



महाराष्ट्र विद्युत नियामक आयोग

Maharashtra Electricity Regulatory Commission

Ref. No. MERC/FAC/2023-24/0579

Date: 2 November, 2023

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 October 2022.

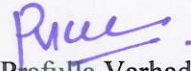
Reference: 1. AEML-D FAC submission for the month of October 2022 vide email dated 17 March, 2023.
2. The data gaps were communicated vide emails dated 16 June, 2023.
3. AEML-D replied vide emails dated 28 June, 2023

Sir,

Upon vetting the FAC calculations for the month of October, 2022 as mentioned in the above reference, the Commission has accorded approval for charging FAC amount of **Rs. 68.34 Crore**. As FY 2022-23 is already over and Provisional Truing-up of FY 2022-23 has also been done by the Commission in the recent MTR Order dated 31 March, 2023, the revised power purchase cost resulting in FAC is already adjusted in the said MTR Order. Accordingly, the FAC chargeable to consumers is as shown in the table below:

| Month | FAC Amount (Rs. Crore) |
|--------------|------------------------|
| October 2022 | 0 |

Yours faithfully,


(Dr. Prafulla Varhade)
Director (Elect. Engg.), MERC

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

PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF OCTOBER 2022

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

Reference: 1. AEML-D FAC submission for the month of October 2022 vide email dated 17 March, 2023.
2. Data gaps communicated vide emails dated 16 June, 2023.
3. AEML-D replies vide emails dated 28 June, 2023.

1. FAC submission by AEML-D:

1.1 AEML-D has made FAC submissions for the month of October 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. 68.34 Crore**. However, the approved FAC amount is adjusted at the time of Provisional Truing-up of FY 2022-23 in the MTR Order dated 31 March, 2023.

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 17 March, 2023, AEML-D has filed FAC submissions for the month of October 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 (October 2022) (MU) |
|--|---------------------------------------|-----------------------------|--|
| | (I) | (II=I/12) | (III) |
| LT Category | | | |
| BPL | 0.01 | 0.00 | 0.00 |
| LT -I: Residential | 4,778.68 | 398.22 | 385.40 |
| LT II: Commercial | 2,690.58 | 224.22 | 218.43 |
| LT III(A): LT Industrial up to 20 kW TOD Option | 190.52 | 15.88 | 27.60 |
| LT III(B): LT Industrial above 20 kW | 378.08 | 31.51 | 30.46 |
| 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 | 2.35 |
| LT IX: LT -Public Service (B) | 248.53 | 20.71 | 18.52 |
| LT X (A): LT - Agriculture Pumpsets | 0.14 | 0.01 | 0.01 |
| LT X (B): LT - Agriculture Others | 0.48 | 0.04 | 0.02 |
| LT IV: Public Water Works | 12.77 | 1.06 | - |
| LT IX: LT – EVCS | - | - | 0.05 |
| HT Category | | | |
| HT 1 (Industrial) | 411.70 | 34.31 | 43.24 |
| HT 2 (Commercial.) | 249.75 | 20.81 | 39.54 |
| HT 3 (Group Housing Soc.) | 29.37 | 2.45 | 1.15 |
| HT 4 (Temporary Supply) | 30.13 | 2.51 | - |
| HT – Railways | 31.17 | 2.60 | 5.29 |
| HT - Public Services (A) | 5.96 | 0.50 | 0.51 |
| HT - Public Services (B) | 95.61 | 7.97 | 20.82 |
| HT - Public Water Works | 8.13 | 0.68 | - |
| Total | 9,266.90 | 772.24 | 793.39 |

*- 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 October 2022 is 793.39 MU which is 2.74% higher than approved energy sales of 772.24 MU per month for the FY 2022-23. The sale considered is after netting off the GCN credit for Open Access consumption. The AEML-D has considered the energy sales for FAC purposes for October 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 October 2022).
- For cycle consumers (LT cycle billing), consumption data provided is for bill generation (bill posting date) from 1st October to 31st October. These energy sales will pertain to the period which will comprise on an average half of September and half of October.

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 |
| Actual – June, 2022 | 464.27 | 275.16 | 97.60 | 60.71 | 897.75 | 662.55 |
| Actual – July, 2022 | 393.62 | 249.31 | 66.05 | 44.07 | 753.04 | 656.52 |
| Actual – August, 2022 | 369.12 | 237.29 | 86.19 | 41.34 | 733.94 | 634.94 |
| Actual – September, 2022 | 380.06 | 236.28 | 98.72 | 34.60 | 749.65 | 668.39 |
| Actual – October, 2022 | 386.55 | 257.97 | 101.30 | 47.57 | 793.39 | 722.39 |
| Approved Cumulative till October 2022 | 2,804.70 | 1,715.19 | 571.84 | 313.95 | 5,405.69 | 5,278.54 |
| Actual - Cumulative till October 2022 | 2,882.32 | 1,791.57 | 630.09 | 285.32 | 5,589.30 | 4,744.84 |

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 October 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 October 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 negotiated with the Generator and extended the EPA under Clause No. 4.02 of the EPA at an agreed rate of Rs. 2.62/kWh till 30 th September 2022. Post expiration of this extension, AEML-D has further extended the EPA for the term 1 st October 2022 to 31 st March 2023. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 generally shortage of indigenous coal, hence there is no scope for improvement in optimal fuel utilization. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | DSM Pool | AEML-D has injected 3.39 MU into the imbalance pool as per DSM mechanism. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Sale of Surplus Power | AEML has made bilateral sale of 42.78 MUs of surplus power during the month of October 2022. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Power Purchase | Actual Power Purchase is 851.20 MU as against approved 858.11 MU. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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>247.48</td> <td>29.07%</td> </tr> <tr> <td>RE Sources</td> <td>269.14</td> <td>222.87</td> <td>26.18%</td> </tr> <tr> <td>Other Generating Stations (AEL- MTPP)</td> <td>-</td> <td>348.51</td> <td>40.94%</td> </tr> <tr> <td>Exchange</td> <td>277.88</td> <td>77.87</td> <td>9.15%</td> </tr> <tr> <td>Imbalance Pool & Other</td> <td>-</td> <td>-45.53</td> <td>-5.35%</td> </tr> <tr> <td>Total</td> <td>858.11</td> <td>851.20</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> <p><i># The Commission has, vide order dated 29-08-2022 in Case No. 149 of 2022 on the petition filed by AEML-D, approved purchase of 500 MW medium term power for the period 1-9-2022 to 14-10-2024. The power flow has accordingly commenced.</i></p> | Source Name | Approved (MU) | Actual (MU) | Proportion of each Source in Actual Purchase | ADTPS | 311.08 | 247.48 | 29.07% | RE Sources | 269.14 | 222.87 | 26.18% | Other Generating Stations (AEL- MTPP) | - | 348.51 | 40.94% | Exchange | 277.88 | 77.87 | 9.15% | Imbalance Pool & Other | - | -45.53 | -5.35% | Total | 858.11 | 851.20 | 100.00% |
| Source Name | Approved (MU) | Actual (MU) | Proportion of each Source in Actual Purchase | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ADTPS | 311.08 | 247.48 | 29.07% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RE Sources | 269.14 | 222.87 | 26.18% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other Generating Stations (AEL- MTPP) | - | 348.51 | 40.94% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Exchange | 277.88 | 77.87 | 9.15% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Imbalance Pool & Other | - | -45.53 | -5.35% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 858.11 | 851.20 | 100.00% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Power Purchase under Section 62 of Electricity Act, 2003 | AEML-D is purchasing power from only one source i.e., ADTPS under Section 62 of EA, 2003. As part of verification of fixed cost claimed by AEML-D, the same has been verified from the AEML-G MYT Order in Case No. 325 of 2019. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| Sr. No. | Particular | Compliance |
|---------|---------------------------|---|
| | | 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 October 2022 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 851.20 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 October 2022 are lower than the approved sales, and this has led to lower power purchase as compared to the approved power purchase quantum.

