

**Ref. No. MERC/FAC/2022-23/116**

**Date: 28 February, 2023**

To,  
**The Chairman and Managing Director**  
Maharashtra State Electricity Distribution Company Ltd.,  
5<sup>th</sup> Floor, Prakashgad, Plot No. G-9  
Bandra (East), Mumbai 400 051

**Subject:** Prior Approval of Fuel Adjustment Charges (FAC) submission of MSEDCL for the month of September, 2022.

**Reference:** 1. MSEDCL's FAC submission dated 08 November, 2022 for prior approval of FAC for the month of September, 2022.  
2. Data gaps communicated to MSEDCL vide email dated 12 December, 2022.  
3. MSEDCL's response to data gaps by email dated 17 January, 2023 and 18 January, 2023.

Sir,

Upon vetting the FAC calculations for the month of September, 2022 as mentioned in the above reference, the Commission has accorded approval for standalone FAC amount of Rs. 1106.44 Crore. However, the said amount is added to the FAC Fund along with carrying cost and is being carried forward and will be accumulated up to the month of November 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) |
|----------------|------------------------|
| September 2022 | 0 (Zero)               |

Yours faithfully,



(Dr. Rajendra G. Ambekar)  
Executive Director, MERC

**Encl:** Annexure A: Detailed Vetting Report for the month of September, 2022.

## ANNEXURE A

**Detailed Vetting Report**  
**Date: 28 February, 2023**

### **PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF SEPTEMBER, 2022**

**Subject:** Prior Approval of Fuel Adjustment Charges (FAC) submission of MSEDCL for the month of September, 2022.

**Reference:** MSEDCL's FAC submission dated 08 November, 2022, 17 January, 2023 and 18 January, 2023 for prior approval of FAC for the month of September, 2022.

#### **1. FAC submission by MSEDCL:**

1.1 MSEDCL has submitted FAC submissions for the month of September, 2022 as referred above. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by MSEDCL against the data gaps issued, the Commission has accorded prior approval to MSEDCL for FAC amount of Rs.1106.44 Crore. However, the said amount is added to FAC fund along with carrying cost and is being carried forward and will be accumulated up to month of November 2022 as per letter dated 5 April, 2022 issued by the Commission.

#### **2. Background**

2.1 On 30 March, 2020, the Commission has issued Tariff Order for MSEDCL, (Case No.322 of 2019) for True-up of FY 2017-18 and FY 2018-19, provisional Truing-up for FY 2019-20, and Aggregate Revenue Requirement and Tariff for FY 2020-21 to FY 2024-25. Revised Tariff has been made applicable from 1 April, 2020.

2.2 In the Tariff Order, the Commission has stipulated methodology of levying FAC as follows:

*“8.5.12 Therefore, using its powers for Removing Difficulty under Regulations 106 of the MYT Regulations, 2019, the Commission is making following changes in the FAC mechanism stipulated under Regulation 10 of MYT Regulations, 2019:*

*Distribution Licensee shall undertake computation of monthly FAC as per Regulation 10 of the MYT Regulations, 2019 except for treatment to be given to negative FAC as follows:*

- *Negative FAC amount shall be carried forward to the next FAC billing cycle with holding cost;*
- *Such carried forward negative FAC shall be adjusted against FAC amount for the next month and balance negative amount shall be carried forward to subsequent month with holding cost;*

- *Such carry forward of negative FAC shall be continued till the accumulated negative FAC becomes 20% of monthly tariff revenue approved by the Commission in Tariff Order. In case of MSEDCL, such limit shall be Rs. 1500 crore. Any accumulated amount above such limit shall be refunded to consumers through FAC mechanism;*
- *In case such FAC Fund is yet to be generated or such generated fund is not sufficient to adjust against FAC computed for given month, then Distribution Licensee can levy such amount to the consumers through FAC mechanism.*

*8.5.13 In order to maintain transparency in management and use of such FAC Fund, the Distribution Licensee shall maintain monthly account of such FAC fund and upload it on its website for information of stakeholders. Further, till date, the Distribution Licensees have been levying FAC up to the prescribed limit of 20% of variable component of tariff without prior approval in accordance with the MYT Regulations, 2015, and submitting the FAC computations on a quarterly basis within 60 days of the close of each quarter, for post facto approval. However, as the Commission has now created a FAC fund as stated above to stabilise the increase in fuel prices and power purchase costs, the Commission has modified the FAC mechanism such that the Distribution Licensees shall submit the FAC computations on a monthly basis for prior approval, irrespective of whether FAC is chargeable in a month or whether some amount is accruing to the Fund on account of negative FAC.*

*8.5.14 The details of the FAC as per the Regulations, shall be submitted by the 15th of the every month prior to the month on which the FAC is proposed to be levied and the Commission will endeavour to decide on the same within 10 days so that the same can be levied from the 1st of the subsequent month. This prior approval will facilitate the addressing of any difficulties that may arise in giving effect to this fund. All the details will be submitted by the Distribution Licensee as is being done for approval of FAC on post facto basis. Thus the FAC to the consumers shall now be levied with prior approval of the Commission”*

