 is (3.77)% which is lower than the MYT approved distribution loss of 7.30%. Similarly, the cumulative distribution losses upto December, 2021 are 6.20% and lower than the distribution losses approved in the MYT Order. AEML-D submitted that the distribution loss 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 December, 2021 is 7.68% which is higher than approved distribution loss of 7.30% as approved in MYT Order. AEML-D submitted that the Commission in the May month FAC prior approval dated 11 October, 2021 for AEML-D, has, for the first time by relying on Regulation 10.8 of the MYT Regulations, 2019, considered the actual annual sliding distribution loss with the annual



approved loss. AEML-D has further submitted that the aforesaid Regulation requires that both actual and target distribution losses are determined on an annual sliding basis. Therefore, the MYT Order should have enabled implementation of the said Regulation by approving month-wise energy sales and energy balance, so that weighted average target distribution loss could have been determined for each month on a sliding scale basis and the same could have been compared with actual sliding distribution losses. AEML-D submits that in absence of this information in the MYT Order, the aforesaid Regulation cannot be implemented.

- 9.5 AEML-D submitted that because distribution loss targets are approved at reducing levels each year, if the actual losses for 12 months period (on sliding basis) are compared with target of the concerned month, actuals will always appear to be higher, leading to disallowance of FAC. This is definitely not correct as the target and actual must correspond to the same period, for them to be compared.
- 9.6 AEML-D submitted that this year does not represent business as usual performance for Distribution Licensees as the pandemic has and continue to severely influence various facets of electricity business. AEML-D has requested the Commission for regulatory intervention to recognize these factors as force majeure and appreciate the various financial losses, including the loss of possible efficiency gains on distribution losses.
- 9.7 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 17 below:

**Table 17: Monthly and Cumulative Distribution Loss trend of AEML-D**

Year	FY 2021-22	FY 2020-21
<b>Approved</b>	<b>7.30%</b>	<b>7.55%</b>
Actual – April	7.46%	4.90%
Actual – May	7.93%	34.41%
Actual – June	1.48%	-1.78%
Actual – July	9.45%	-11.22%
Actual - August	10.88%	6.74%
Actual - September	5.53%	9.78%
Actual – October	11.52%	15.94%
Actual – November	3.34%	2.62%
Actual – December	-3.77%	1.10%
<b>Actual - Cumulative till December</b>	<b>6.20%</b>	<b>7.78%</b>

- 9.8 As seen from the above Table 16, disallowance of FAC due to excess distribution loss for the month of December 2021 is Rs. 0.09 Crore since the standalone FAC for the month of December 2021 is positive and annual sliding distribution losses are higher than approved cumulative losses by the Commission.

**10. Summary of Allowable ZFAC**



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.

**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. 23.72 Crore for the month of December, 2021.

11.3 The Commission in its FAC approval for the month of November, 2021 has directed AEML-D to carry forward the approved FAC amount of Rs. (11.40) Crore to be



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10.1 The summary of the FAC amount as approved by the Commission for the month of December 2021 as shown in the Table 18 below.

**Table 18: Summary of Allowable  $Z_{FAC}$  for December , 2021**

Sr. No.	Particulars	Units	As Claimed December 2021	As Approved December 2021
<b>1</b>	<b>Calculation of <math>Z_{FAC}</math></b>			
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	(5.49)	23.80
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	-	-
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	-	-
<b>1.4</b>	<b><math>Z_{FAC} = F+C+B</math></b>	<b>Rs. Crore</b>	<b>(5.49)</b>	<b>23.80</b>
<b>2</b>	<b>Calculation of FAC Charge</b>			
2.1	Energy Sales within the License Area	MU	678.17	678.17
2.2	Excess Distribution Loss	MU	-	2.51
2.3	$Z_{FAC}$ per kWh	Rs./kWh	(0.08)	0.35
<b>3</b>	<b>Recovery of FAC</b>			
3.1	FAC disallowed corresponding to excess Distribution Loss $[(2.1+2.2) \times 2.3]/10]$	Rs. Crore		0.09
3.2	Allowable FAC	Rs. Crore	(5.49)	23.72
<b>4</b>	<b>Utilization of FAC Fund</b>			
4.1	Opening Balance of FAC Fund	Rs. Crore	(14.34)	(11.40)
4.2	Carrying Cost on FAC	Rs. Crore	0.16	0.16
4.3	$Z_{FAC}$ for the month (Sr. No. 3.2)	Rs. Crore	(5.49)	23.72
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	(20.47)	12.47
4.7	$Z_{FAC}$ leviable/refundable to consumer	Rs. Crore	-	12.47
<b>5</b>	<b>Total FAC based on category wise and slab wise allowed to be recovered</b>	<b>Rs. Crore</b>	<b>-</b>	<b>-</b>
<b>6</b>	<b>Carried forward FAC for recovery during future period (3.1-3.2-4)</b>	<b>Rs. Crore</b>	<b>(20.47)</b>	<b>12.47</b>

10.2 It can be seen from the above Table 18 that opening FAC fund for month of December 2021 is Rs. (11.40) Crore and standalone FAC (after disallowance for excess distribution losses) for the month of December 2021 approved by the Commission is Rs. 23.72 Crore. The Commission has also approved a carrying cost of Rs. 0.16 Crore for the FAC accrued during the month of April 2020 to December 2021. The FAC amount leviable on the consumer for the month of December 2021 is Rs. 12.47 Crore.



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accumulated as FAC Fund to be carried forward to the next billing cycle with holding cost.

- 11.4 Accordingly, considering the approved opening balance FAC Fund of Rs. (11.40) Crore, standalone FAC amount of Rs. 23.72 Crore for the month of December, 2021, carrying cost of Rs. 0.16 Crore, the total amount of Rs. 12.47 Crore. which is leviable on the Consumers. The said amount of Rs 12.47 Crore is being carried forward and will be 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. At the end of the three-month period, the Commission will allow the recovery of cumulative amount for three-month period equally over the next three-month period during prior approval of the third month along with carrying cost
- 11.5 **In view of the above, per unit  $Z_{FAC}$  for the month of December 2021 to be levied on consumer of AEML-D in the billing month of February 2022 is nil.**