5. Power Purchase Cost

5.1 The Commission has scrutinised the detailed bills/invoices submitted for power purchase during the month of October 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 October 2022 is Rs. 409.02 Crore** which is significantly higher than the **approved Power Purchase cost of Rs. 343.44 Crore** by the Commission for the month of October 2022. **This is on account of the higher cost of power purchase from AEL-MTPP, other bilateral sources, short term RE purchases and the banking return cost incurred in October 2022.** As against the submission of AEML-D, 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 October 2022 is shown in Table 5 below:

Table 4: 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 | 247.48 | 28.09 | 1.14 | 92.07 | 3.72 | 120.16 | 4.86 |
| Solar and Non-Solar | Approved | 269.14 | - | - | 92.96 | 3.45 | 92.96 | 3.45 |
| | Actual | 222.87 | - | - | 76.92 | 3.45 | 76.92 | 3.45 |



| 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) |
|--------------------|----------|-----------------------------|------------------------|----------------------|---------------------------|-------------------------|------------------------|----------------|
| Purchase | | | | | | | | |
| AEL-MTPP | Approved | - | - | - | - | - | - | - |
| | Actual | 348.51 | 82.84 | 2.38 | 102.00 | 2.93 | 184.85 | 5.30 |
| Bilateral Purchase | Approved | 277.88 | - | - | 97.26 | 3.50 | 97.26 | 3.50 |
| | Actual | 82.95 | - | - | 44.44 | 5.36 | 44.44 | 5.36 |
| Banking return | Approved | - | - | - | - | - | - | - |
| | Actual | (5.08)** | - | - | - | - | - | - |
| Pool/ DSM | Approved | - | - | - | - | - | - | - |
| | Actual | (3.39) | - | - | (0.75) | 2.21 | (0.75) | 2.21 |
| OA/RTS | Approved | - | - | - | - | - | - | - |
| | Actual | 0.63 | - | - | 0.15 | 2.38 | 0.15 | 2.38 |
| Sale of Power | Approved | - | - | - | - | - | - | - |
| | Actual | (42.78) | - | - | (12.68) | 2.96 | (12.68) | 2.96 |
| Other Charges | Approved | - | - | - | - | - | - | - |
| | Actual | - | - | - | (4.07) | - | (4.07) | - |
| Total | Approved | 858.11 | 28.16 | 0.33 | 315.28 | 3.67 | 343.44 | 4.00 |
| | Actual | 851.20 | 110.94 | 1.30 | 298.09 | 3.50 | 409.02 | 4.81 |

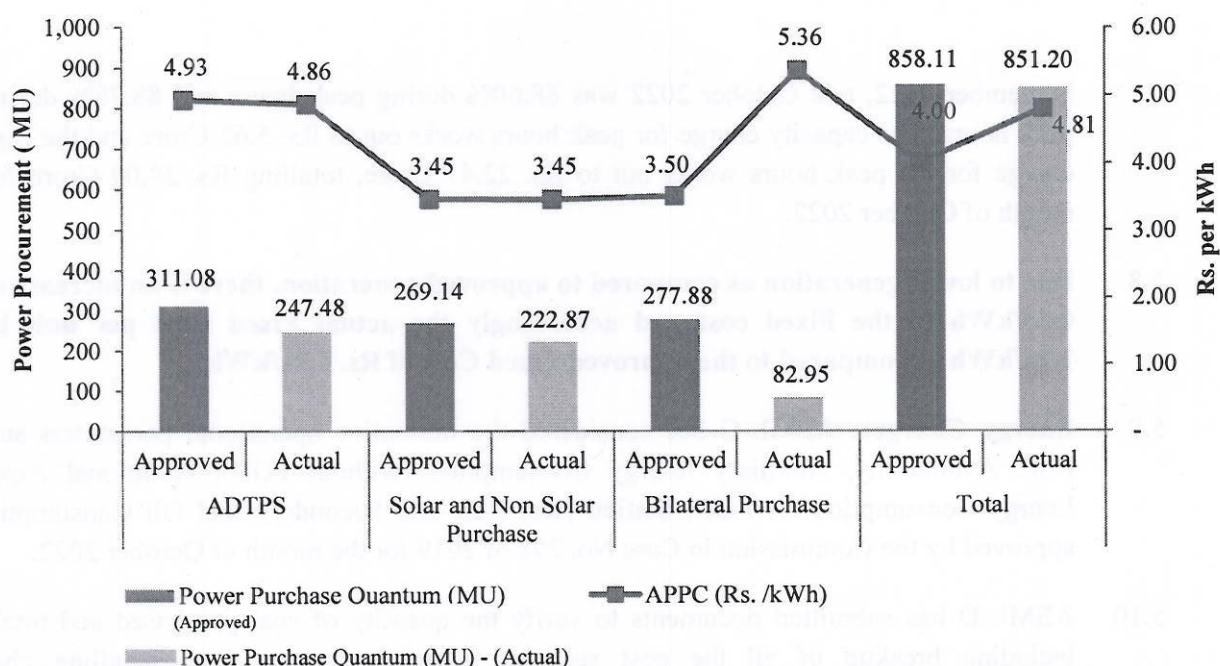
*- In case of AEML-D, there is no monthly approval for purchases. The monthly approved power purchase is arrived based on annual approved power purchase for comparison purpose.