- 2.3 Vide its letter dated 20 April, 2020, the Commission communicated the excel formats along with the checklist to file FAC submissions for prior approval to all Distribution Licensees. The Commission also directed all Distribution Licensees to file FAC submissions by 15<sup>th</sup> of every month prior to the month for which the FAC is proposed to be levied for prior approval.
- 2.4 Accordingly, MSEDCL has filed FAC submissions for the month of September, 2022 for prior approval. The Commission has scrutinized the submissions provided by MSEDCL and has also verified the fuel and power purchase bills provided along with its submissions.

### 3. Energy Sales of the Licensee

3.1 The net energy sales within licence area as submitted by MSEDCL in the FAC submission and as approved by the Commission are as shown in the table below:

| Consumer Category                   | Yearly Approved by the Commission (MU) | Monthly Approved (MU) | Actual Sales        |
|-------------------------------------|--|-----------------------|---------------------|
|                                     |  |                       | September 2022 (MU) |
| <b>HT Category</b>                  |  |                       |                     |
| Industry (General)                  | 36,590.51                              | 3,017.85              | 3,048.84            |
| Industry (Seasonal)                 | 102.93                                 | 1.95                  | 2.39                |
| Commercial                          | 1,968.12                               | 154.20                | 141.55              |
| Railways/Metro/Monorail             | 83.72                                  | 6.43                  | 8.59                |
| Public Water Works (PWW)            | 2,101.00                               | 171.86                | 174.67              |
| Agricultural – Pumpsets             | 1,323.16                               | 74.03                 | 19.20               |
| Agricultural – Others               | 275.94                                 | 21.66                 | 21.22               |
| Group Housing Society (Residential) | 243.80                                 | 20.28                 | 18.70               |
| Public Services - Government        | 298.91                                 | 25.04                 | 27.58               |
| Public Services – Others            | 902.93                                 | 76.09                 | 67.67               |
| Electric Vehicle Charging Stations  | 0.31                                   | 0.03                  | 4.94                |
| MSPGCL Auxiliary                    | 183.74                                 | 13.47                 | 25.45               |
| Other Adjustment                    | 4,842.00                               | 403.50                | 493.52              |
| <b>Sub-total (A)</b>                | <b>48,917.06</b>                       | <b>3,986.38</b>       | <b>4,054.32</b>     |
| <b>LT Category</b>                  |  |                       |                     |
| BPL                                 | 49.63                                  | 3.63                  | 5.30                |
| Residential                         | 25,151.26                              | 2,089.54              | 2,000.29            |
| Non-Residential                     | 8,120.69                               | 648.08                | 484.40              |
| Public Water Works                  | 993.84                                 | 78.69                 | 71.05               |
| AG Metered (Pump-sets)              | 18,612.07                              | 1,049.91              | 1,496.00            |
| AG Metered (Others)                 | 140.00                                 | 10.58                 | 18.53               |
| Industrial                          | 10,571.64                              | 805.64                | 1,005.41            |
| Street Lights                       | 2,571.73                               | 215.18                | 98.26               |
| Public Services                     | 649.79                                 | 55.59                 | 62.90               |
| Electric Vehicle Charging Stations  | 0.23                                   | 0.02                  | 0.14                |
| <b>Sub-total (B)</b>                | <b>66,860.87</b>                       | <b>4,956.85</b>       | <b>5,242.28</b>     |
| <b>Total – Metered (C = A+B)</b>    | <b>1,15,777.93</b>                     | <b>8,943.23</b>       | <b>9,296.60</b>     |
| Unmetered Sale (D)                  | 8,783.32                               | 665.29                | 786.00              |
| <b>Grand Total(C+D)</b>             | <b>1,24,561.25</b>                     | <b>9,608.52</b>       | <b>10,082.60</b>    |

\* Other Adjustment is related to Sales to Open Access Consumer (Conventional and Renewable)

3.2 For the month of September, 2022, it is observed that actual sales of 10,082.60 MU is higher as compared to the approved energy sales of 9608.52 MU.

3.3 MSEDCL has submitted the data providing actual billing and estimated billing undertaken for the calculation of total energy consumption for the month of September, 2022. As per the data, the billing of about 97.3% of sales is undertaken as per actual meter readings and balance 2.7% is assessed on an estimated basis. 100% of HT billing is undertaken on actual basis and estimation is only for LT category. The figures do not include the agriculture sales which is on estimated basis for the month of September, 2022.

3.4 The number of actual and estimated meter readings undertaken by MSEDCL for the month of September, 2022 except for agriculture consumers are as given below:

| Sr. No. | Particulars  | No. of Meters for which <u>actual</u> meter reading is done either manually or through AMR | No. of Meters for which meter reading are <u>estimated</u> . | Total Meters    |
|---------|--------------|--|--|-----------------|
| 1       | HT           | 22790  | -  | 22790           |
| 2       | LT           | 21629947   | 3112224  | 24742171        |
|         | <b>Total</b> | <b>21652737</b>  | <b>3112224</b>   | <b>24764961</b> |

3.5 Further, comparison of sales for April, 2022 to September, 2022 as compared to last year is as shown below:

| Particulars                     | LT - Residential (MU) | LT Others (MU) | HT (MU)      | Ag- Unmetered | Total (MU)   |
|---------------------------------|-----------------------|----------------|--------------|---------------|--------------|
| Apr-21                          | 2010                  | 3231           | 3734         | 677           | 9652         |
| Apr-22                          | 2241                  | 3281           | 4262         | 779           | 10563        |
| May-21                          | 2024                  | 3091           | 3508         | 677           | 9300         |
| May-22                          | 2522                  | 3334           | 4453         | 779           | 11088        |
| June-21                         | 2026                  | 3126           | 3553         | 677           | 9382         |
| June-22                         | 2577                  | 3977           | 4229         | 1059          | 11842        |
| July-21                         | 2032                  | 2879           | 3716         | 665           | 9293         |
| July-22                         | 2135                  | 3219           | 4184         | 786           | 10323        |
| August-21                       | 2037                  | 3084           | 3876         | 752           | 9749         |
| August-22                       | 1964                  | 3212           | 4170         | 786           | 10132        |
| September-21                    | 2041                  | 3101           | 3818         | 752           | 9712         |
| September-22                    | 2000                  | 3242           | 4054         | 786           | 10083        |
| <b>April-21 to September-21</b> | <b>12170</b>          | <b>18512</b>   | <b>22205</b> | <b>4201</b>   | <b>57088</b> |
| <b>April-22 to September-22</b> | <b>13439</b>          | <b>20265</b>   | <b>25352</b> | <b>4975</b>   | <b>64031</b> |

- 3.6 The Commission observes that overall sales in September, 2022 have increased as compared to September, 2021 due to increase in sales across all categories except marginal decrease in residential sales.
- 3.7 MSEDCL has considered agriculture sales are estimated based on consumption norms as per Tariff Order and previous three-year trend is used for estimation of monthly sale. The Commission while approving the FAC for the month of September, 2022 has restricted the agriculture sales to approved sales (based on the approved norm of Consumption/HP) as specified in MYT Tariff Order. MSEDCL in response to data gaps raised by the Commission has submitted the load (HP) details of agriculture connections. Further, the Commission has approved monthly sales for the agriculture connections. Accordingly, the Commission has computed the norm of consumption/HP based on the monthly approved agriculture sales and considered the norms based on monthly approved sales for allowing the sales for the month of September, 2022. Any adjustment in sales due to HP variation will be reconciled while actual data is submitted as per actual billing undertaken by MSEDCL. Based on the norms approved by the Commission in the Tariff Order, the agriculture sales - metered and unmetered approved by the Commission are as given below:

| Particulars                          | Metered      |                      |                          | Unmetered    |                      |                          | Total        |                      |                          |
|--------------------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|
|                                      | Sale in MU's | Cumulative Load (HP) | Consumption / HP – Units | Sale in MU's | Cumulative Load (HP) | Consumption / HP - Units | Sale in MU's | Cumulative Load (HP) | Consumption / HP - Units |
| MSEDCL - April 22- September 22      | 9622         | 90070303             | 107                      | 44975        | 47747683             | 104                      | 14597        | 137817986            | 106                      |
| As Approved – April 22- September 22 | 8336         | 90070303             | 93                       | 4318         | 47747683             | 90                       | 12653        | 137817986            | 92                       |

- 3.8 Based on the agriculture sales approved in the above table, the Commission has restricted 465.06 MU for metered sales and 66.82 MU for unmetered connections in agriculture sales for the month of September 2022 and considered in computation of Distribution Loss to restrict the consumption based on actual sales per HP or approved Sales per HP, whichever is lower.

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

- 4.1 The Commission has approved following sources in the Tariff Order for power purchase by MSEDCL.
- MSPGCL
  - Central Generating Stations i.e., NTPC, TAPP etc.
  - IPPs i.e., JSW, Adani Power, Mundra UMPP, Emco, Rattan India and Sai Wardha
  - Renewable Energy (Solar and Non-Solar)

In addition to the aforesaid, MSEDCL procures power in short term, though the said source is not approved by the Commission, in case of any shortfall of approved sources

or to optimize the power purchase cost. Also, there may be some variation in real time (unscheduled interchange) which will be settled through Balancing and Settlement Mechanism approved by the Commission.