** 5.08 MUs pertains to power returned under banking arrangement which was procured through bilateral purchase and the cost associated with the same has been included in the cost against Bilateral Purchase.

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 for October 2022



5.4 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.

ADTPS

5.5 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 from ADTPS at the rate of Rs. 4.93/kWh. AEML-D has submitted that it has purchased 247.48 MU at the rate of Rs. 4.92/kWh for the month of October 2022. The Commission has worked out the rate for power purchase from AEML-G as Rs. 4.86/kWh for the month of October 2022.

5.6 **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 October 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 Generator's Tariff Order.

5.7 **The actual PLF of ADTPS in October 2022 was 73.67% 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 actual PAFM for both units of AEML-G in October 2022 was 100% during peak hours and 100% during off peak hours. The cumulative availability for June 2022, July 2022, August 2022,



September 2022, and October 2022 was 88.60% during peak hours and 88.78% 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 October 2022.

- 5.8 **Due to lower generation as compared to approved generation, there is an increase of Rs. 0.23/kWh in the Fixed cost and accordingly the actual Fixed Cost per unit is Rs. 1.14/kWh as compared to the approved Fixed Cost of Rs. 0.91/kWh.**
- 5.9 **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 October 2022.
- 5.10 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 liaising charges incurred for Domestic Coal and Imported Coal, as applicable, for the month of October 2022.
- 5.11 **Washed Coal:** AEML-D has submitted that AEML-G has received 34,885 MT of washed coal at the plant boundary of ADTPS at a rate of Rs. 5416 per MT and has consumed 48,698 MT of washed coal in October 2022. "Other Charges" in the closing stock of the last month i.e., September 2022 amounting to Rs. 0.60 Crores have also been considered in the opening stock of the month of October 2022.
- 5.12 In the month of October 2022, AEML has considered Rs. (467)/- as washed coal analysis charges for short quantity analysis done at unloading end by IGI for September 2022 and Rs. (706)/- has been considered by AEML under Raw coal analysis charges for short quantity analysis done by CIMFR at mine end for June 2022. 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 October 2022 was Rs 18,29,000/- (Rs. 15,50,000/- plus 18% GST), which has been considered under washing charges.
- 5.13 The Input Tax Credit (ITC) available to AEML-D for supply to SEEPZ area has been set off against the GST paid on purchase of coal / LDO or against the GST paid for other services such as Railway freight, Liaisoning and supervision, analysis etc. The ITC due to sale of coal rejects works out to Rs. (6,20,294)/- which has been included by AEML as an adjustment under SECL coal purchase cost. ITC on GST paid for September 2022 on Liaisoning, analysis charges etc. amounting to Rs. (83,966)/- has also been considered by AEML on provisional basis under respective heads.



- 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 October 2022 is as shown in the Table 6 below:

Table 5: Working of Washed Coal Rate for October 2022

| Particular | Quantity (MT) | Cost (Rs. Crore) | Price (Rs./MT) |
|--|------------------|------------------|-----------------|
| Inventory | | | |
| Opening (as on 1 st October) | 20,289.69 | 10.36 | 5,108.43 |
| Addition during month | 34,885.00 | 18.89 | 5,416.13 |
| Other Charges | | 0.60 | |
| Total | 55,174.69 | 29.86 | 5,411.02 |
| Consumption | | | |
| Actual | 48,698.00 | 25.82 | 5,302.98 |
| Other Charges | - | - | - |
| Total | 48,698.00 | 25.82 | 5,302.98 |

- 5.15 The overall cost approved towards fuel expenses (Washed coal) is Rs. 25.82 Crore for the month of October 2022.
- 5.16 With regards to the washed coal, the weighted average landed cost for the month of October 2022 is Rs. 5302.98/MT as compared to MYT approved Rs. 5,860.45 /MT. AEML-D has consumed 48,698 MT of washed coal during the month of October 2022.
- 5.17 AEML-D has considered the ‘As billed’ GCV of washed coal as 3754 kCal/kg, while the ‘As Received GCV’ of same coal as per M/s IGI certificate (third party appointed by AEML-G for GCV measurement at receiving end) is 3732 kCal/kg for October 2022. 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.
- 5.18 AEML-D has been considering the “As received” GCV of the opening stock of the washed coal and the “As Received” GCV of the washed coal received during the month for working out the weighted average “As received” GCV of the coal for the month. The same was used to work out the stacking loss during the month. The Commission has also been approving the computation of GCV based on the same methodology. However, the Commission has adopted a different approach in the MTR Order for AEML-G in Case No. 220 of 2022.
- 5.19 The Commission in MTR Order in Case no. 229 of 2022 for AEML-G, has stated the following:

“4.10.17 Accordingly, the Commission has recalculated GCV (As Received Basis) on the coal procured during the month / year and the weighted average GCV so computed is considered for computation of stacking loss against the GCV (As Fired). The impact of opening / closing stock has not been considered while computing GCV (As Received



Basis), the cyclical usage of the coal will nullify the impact in the going concern in future month / year.”

- 5.20 Accordingly, in line with the FAC approval for August 2022 and September 2022, for the month of October 2022 the Commission has considered “As Received” GCV of the coal received during the month and has not considered the impact of Opening stock for computing the weighted average “As Received” GCV for a particular type of coal. Also, if a particular type of coal is not purchased in the month of reference (October 2022 in the present situation) but is consumed in that month from an older stock, then in such case “As Received” GCV of that coal purchased in the most recent month (September 2022 or earlier, as applicable, in the present case) would be considered. The Commission has adopted this approach while approving the FAC submissions for the month of August 2022 and September 2022 for AEML-D. The Commission would also be following same approach while approving FAC for AEML-D in ensuing months as well. AEML-G shall follow the above approach in accordance with the directions issued in MTR Order dated 31 March 2022 in Case No. 229 of 2022 while making the future FAC submission.
- 5.21 Accordingly, the ‘As Billed GCV’ of 3754 kCal/kg for washed coal has been considered by the Commission for computing the weighted average GCV and further calculating the energy charge for the month of October 2022.
- 5.22 For October 2022 FAC, AEML-G has shown the GCV loss in transit for washed coal as the difference between cumulative As Billed GCV and cumulative As Received GCV (from April 2022 to October 2022). The transit loss claimed by AEML-D for the month of October 2022 is 741.47 MT which is 2.08% of the overall quantum of washed coal dispatched in that month.
- 5.23 The ‘As fired’ GCV of washed coal considered by AEML-D is 3442 kCal/kg. Considering the difference between the ‘As received’ GCV and the ‘As Fired’ GCV, the stacking loss for washed coal works out to 312 kCal/kg which is more than the limit of 120 kCal/kg. Hence, the Commission has computed energy charge considering stacking loss of 120 kCal/kg.
- 5.24 **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 1,24,780 MT Raw Coal (at plant boundary) from SECL and has consumed 1,31,810 MT of raw coal in October 2022. As per weighment of coal at ADTPS, the raw coal received is 1,24,780.75 MT and the weighment of coal dispatched by SECL was 1,25,076.32 MT. The difference is reported as the transit loss which is 295.57 MT which is 0.24% of the total coal dispatched during the month of October 2022.
- 5.25 The ITC on GST paid in Liaisoning charges, analysis charges, railway charges and coal purchase in September 2022 is Rs. (4,72,324)/- has been considered as an adjustment under