4.1 Summary of Power Purchase from MSEDCL is as follows:

| Sr. No.      | Particular  | Compliance  |                      |                    |   |
|--------------|---|---|----------------------|--------------------|---|
| 1            | Sources of approved Power Purchase                        | MSEDCL has purchased power from approved sources. In addition, power is procured on power exchange to optimise the power purchase cost  |                      |                    |   |
| 2            | Merit Order Dispatch                                      | MSEDCL has followed merit order for scheduling of power and preference was given to cheapest power.   |                      |                    |   |
| 3            | Fuel Utilization Plan                                     | Usage of coal is not as per approved Fuel Utilisation Plan (Detailed Explanation given below – Para 5.8 and Para 5.9)   |                      |                    |   |
| 4            | Deviation Quantum   | MSEDCL has underdrawn (148.28 MU) from the actual schedule  |                      |                    |   |
| 5            | Sale of Surplus Power                                     | MSEDCL has sold 14.76 MU at Rs.7.78/kWh. MSEDCL has also returned 179.24 MU towards banking.  |                      |                    |   |
| 6            | Power Purchase  | Actual Net Power Purchase is 10937.56 MU as against approved 11064.66 MU.   |                      |                    |   |
| 7            | Source wise Power Purchase                                | <b>Source Name</b>  | <b>Approved (MU)</b> | <b>Actual (MU)</b> | <b>Proportion of each Source in Actual Purchase</b> |
|              |   | MSPGCL  | 4,159.68             | 3,431.19           | 30%   |
|              |   | NTPC  | 2,228.48             | 2,964.73           | 27%   |
|              |   | IPP   | 2,420.43             | 2,778.60           | 21%   |
|              |   | Renewable   | 1,730.50             | 1,267.97           | 16%   |
|              |   | Must Run  | 525.57               | 693.40             | 6%  |
|              |   | Short Term  | 0.00                 | 143.94             | 4%  |
|              |   | Sale of Power   | 0.00                 | -193.99            | -3%   |
|              |   | DSM   | 0.00                 | -148.28            | 0%  |
| <b>Total</b> | <b>11,064.66</b>  | <b>10,937.56</b>  | <b>100%</b>          |                    |   |
| 8            | Power Purchase:<br>a. Section 62 of Electricity Act, 2003 | <p><b>A. MSPGCL</b></p> <p>As part of verification of fixed cost claimed by MSEDCL, the same has been verified from the MYT Order in Case No.322 of 2019 and invoice submitted by MSEDCL.</p> <p>As part of verification of energy charges claimed by MSEDCL, verification of operational parameters, fuel cost, GCV etc. vis-à-vis the MYT Order/Tariff Regulations is carried out and invoice submitted by MSEDCL.</p> <p><b>B. CGS- NTPC etc</b></p> |                      |                    |   |

| Sr. No. | Particular                                    | Compliance   |
|---------|---|--|
|         | b. Section 63 of Electricity Act, 2003 – IPPs | Cost and MUs are verified as per invoice<br><br>Cost and MUs verified as per Invoice   |
| 9       | RE Purchase                                   | Cost and MUs verified as per summary of renewable purchase details submitted by MSEDCL and invoices of power purchased from SECI, NVVN and other IPPs.   |
| 10      | Short Term Power Purchase                     | Short-term power purchase invoices of September, 2022 are submitted by MSEDCL. All the power purchase quantum and rate are verified from the invoices and has been considered for FAC calculation. |

4.2 The following table show the variation in average power purchase cost (Rs/kWh) for the month of September, 2022 submitted by MSEDCL as compared to average power purchase cost approved in Tariff Order:

| Particulars                         | Tariff Order Dated 30.03.2020 Approved for September, 2022 |               |                             | Actual for September, 2022 as submitted by MSEDCL |                 |                             | Variation     |               |                             |
|-------------------------------------|--|---------------|-----------------------------|---|-----------------|-----------------------------|---------------|---------------|-----------------------------|
|                                     | Quantum  | PP Cost       | Average Power Purchase Cost | Quantum   | PP Cost         | Average Power Purchase Cost | Quantum       | PP Cost       | Average Power Purchase Cost |
|                                     | MU   | Rs. Crore     | Rs/kWh                      | MU  | Rs. Crore       | Rs/kWh                      | MU            | Rs. Crore     | Rs/kWh                      |
| MSPGCL – Thermal                    | 3,888.73   | 1,711.12      | 4.40                        | 3,225.49  | 1,930.24        | 5.98                        | (663.24)      | 219.12        | 1.58                        |
| MSPGCL-Hydro (including Lease Rent) | 270.95   | 70.19         | 2.59                        | 205.69  | 61.90           | 3.01                        | (65.26)       | (8.29)        | 0.42                        |
| NTPC                                | 2,228.48   | 887.38        | 3.98                        | 2,964.73  | 1,296.95        | 4.37                        | 736.24        | 409.57        | 0.39                        |
| 1.JSW                               | 158.98   | 64.34         | 4.05                        | 142.99  | 86.34           | 6.04                        | (15.99)       | 22.00         | 1.99                        |
| 2.Mundra UMPP                       | 423.94   | 133.99        | 3.16                        | 178.51  | 124.50          | 6.97                        | (245.42)      | (9.49)        | 3.81                        |
| 3.Adani Power                       | 1,724.91   | 678.25        | 3.93                        | 1,773.72  | 1,028.52        | 5.80                        | 48.81         | 350.26        | 1.87                        |
| 4.Emco                              | 112.61   | 56.56         | 5.02                        | 108.07  | 40.05           | 3.71                        | (4.54)        | (16.52)       | (1.32)                      |
| 5.Rattan India                      | 0.00   | 57.71         | -                           | 486.17  | 191.26          | 3.93                        | 486.17        | 133.55        | 3.93                        |
| 6. Sai Wardha                       | 0.00   | 0.00          | -                           | 89.15   | 40.56           | 4.55                        | 89.15         | 40.56         | 4.55                        |
| <b>Total IPPs (1 to 6)</b>          | <b>2,420.43</b>  | <b>990.85</b> | <b>4.09</b>                 | <b>2,778.60</b>                                   | <b>1,511.22</b> | <b>5.44</b>                 | <b>358.18</b> | <b>520.37</b> | <b>1.35</b>                 |
| 7.Non-Solar                         | 830.88   | 375.17        | 4.52                        | 636.22  | 271.82          | 4.27                        | (194.66)      | (103.34)      | (0.24)                      |
| 8.Solar                             | 899.63   | 314.42        | 3.49                        | 631.75  | 228.96          | 3.62                        | (267.88)      | (85.46)       | 0.13                        |



| Particulars                             | Tariff Order Dated 30.03.2020<br>Approved for September, 2022 |                 |                                      | Actual for September, 2022 as<br>submitted by MSEDCL |                 |                                      | Variation       |                 |                                      |
|---|---|-----------------|--------------------------------------|--|-----------------|--------------------------------------|-----------------|-----------------|--------------------------------------|
|   | Quantum   | PP Cost         | Average<br>Power<br>Purchase<br>Cost | Quantum  | PP Cost         | Average<br>Power<br>Purchase<br>Cost | Quantum         | PP Cost         | Average<br>Power<br>Purchase<br>Cost |
|   | MU  | Rs.<br>Crore    | Rs/kWh                               | MU   | Rs.<br>Crore    | Rs/kWh                               | MU              | Rs. Crore       | Rs/kWh                               |
| Renewable Energy including REC (7 to 8) | 1,730.50  | 689.58          | 3.98                                 | 1,267.97   | 500.78          | 3.95                                 | (462.54)        | (188.80)        | (0.04)                               |
| Must Run - KAPP, TAPP, Dodson etc       | 525.57  | 145.46          | 2.77                                 | 693.40   | 187.49          | 2.70                                 | 167.84          | 42.02           | (0.06)                               |
| Short Term                              | 0.00  | 0.00            | -                                    | 143.94   | 73.32           | 5.09                                 | 143.94          | 73.32           | 5.09                                 |
| Sale of Power                           | 0.00  | 0.00            | -                                    | 193.99   | 11.49           | 0.59                                 | 193.99          | 11.49           | 0.59                                 |
| DSM                                     | 0.00  | 0.00            | -                                    | -148.28  | -53.71          | 3.62                                 | (148.28)        | (53.71)         | 3.62                                 |
| PGCIL                                   | 0.00  | 305.16          | -                                    | -  | 444.23          | -                                    | -               | 139.07          | -                                    |
| <b>Total</b>                            | <b>11,064.66</b>  | <b>4,799.74</b> | <b>4.34</b>                          | <b>10,937.56</b>                                     | <b>5,940.93</b> | <b>5.43</b>                          | <b>(127.10)</b> | <b>1,141.18</b> | <b>1.09</b>                          |

4.3 Thus, for the month of September, 2022, total variation in power purchase cost is Rs. 1141.18 Crore, out of which Rs. (55.14) Crore was on account of lower quantum (127.10 MU) of power purchase and Rs. 1196.32 Crore was on account of higher rate of average power purchase by Rs. 1.09/kWh. FAC mechanism allows only impact of variation in power purchase rate to be passed through as FAC rate over and above approved tariff. The Commission observes that decrease in power purchase with higher corresponding decrease in sales than approved by the Commission has resulted in higher distribution loss than approved by the Commission in the Tariff Order.

4.4 The detailed explanation in respect of approval of cost of power purchase of each of the source mentioned in the above table is given in subsequent paragraphs.