coal purchase head. Under “Uploading for raw coal inventory” Rs. (613)/- has been considered under raw coal analysis charges for short quantity analysis done at unloading end by IGI in September 2022.

- 5.26 The working of the raw coal fuel cost considered for October 2022 is as shown in the Table 6 below:

Table 6: Working of Raw Coal Rate for October 2022

| Particular | Quantity (MT) | Cost (Rs. Crore) | Price (Rs./MT) |
|---|-----------------|------------------|-----------------|
| Inventory | | | |
| Opening (as on 1 st October) | 18,986 | 9.19 | 4,838 |
| Addition during month | 1,24,781 | 58.20 | 4,664 |
| Total | 1,43,767 | 67.39 | 4,687 |
| Consumption | | | |
| Actual | 1,31,810 | 61.87 | 4,687.14 |
| Other Charges | - | - | - |
| Total | 1,31,810 | 61.87 | 4,687.14 |

- 5.27 The overall cost approved towards raw coal expenses is Rs. 61.87 Crore for the month of October 2022.
- 5.28 With regards to the raw coal, the weighted average landed cost for the month of October 2022 is Rs. 4687.14 /MT. AEML-D has consumed 1,31,810 MT of raw coal during the month of October 2022.
- 5.29 AEML-D has submitted that in October 2022, AEML-G has purchased raw coal from SECL only. AEML-D has considered the ‘As billed’ GCV of raw coal as 3927 kCal/kg, while the ‘As Received GCV’ of same coal as per M/s IGI certificate (third party appointed by AEML-G for GCV measurement at receiving end) is 3238 kCal/kg for October 2022. 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. The GCV loss calculated by AEML- D (difference between ‘As Billed’ GCV and ‘As Received’ GCV) for raw coal for the month of October 2022 is 689 kCal/kg. Hence, GCV loss is outside the limit of 300 kcal/kg and ‘As received” GCV of 3627 kCal/kg for calculation is considered (i.e., maximum of the ‘As received’ GCV or ‘As billed’ GCV minus 300 kCal/kg).
- 5.30 In accordance with the methodology mentioned in para 5.18 to para 5.20, the Commission has approved “As Received” GCV as 3627 kCal/kg for raw coal. The “As fired” GCV of raw coal is 3023 kCal/kg. The same has been used to work out the stacking loss of 604 kCal/kg for raw coal.
- 5.31 **Imported Coal:** AEML-G has not procured imported coal in the month of October 2022. It has also not consumed any imported coal in October 2022.



- 5.32 The Commission has examined the documents provided by AEML-D and has found them to be appropriate. The working of the imported coal fuel cost considered for October 2022 is as shown in the Table 7 below:

Table 7: Working of Imported Coal Rate for October 2022

| Particular | Quantity (MT) | Cost (Rs. Crore) | Price (Rs./MT) |
|---|------------------|------------------|------------------|
| Inventory | | | |
| Opening (as on 1 st October) | 40,151.25 | 74.03 | 18,437.46 |
| Addition during month | - | - | - |
| Total | 40,151.25 | 74.03 | 18,437.46 |
| Consumption | | | |
| Actual | - | - | - |
| Other Charges | - | - | - |
| Total | - | - | - |

- 5.33 Overall nil cost has been approved towards imported coal expenses for the month of October 2022. Accordingly, the weighted average landed cost of the coal consumed during the month of October 2022 is nil.
- 5.34 The transit loss claimed by AEML-D for the month of October 2022 is Nil, as there was no procurement of imported coal in the month.
- 5.35 Since imported coal was not procured and consumed in the month of October 2022, AEML has not considered the “As Billed” and “As Received GCV” of imported coal in this month.
- 5.36 LDO: AEML-D has procured 200 KL of LDO during October 2022 and it has consumed nil KL of Light Diesel Oil in this.
- 5.37 The Commission has examined the documents provided by AEML-D and has found it to be appropriate. The working of the LDO fuel cost considered for October 2022 is as shown in the Table 8 below:

Table 8: Working of LDO Rate for October 2022

| Particular | Quantity (KL) | Cost (Rs. Crore) | Price (Rs./KL) |
|---|---------------|------------------|------------------|
| Inventory | | | |
| Opening (as on 1 st October) | 251.93 | 1.66 | 65,817.85 |
| Addition during month | 200.00 | 1.50 | 74,763.62 |
| Total | 451.93 | 3.15 | 69,776.78 |
| Consumption | | | |
| Actual | - | - | - |
| Other Charges | - | - | - |
| Total | - | - | - |



5.38 The overall cost approved towards LDO expenses for the month of October 2022 is nil due to nil consumption in month of October 2023. Accordingly, the weighted average landed cost of LDO for the month of October 2022 is nil.

5.39 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.”

5.40 In line with MYT Regulations, 2019 and MYT Order in Case No. 298 of 2019, the Commission has considered stacking loss of 120 kcal/kg (minimum of actual weighted average loss considering washed coal, raw coal and imported coal of 525 kcal/kg or 120 kcal/kg as per Regulation) for calculation of energy charge rate.

5.41 Considering the approved rates for Washed Coal, raw Coal and LDO, the fuel cost, GCV and normative operational parameters, the revised energy charges work out to Rs. 3.720/kWh which is lower than the approved variable cost of Rs. 3.986/kWh as per the MYT Order for AEML-G (Case No. 298 of 2019) and also as against Rs. 3.786/kWh claimed by AEML. The variation between approved and the claimed energy charges is on account in the variation in the approach for considering the GCV of coal during the month as adopted by the Commission and as proposed by AEML-D.

5.42 **Incentive:** As per Regulation 46.3 of MYT Regulations, 2019, the target PLF for earning incentive is 85%. Since the cumulative PLF for low demand season till October 2022 is less than 85% (both in peak hours and off peak hours), AEML-G has not calculated any incentive for October 2022.

5.43 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 October 2022

| Source | Approved Quantum (MU) | Approved rate (Rs./kWh) | Actual quantum (MU) | Actual rate (Rs./kWh) | Variation due to quantum (Rs. Crore) | Variation due to rate (Rs. Crore) | Total variation (Rs. Crore) |
|--------|-----------------------|-------------------------|---------------------|-----------------------|--------------------------------------|-----------------------------------|-----------------------------|
| ADTPS | 311.08 | 4.93 | 247.48 | 4.86 | (31.33) | (1.73) | (33.06) |

5.44 Based on the above, APPC for ADTPS works out to Rs. 4.86/kWh as against approved Rs. 4.93/kWh. There is a decrease of Rs. 0.07/kWh in APPC for the month of October 2022. Fixed cost variation is contributing to increase of Rs. 0.23/kWh and variable cost



variation is contributing Rs. 0.30/kWh to the decrease. The decrease in variable cost is due to nil procurement and consumption of imported coal which was procured in previous months at high rates.

- 5.45 **Solar Purchase:** AEML-D has an Energy Purchase Agreement (EPA) with Dhursar Solar Power Private Limited (DSPPL). The Commission has approved power purchase at the rate of Rs. 10.30/kWh from DSPPL. **AEML-D has purchased 4.83 MUs from DSPPL 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.
- 5.46 **Wind Solar Hybrid:** AEML also has PPA with Adani Hybrid Energy Jaisalmer Four Limited for 700 MW. The Commission has approved 94.93% of renewable power purchase quantum (255.50 MU) at the rate of Rs. 3.24/kWh from wind solar hybrid for FY 2022-23. **AEML-D has purchased 207.60 MU from wind solar hybrid source (project fully commissioned with Hybrid capacity of 700 MW) for month of October 2022.** As per the invoice submitted by AEML-D, the Hybrid capacity commissioned stands at 700 MW against the awarded capacity of 700 MW of Hybrid project in October 2022. The Commission has noted the submissions of AEML-D in this regard.
- 5.47 **Non-Solar Purchase:** 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 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 | - | 2.62 |
| AAA Sons Enterprise | 5.00 | - |
| Vector Green Energy Private Limited | 5.07 | 5.07 |
| Tembhu Power Private Limited | 4.26 | - |
| Reliance Clean Power Private Limited | 5.81 | 5.81 |

- 5.48 No power has been procured from AAA Sons Enterprises in October 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.
- 5.49 The Commission has approved power purchase rate for Vector Green Energy 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, and Reliance Clean Power Private Limited sources at the same rate during October 2022. No power has been purchased 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)



- 5.50 As regards the power purchase from Reliance Innoventures Ltd., the EPA between AEML-D and Reliance Innoventures Ltd. expired on 31 March 2022. Subsequently, 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 kWh, whichever is lower. However, the Commission has observed that AEML-D continued to procure power through this source during the month of October 2022, despite the expiration of the six-month extension of the EPA in September 2022. AEML-D has procured 2.14 MUs from Reliance Innoventures in October 2022. AEML-D was sought clarification regarding this in the datagaps raised on 15th September 2023, in response to which AEML-D has submitted that they have negotiated with the generator and further extended the EPA for the term 1st October 2022 to 31st March 2023. AEML-D has also submitted the letter for agreement regarding extension of EPA. In the MTR Order dated 31st March 2023, the Commission has also approved procurement of 70.36 MUs of energy in FY 2022-23 from Reliance Innoventures Pvt. Ltd.. The Commission has noted the submission.
- 5.51 AEML-D has also purchased short term RE power (5.31 MUs) 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.
- 5.52 The Commission in the past has approved such purchase of RE power through exchange linked contracts. During the approval of FAC charges for January 2022, the Commission had observed that AEML-D had changed the tariff linkage of the exchange linked RE contracts from IEX GDAM to IEX DAM. AEML-D had not clarified the reason for the change in the contractual arrangement for procuring short term RE power through market linked contracts. However, the Commission had observed that the average rate of Short Term RE power procurement for the month of January 2022 is Rs. 4.27/kWh as against Rs. 4.34/kWh observed in December 2021. Further, from the data available on the IEX website, it has been observed that the rates in the G-DAM segment were higher than that observed in DAM for most of the period in the month of January 2022. This would be beneficial to the consumers and accordingly, the Commission had approved the procurement of short term RE power through market linked contracts. However, the Commission had directed that AEML-D should ensure that the changes in contract terms should not adversely impact the consumers. However, considering that these rates are linked to the power markets, they will vary according to the market trends. As regards the comparison between the rates in the GDAM and DAM segments in the month of October 2022, it is observed that the average DAM rates were lower than GDAM on most of the days and higher on remaining days.
- 5.53 While AEML-D has mentioned in its submission that it has purchased RE power through exchange linked contracts in its FAC return format, the quantum and the cost against these purchases in October 2022 have not been considered in the FAC computation presently.



However, AEML-D has submitted that, in the past period, it had purchased RE power through trader (AEL), however, the bill/ invoice against the said contract/LOI was not received, as GCN was not received by the seller from MSEDCL. Thus, since the quantum was not known at that point of time, the same was automatically included as part of Open Access Quantum in the FAC submission. Further, the cost against these sources were not claimed earlier, since invoices were not received. Now, AEML-D has received invoices from the trader for the purchases made for the months of April, May and June 2022. Since, retrospective effect cannot be given, all of this quantum along with the cost is now being considered as part of STPP RE in the FAC submission, which will also be considered for the purpose of determining WAPPC. Further, to give a contra effect, quantum is reduced from Open Access consumption in the month of October 2022. The Commission has noted the submission.

5.54 Accordingly, the Commission approves the power purchase of short term RE (market linked contracts) considered in the month of October 2022. However, AEML-D needs to track the market movements and ensure that the terms of the contract are beneficial for the consumers.