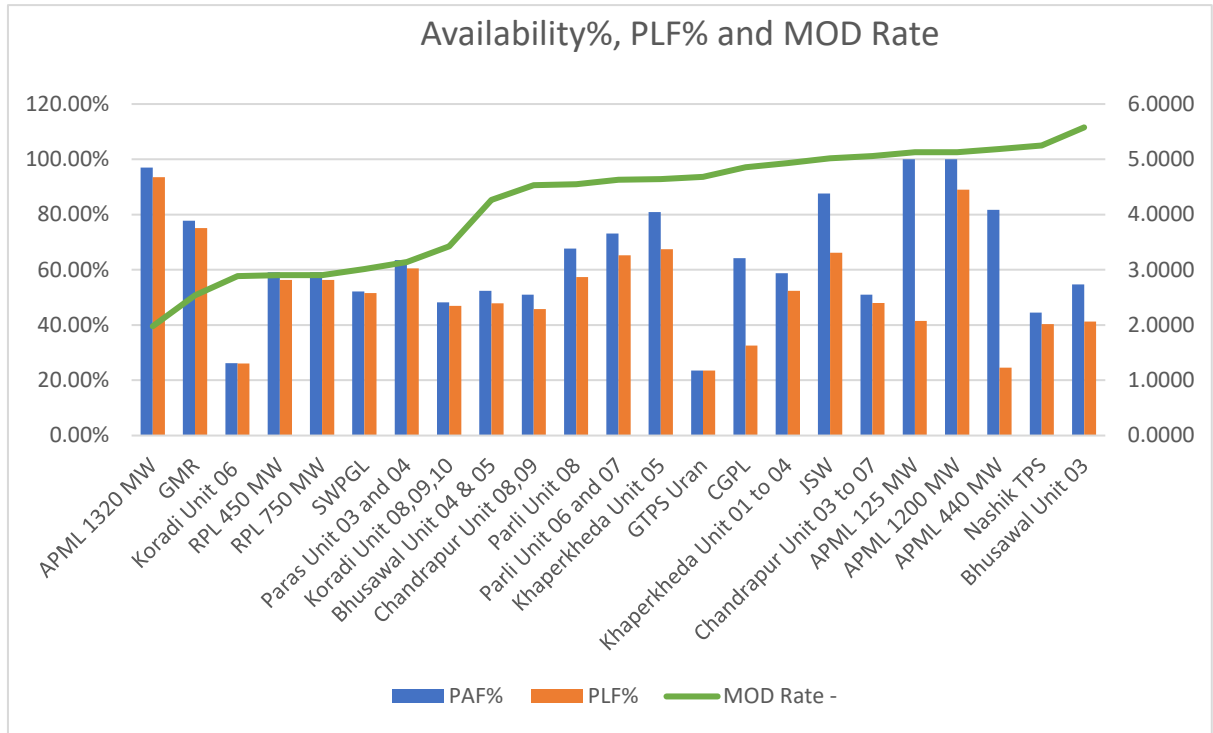
## 5. Power Purchase Cost

5.1 The Commission has sought detailed bills/invoices for all of the power purchase sources in order to verify the claim of MSEDCL with regards to average power purchase cost for the month of September, 2022. The Commission has verified the Net Purchase, Variable Cost, Fixed Charge and the Power Purchase Cost from the relevant bills/invoices received for all purchasing sources. MSEDCL has purchased power from approved sources as per the Tariff Order.

5.2 It was observed that due to planned/forced outages during the month, the availability of some of the MSPGCL and IPP generating stations was lower than normative availability.

5.3 The Commission notes that CGS stations having lower variable cost were dispatched almost to the extent of availability declared by the generator.

5.4 The Commission has also verified the PLF% and MOD rates of all the operational State Generating Stations and IPPs and has found that units having lower rates in MOD had higher PLF. The graph showing the comparison of Variable Cost in MoD Stack and monthly Plant Availability Factor and PLF for SGS and IPPs is given below:



SGS/IPP's Stations are considered for comparison and MOD Rate considered is as applicable from 16 September, 2022 to 30 September, 2022.

**MSPGCL:**

5.5 The Commission has observed that MSEDCL has purchased 3225.49 MU from MSPGCL Thermal and Gas Stations. It was observed that MSEDCL has purchased energy from Bhusawal-3, Nashik, Parli 6-7 and Parli 8 generating stations of MSPGCL even though not included in MoD stack approved by the Commission in the Tariff Order to meet the demand due to outage of units for various reasons like coal shortage, forced outage, all thermal plants were taken on bar. Also, rates as notified for IPPs such as JSW and CGPL using imported coal were higher and hence lower schedule was given to these generators.