5.55 Further, AEML-D has also procured 5.31 MUs of short term RE power through IEX Green Day Ahead Market (GDAM) at an average rate of Rs. 4.25/kWh. AEML-D has also purchased 1.28 MU short term RE power through the trader AEL (This power was procured in the earlier months, however, as the GCN was not received from MSEDCL by the trader earlier, invoices were also not raised. Now, the invoices have been raised by the trader and hence, the power purchase has been considered in the month of October 2022.

5.56 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.

5.57 Variation in power purchase expenses from RE sources on account of change in quantum and per unit rate is as shown in Table 11 below:

Table 11: Variation in Power Purchase expenses from Renewable Energy Sources for October 2022

| Source | Contracted capacity (MW) | 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 -Solar | 40 | 5.52 | 10.30 | 4.83 | 10.30 | (0.70) | 0.00 | (0.70) |
| Adani Hybrid Energy Jaisalmer Four Limited – Wind Solar Hybrid (AHEJFL) | 700 | 255.50 | 3.24 | 207.60 | 3.24 | (15.52) | 0.00 | (15.52) |
| Non-Solar | | | | | | | | |
| Reliance Innoventure | 45# | | - | 2.14 | 2.62 | - | 0.56 | 0.56 |



| Source | Contracted capacity (MW) | 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) |
|-----------------------------|--------------------------|-----------------------|--------------------------|---------------------|------------------------|--------------------------------------|-----------------------------------|-----------------------------|
| AAA Sons Enterprise | 3.38@ | 0.01 | 5.00 | - | - | (0.01) | - | (0.01) |
| Vector Green Energy Pvt Ltd | 6.00 | 0.88 | 5.07 | 0.44 | 5.07 | (0.22) | (0.00) | (0.22) |
| Tembhu Power Pvt. Ltd. | 4.50 | 0.99 | 4.26 | - | - | (0.42) | - | - |
| Reliance Clean Power Ltd. | 45.00 | 6.25 | 5.81 | 1.27 | 5.81 | (2.89) | 0.00 | (2.89) |
| Short Term RE | | - | - | 6.59 | 5.47 | - | 3.60 | 3.60 |
| Total RE Sources | 843.88 | 269.14 | 3.45 | 222.87 | 3.45 | (19.76) | 4.17 | (15.60) |

The first extension of PPA with Reliance Innoventure expired on 30th September, 2022, however, AEML-D has negotiated and further extended the PPA for a period of six months at a rate of Rs. 2.62/kWh i.e., till 31st March 2023.

@ The PPA with AAA Sons Enterprises 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.

5.58 **APPC for renewable sources for the month October 2022 works out to Rs. 3.45 /kWh as against approved level of Rs. 3.45/kWh. Though the purchase from short term RE sources is at a rate higher (Rs. 3.60/kWh) than approved rate of Rs. 3.45/kWh, the same is balanced out due to higher power purchase from wind solar hybrid source which is the cheapest source of power approved by the Commission at the rate of 3.24/kWh and lower cost purchase from Reliance Innoventure at Rs. 2.62/kWh.**

5.59 **Power from other generator (AEL- MTPP):** AEML-D has submitted that the Commission has, vide order dated 29 August, 2022 in Case No. 149 of 2022 on the petition filed by AEML-D, approved purchase of 500 MW medium term power for the period 1 September, 2022 to 14 October, 2024. Power flow has commenced and accordingly power purchase of 348.51 MUs and the associated cost has been considered in the October 2022 month FAC by AEML-D.

5.60 **Bilateral Purchase:** AEML-D has undertaken bilateral purchase of power from power exchange (PXIL, IEX and HPX), through exchange price linked bilateral contracts and inter Discom trade with BEST as per the guiding principles provided in MERC (Deviation Settlement Mechanism and related matters) Regulations, 2019. AEML-D has purchased 82.95 MU from these sources which is lower than the monthly approved quantum of 277.88 MU. The average rate of purchase is Rs. 5.36/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 are higher in the month of October 2022 as compared to the prices in the month of July 2022 and August 2022 which is also seen in the average price of power purchase from bilateral contracts seen in July 2022 (Rs. 5.59/kWh) and August 2022 (Rs. 5.81/kWh). However, the rate observed in October 2022 is lower as compared to the prices observed during April 2022, May 2022, and June 2022 which is also reflected in the average price of power purchase from bilateral



contracts in April 2022 (Rs. 11.10 kWh), May 2022 (Rs. 9.24/kWh), June 2022 (Rs. 7.12/kWh). The trend of the average rates discovered on IEX (at regional periphery) are shown below for reference:

Table 12: Power Prices in short term market (Rs./kWh)

| Month | May-22 | June-22 | July-22 | Aug-22 | Sept-22 | Oct-22 |
|------------------------|--------|---------|---------|--------|---------|--------|
| RTC | 5.88 | 6.56 | 4.73 | 4.98 | 4.82 | 3.80 |
| Evening (17-23 Hrs) | 7.39 | 8.15 | 6.72 | 7.20 | 7.10 | 5.34 |
| Day (10-17 Hrs) | 4.63 | 4.73 | 3.20 | 3.43 | 3.41 | 3.02 |
| Night (0-6, 23-34 Hrs) | 7.10 | 8.19 | 4.84 | 4.94 | 4.59 | 3.23 |
| Morning (6-10 Hrs) | 3.63 | 4.57 | 4.22 | 4.44 | 4.30 | 3.87 |

- 5.61 Due to limited long-term tie-up, AEML-D relies on the short-term purchase. AEML-D has purchased 82.95 MUs through bilateral purchase (PXIL, IEX, HPX, exchange linked contracts and Inter Discom Trade) which is 9.75% of its total power purchase for October 2022. The summary of the power procured from the various short-term sources is reproduced in the table below:

Table 13: 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 | 38.42 | 16.03 | 4.17 |
| 2 | PXIL | 2.51 | 1.72 | 6.85 |
| 3 | HPX | 40.79 | 25.32 | 6.21 |
| 4 | STPP (including inter discom purchase) | 1.23 | 1.25 | 10.11 |
| 5 | Other charges (viz, PXIL fee, SLDC charges, scheduling & rescheduling charges, Banking OA etc) | - | 0.12 | - |
| | TOTAL | 82.95 | 44.44 | 5.36 |

- 5.62 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. 5.36/kWh.

- 5.63 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 October 2022 towards fees paid for November 2022. Further, in the month of October 2022, IEX standing clearance was sought from MSLDC, for



which an amount of Rs.7,500 was paid to MSLDC. The same is also considered as part of power purchase cost. The Commission has noted the submissions.

- 5.64 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 till September 2022. However, at the end of the month of September 2022, the generating plant from whom the power was to be returned got tripped. As submitted by AEML, all power could not be returned in September 2022 and some portion of the power was returned in October 2022. The same has been considered as part of Banking return quantum, in FAC for October 2022. However, the cost associated with this return is considered in Bilateral Purchase cost. Accordingly, the consolidated cost of power purchase from bilateral sources is Rs. 5.71/kWh. AEML-D were sought clarification on the financial impact of such power outage, in response to which AEML-D submitted that it is a usual practice in banking transaction that in case of forced outages during return period, banking return period gets extended with mutual consent of both the parties as banking transactions are required to be settled based on energy transfer only. Further, there were no adverse or additional financial impact on account of extending power return from September to October 2022. The Commission notes submission of AEML-D.
- 5.65 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.
- 5.66 Variation in power purchase expenses from Bilateral on account of change in quantum and per unit rate is as shown in Table 14 below:

Table 14: Variation in Power Purchase expenses from Bilateral for October 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 | 77.87 | 5.71 | (70.00) | 17.18 | (52.82) |

- 5.67 **DSM Pool:** AEML-D has submitted that for the month of October 2022, it has injected 3.39 MU under the DSM mechanism and has earned a revenue of Rs. 0.75 Crore.
- 5.68 **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:"

- 5.69 The surplus energy of RE Open Access consumers (Firm and Non-firm) purchased by AEML-D as per the aforementioned regulations is 0.63 MU at a cost of Rs. 0.15 Crore and is considered in the FAC for the month of October 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.
- 5.70 **Sale of Power:** AEML has sold 42.78 MUs under bilateral sale and received Rs. 12.68 Crore for the month of October 2022.
- 5.71 **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 October 2022. The Commission has scrutinized the details and has approved Rs. 4.07 Crore as rebate to be considered as part of Power purchase cost for the month of October 2022. There is no standby previous year adjustment for the month of October 2022.
- 5.72 Summarised reasons for the rate variation for various sources are given in Table 15 below:

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

| Sr. No. | Source | Approved Rate (Rs. /kWh) | Actual Rate (Rs. /kWh) | Reason for rate variation |
|---------|------------------|--------------------------|------------------------|---|
| 1 | ADTPS | 4.93 | 4.86 | <ul style="list-style-type: none"> The fixed charges are higher by Rs. 0.23 /kWh due to lower generation as compared to the approved generation. The variable cost variation has decreased by Rs. 0.30/kWh due to non-procurement / no consumption of imported coal during the month. |
| 2 | RE Sources | 3.45 | 3.45 | - |
| 3 | Power Exchange / | 3.50 | 5.71 | <ul style="list-style-type: none"> Market discovered rate; Short term power purchase from Power |



| Sr. No. | Source | Approved Rate (Rs. /kWh) | Actual Rate (Rs. /kWh) | Reason for rate variation |
|---------|---------------|--------------------------|------------------------|---|
| | Banking power | | | Exchange (IEX, PXIL and HPX), through day ahead exchange linked bilateral contracts and inter discom trade is done at an average rate of Rs. 5.36/kWh. <ul style="list-style-type: none"> Cost of power purchased through bilateral sources includes the cost of power returned in October 2022 under the banking arrangement (against 5.08 MUs returned) and the open access charges related to banking have been considered. This has contributed to a consolidated average rate of Rs. 5.71/kWh for power purchased through bilateral sources. |
| | Total | 4.00 | 4.81 | Variation due to above reasons |

5.73 Considering the above, the Commission allows the actual average power purchase cost of Rs. 4.81/kWh for the month of October 2022 as shown in Table 15 above as compared to approved average power purchase cost of Rs. 4.00/kWh.

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

6.1 The Commission has worked out the average power purchase costs for the month of October 2022 as shown in Table 15 above. The same has been compared with the average power purchase cost approved by the Commission in MYT Order dated 30 March, 2020 to arrive at the differential per unit rate at which Z_{FAC} is to be passed on to the consumers.

6.2 It is noted that AEML-D has incurred the per unit Power Purchase cost higher than the Approved per unit Power Purchase Cost hence the Z_{FAC} worked out by the Commission on account of difference in power purchase cost for the month of October 2022 is positive as shown in the Table 16 below.

Table 16: FAC on account of Power Purchase Cost

| Sr. No. | Particulars | Units | October 2022 |
|---------|--|-----------|--------------|
| 1 | Average power purchase cost approved by the Commission | Rs./ kWh | 4.00 |
| 2 | Actual average power purchase cost | Rs. /kWh | 4.81 |
| 3 | Change in average power purchase cost (= 2-1) | Rs./ kWh | 0.80 |
| 4 | Net Power Purchase | MU | 851.20 |
| 5 | Change in power purchase cost (=3 x 4/10) | Rs. Crore | 68.34 |

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.



7.2 The Commission, vide Order dated 01 July 2022, has approved the cumulative positive FAC accrued with AEML-D, upto the month of April 2022 and spread the same for recovery over July 2022 to November 2022. AEML-D submitted that it has recovered FAC of Rs. 71.32 Crore, Rs. 71.76 Crore, Rs. 71.18 Crore, and Rs. 72.42 Crore in the months of July 2022, August 2022, September 2022, and October 2022 respectively. However, the adjustments for over/ under recovery will be computed once the recovery for the five-month billing period is completed and the actual recovery is ascertained.

7.3 In this context, the Commission notes that in accordance with the MYT Regulations, 2019, the approved FAC has to be allowed to be recovered as an adjustment in its Tariff on a monthly basis. Further, deferred recovery of the shortfall in FAC amount has financial implications on the consumers in terms of the additional carrying cost. The other distribution licensees have considered the adjustment towards under recovery and over recovery on monthly basis as per MYT Regulations, 2019 which has been accepted by the Commission. Hence, the Commission does not consider it appropriate to accept the stand taken by AEML-D. However, it is also a fact that the provisional truing up for FY 2022-23 has already been undertaken by the Commission in the MTR proceedings and hence the revised power purchase cost resulting in FAC is already adjusted in the said MTR Order. Under these circumstances, any adjustment in relation to under recovery / over recovery of FAC amount for the previous months will not have any impact on FAC which is any way adjusted in the MTR Order. Accordingly, the Commission has not considered any adjustment towards over recovery /under recovery towards FAC approved in previous months.

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, 7.13 above, there is no carrying cost on account of such adjustment.