5.6 The total overall generation was lower than approved during the month. The monthly fixed cost was payable in line with MYT Regulations, 2019 considering the availability of the Plant. The Commission has verified that the fixed cost for all the Thermal/Gas Units as well as Hydro Units has been considered as per invoice raised by MSPGCL for September, 2022. The comparison of Actual and Approved Fixed and Variable Cost of

MSPGCL Thermal/Gas units as shown in the table below shows the impact of fixed cost due to lower actual generation.

| Particulars      | Approved for September, 2022 |          |           |           |          |          | Actual for September, 2022 |          |           |           |          |          | Variations |          |          |          |
|------------------|------------------------------|----------|-----------|-----------|----------|----------|----------------------------|----------|-----------|-----------|----------|----------|------------|----------|----------|----------|
|                  | Quantum                      | VC       | VC        | FC        | FC       | APPC     | Quantum                    | VC       | VC        | FC        | FC       | APPC     | Quantum    | VC       | FC       | APPC     |
|                  | MU                           | Rs./k Wh | Rs. Crore | Rs. Crore | Rs./k Wh | Rs./k Wh | MU                         | Rs./k Wh | Rs. Crore | Rs. Crore | Rs./k Wh | Rs./k Wh | MU         | Rs./k Wh | Rs./k Wh | Rs./k Wh |
| MSPGCL – Thermal | 3,888.73                     | 2.76     | 1,071.56  | 639.56    | 1.64     | 4.40     | 3,225.49                   | 4.50     | 1,452.31  | 477.93    | 1.48     | 5.98     | (663.24)   | 1.75     | (0.16)   | 1.58     |

*Variable charge inclusive of other charges (Fuel adjustment charges, CIL etc.)*

5.7 The Commission has verified that fixed cost for all the Thermal/Gas Units as well as Hydro Units has been considered as per invoice raised by MSPGCL and as submitted by MSEDCL for the said units.

5.8 The Commission in its Order dated 30 March, 2020 in Case No 296 of 2019 has approved Fuel Utilisation Plan of MSPGCL. The Commission in the said Order has given in principle approval for the various measures proposed by MSPGCL including coal beneficiation and procurement of imported coal to meet the requirement of coal for maintaining normative availability and accordingly approved the variable/energy charges for the MSPGCL Stations.

5.9 The Commission notes that while approving the FUP, the washed coal and imported coal was required to be used in all the MSPGCL stations except Paras and Parli Stations. However, MSPGCL has finalised tie up for imported coal through competitive bidding from May 2022. The imported coal and washed coal was used as per FUP except at Koradi 6 and Chandrapur 3-7/ Nashik respectively in September, 2022.

5.10 MSEDCL submitted that CIMFR reports for most of the coal samples for coal supplied in September, 2022 to all the MSPGCL stations are likely to be received in September 2022, hence MSPGCL has raised provisional FAC bill considering GCV as per the methodology submitted by MSPGCL in Case No 97 of 2020 as given below:

- GCV- As Billed: Consideration of certified loading end GCV data wherever available and where certified data is not available, use mid-point of declared grade GCV.
- GCV – As Received: GCV is considered based on the results available at each Station from their respective Station Laboratory.

Accordingly, MSPGCL has raised provisional FAC bill dated 12 October, 2022 considering the aforesaid methodology.

5.11 The comparison of Approved and Actual Energy Charge (including FAC) is as given below:

| Power Station             | Approved Energy Charge Rs/kWh | Actual Energy Charge Rs/kWh | Difference Rs/kWh | Difference % |
|---------------------------|-------------------------------|-----------------------------|-------------------|--------------|
| Bhusawal Unit 03          | 4.102                         | 6.100                       | 1.998             | 48.71%       |
| Bhusawal Unit 04 & 05     | 3.436                         | 4.215                       | 0.779             | 22.67%       |
| Khaperkheda Unit 1 to 4   | 2.945                         | 4.701                       | 1.756             | 59.63%       |
| Khaperkheda Unit 05       | 2.583                         | 4.336                       | 1.753             | 67.87%       |
| Nashik TPS                | 3.569                         | 5.513                       | 1.944             | 54.47%       |
| Chandrapur Unit 03 to 07  | 2.658                         | 5.173                       | 2.515             | 94.62%       |
| Chandrapur Unit 08 and 09 | 2.573                         | 4.485                       | 1.912             | 74.31%       |
| Paras Unit 03 and 04      | 3.146                         | 3.118                       | -0.028            | -0.89%       |
| Parli Unit 06 and 07      | 4.240                         | 5.358                       | 1.118             | 26.37%       |
| Parli Unit 08             | 4.060                         | 5.294                       | 1.234             | 30.39%       |
| Koradi Unit 06            | 2.920                         | 3.157                       | 0.237             | 8.12%        |
| Koradi Unit 08,09,10      | 2.398                         | 3.514                       | 1.116             | 46.54%       |
| GTPS Uran                 | 2.847                         | 5.610                       | 2.763             | 97.05%       |

5.12 The Commission notes that for the month of September, 2022, energy charge of all stations except Paras have increased in view of usage of imported coal. The imported coal rate was higher (Rs 16200/MT to Rs 17000/MT) as compared to approved by the Commission (Rs 7000/MT to 8000/MT) in the Tariff Order leading to higher Energy Charge. As mentioned above, MSPGCL has awarded contract for washing of coal and such washed coal is being used for to Bhusawal, Koradi 8,9,10, Koradi 6, Khaperkheda 1-4 and 5 and Chandrapur 7-8 units in September, 2022. Further, actual Energy Charge is being computed considering GCV loss of 600 kCal/kg applicable from April, 2022 as allowed by the Commission in review Order dated 1 March, 2021 of MSPGCL as against 475 kCal/kg considered by the Commission while approving Energy Charge in the Tariff Order. This has also resulted in increase of Energy Charge of 1-22 Paise/kWh for the aforesaid stations.