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

9.1 Regulation 10.8 of MYT Regulations, 2019 provides for FAC amount to be reduced in case the actual distribution loss for the month exceeds the approved distribution loss. The relevant extract is reproduced as follows.

“10.8 The total Z_{FAC} recoverable as per the formula specified above shall be recovered from the actual sales in terms of “Rupees per kilowatt-hour”:

Provided that, in case of unmetered consumers, the Z_{FAC} shall be recoverable based on estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission:

Provided further that, where the actual annual sliding distribution losses of the Distribution Licensee exceed the level approved by the Commission, the amount of Z_{FAC} corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total Z_{FAC} recoverable”



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

Table 17: Disallowance of FAC due to excess Distribution Loss

| Sr. No. | Particulars | Units | Approved in Tariff Order | Actual for October 2022 | Cumulative up to October 2022 | Annual Sliding Distribution Loss up to October 2022 |
|---------|---|-----------|--------------------------|-------------------------|-------------------------------|---|
| 1 | Net Energy input at Distribution Voltages | MU | 830.82 | 856.84 | 5963.09 | 9,371.35 |
| 2 | Energy sales at Distribution voltages | MU | 772.24 | 793.39 | 5589.30 | 8,806.78 |
| 3 | Distribution Loss (1 - 2) | MU | 58.58 | 63.45 | 373.79 | 564.57 |
| 4 | Distribution Loss as % (3/1) | % | 7.05% | 7.40% | 6.27% | 6.02% |
| 5 | Excess Distribution Loss = [Annual Sliding Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1) | MU | - | - | - | - |
| 6 | Disallowance of FAC due to excess Distribution Loss | Rs. Crore | - | - | - | - |

9.3 As seen from the above Table 17, distribution loss for the month of October 2022 is 7.40% which is higher than the MYT approved distribution loss of 7.05%. However, the cumulative distribution loss up-to October 2022 is 6.27% which is lower 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 October 2022 is 6.02% which is lower than the approved distribution loss of 7.05% as approved in MYT Order.

9.5 As part of the analysis, monthly as well as cumulative distribution losses trend is also examined with reference to approved by the Commission and similar period of last financial year as shown in Table 18 below:

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

| Period | FY 2022-23 | FY 2021-22 |
|--------------------|------------|------------|
| Approved | 7.05% | 7.30% |
| Actual – April | 12.47% | 7.46% |
| Actual – May | 11.48% | 7.93% |
| Actual – June | -4.83% | 1.48% |
| Actual – July | 2.70% | 9.45% |
| Actual – August | 7.14% | 10.88% |
| Actual – September | 6.10% | 5.53% |
| Actual – October | 7.40% | 11.52% |



| Period | FY 2022-23 | FY 2021-22 |
|----------------------------------|------------|------------|
| Actual - Cumulative till October | 6.27% | 7.88% |

9.6 As seen from the above Table 17, disallowance of FAC due to excess distribution loss for the month of October 2022 is nil. Though the standalone FAC for the month of October 2022 is positive, the annual sliding distribution loss is lower than approved distribution loss by the Commission.

10. Summary of Allowable Z_{FAC}

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

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

| Sr. No. | Particulars | Units | As Claimed October 2022 | As Approved October 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 | 69.98 | 68.34 |
| 1.2 | Carrying cost for over-recovery/under-recovery (C) | Rs. Crore | - | - |
| 1.3 | Adjustment factor for over-recovery/under-recovery (B) | Rs. Crore | - | - |
| 1.4 | Z_{FAC} = F+C+B | Rs. Crore | 69.98 | 68.34 |
| 2 | Calculation of FAC Charge | | | - |
| 2.1 | Energy Sales within the License Area | MU | 793.39 | 793.39 |
| 2.2 | Excess Distribution Loss | MU | - | - |
| 2.3 | Z _{FAC} per kWh | Rs./kWh | 0.88 | 0.86 |
| 3 | Recovery of FAC | | | - |
| 3.1 | FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.3)/10] | Rs. Crore | - | - |
| 3.2 | Allowable FAC | Rs. Crore | 69.98 | 68.34 |
| 4 | Utilization of FAC Fund | | | |
| 4.1 | Opening Balance of FAC Fund | Rs. Crore | 327.54 | - |
| 4.2 | Carrying Cost on FAC | Rs. Crore | 2.54 | - |
| 4.3 | Z _{FAC} for the month (Sr. No. 3.2) | Rs. Crore | 69.98 | 68.34 |
| 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 | 400.05 | - |
| 4.7 | Z _{FAC} leviable/refundable to consumer | Rs. Crore | - | - |
| 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 | - | - |



10.2 The Commission notes that AEML-D has considered the opening FAC Fund and added the standalone monthly FAC amount to the said fund to arrive at the closing fund. The Commission in its FAC approval for July 2022 has allowed FAC recovery at ceiling rate up to March 2023 and held that any unrecovered FAC at the end of March 23 will get subsumed in the provisional true-up of FY 2022-23 and any gap arising thereof will be allowed to be recovered in tariff of FY 2023-24. The Commission, thereafter, has issued MTR Order on 31 March, 2023 and approved the revised power purchase cost in the Provisional Truing-up of FY 2022-23 and accordingly determined tariff for FY 2023-24 and FY 2024-25. Thus, the Commission is approving the monthly FAC for standalone month along with any under recovery / over recovery as per provisions of MYT Regulations, 2019 and has not considered any adjustment towards FAC fund as the said amount is subsumed and already adjusted in provisional truing-up of FY 2022-23.

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 ZFAC per kWh for a particular Tariff category/sub-category/consumption slab shall be computed as per the following formula: —

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

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 standalone FAC amount of Rs. 68.34 Crore for the month of October 2022. However, as discussed earlier, considering that the provisional truing up of FY 2022-23 has already been undertaken by the Commission during the MTR proceedings and the recovery of the FAC for the period May to July 2022 being allowed over the period December 2022 to March 2023 (already considering the 20% cap), the standalone FAC for October 2022 is not considered for recovery in the future billing months upto March 2023. Any under/over recovery of FAC will be considered for recovery during the truing up of FY 2022-23.
- 11.3 Accordingly, the Commission allows the FAC amount of Rs. 68.34 Crore for the month of October, 2022. As FY 2022-23 is already over and Provisional Truing-up of FY 2022-23 has also been done by the Commission in the recent MTR Order dated 31 March, 2023, the revised power purchase cost resulting in FAC is already adjusted in the said MTR Order.
- 11.4 In a view of above, the per unit ZFAC for the month of October, 2022 to be levied on consumers is Nil.