5.13 It is also observed that Energy Charge of Uran has also increased considerably for September, 2022. This is due to the fact that prices of APM Gas have increased due to increase in notified APM gas price from \$2.90/MMBTU (up to March 2022) to \$6.10/MMBTU from April 2022 by Ministry of Petroleum and Natural Gas, Government of India.

5.14 The Commission has verified that actual quantum of power purchase and cost from the detailed summary bills/invoices submitted by MSEDCL and found to be in order.

5.15 Considering the overall cost of MSPGCL thermal/gas stations, the average power purchase cost is Rs. 5.98/kWh as against Rs. 4.40/kWh approved in the Tariff Order. The average power purchase cost is higher due to higher variable cost by Rs 1.75/kWh, which is offset by lower fixed cost/unit (Rs 0.16/kWh) due to lower availability than approved by the Commission.

5.16 Variation in power purchase expenses from MSPGCL can be divided on account of change in quantum and per unit rate as follows:

| Month           | Increase in Expenses for power purchase from MSPGCL (Rs. Crore) |   |        |
|-----------------|---|---|--------|
|                 | On Account of change Quantum of Power Purchase                  | On Account of change in Per Unit rate of Power Purchase | Total  |
| September, 2022 | (291.84)  | 510.96  | 219.12 |

5.17 Out of above, variation on account of per unit rate is only considered for FAC computation.

**NTPC:**

5.18 MSEDCL has purchased total 2964.73 MUs of power from NTPC's stations as compared to approved MoD stack of 2228.48 MUs during the month of September, 2022.

5.19 The Table below shows the variation in power purchase in terms of per unit variable charge, per unit fixed charge and average power purchase cost for NTPC's generating stations for September, 2022.

| Particulars | Approved for September 2022 |          |           |           |          |          | Actual for September 2022 |         |           |           |          |         | Variations |          |          |         |
|-------------|-----------------------------|----------|-----------|-----------|----------|----------|---------------------------|---------|-----------|-----------|----------|---------|------------|----------|----------|---------|
|             | Quantum                     | VC       | VC        | FC        | FC       | APP C    | Quantum                   | VC      | VC        | FC        | FC       | AP PC   | Quantum    | VC       | FC       | APPC    |
|             | MU                          | Rs./k Wh | Rs. Crore | Rs. Crore | Rs./k Wh | Rs./k Wh | MU                        | Rs./kWh | Rs. Crore | Rs. Crore | Rs./k Wh | Rs./kWh | MU         | Rs./k Wh | Rs./k Wh | Rs./kWh |
| NTPC        | 2,228.48                    | 2.01     | 446.89    | 440.48    | 1.98     | 3.98     | 2,964.73                  | 2.88    | 852.59    | 444.36    | 1.50     | 4.37    | 736.24     | 0.87     | (0.48)   | 0.39    |

*Variable charge inclusive of other charges (Fuel adjustment charges, CIL etc.)*

5.20 In response to data gaps raised by the Commission in respect of increase in variable cost, NTPC submitted that due to coal shortage scenario and MoP notification, non-pit head NTPC stations (KhSTPS-II, Muada -I and II, Solapur, Gadarwara and Khargone) are utilizing imported coal for blending. Imported coal being costly, variable cost of these stations has increased than approved rates. The Commission has verified that actual quantum of power purchase and cost from the detailed summary bills/invoices submitted by MSEDCL and found to be in order and accordingly considered the same in FAC computation.

5.21 Variation in power purchase expenses from NTPC can be divided into on account of change in quantum and per unit rate as follows:

| Month           | Increase in Expenses for power purchase from NTPC (Rs. Crore) |   |        |
|-----------------|---|---|--------|
|                 | On Account of change Quantum of Power Purchase                | On Account of increased Per Unit rate of Power Purchase | Total  |
| September, 2022 | 293.17  | 116.40  | 409.57 |

Out of above, variation on account of per unit rate is only considered for FAC computation.

### IPPs

- 5.22 MSEDCL has long term PPA's with IPP's viz: JSW, CGPL Mundra, APMML, Emco and Rattan India. The said PPAs are approved by the Commission and power availability from the said sources is considered as per Tariff Order issued by the Commission. Further, MSEDCL has signed PPA with Sai Wardha Power Generation Ltd (SWPGL) for 240 MW as per the Order dated 15 June 2020 in Case No 91 of 2020. SWPGL started delivering 240 MW power to MSEDCL from 5 July 2020.
- 5.23 During scrutiny of the invoices submitted by MSEDCL it was observed that there were differences in the other charges related to Change in Law as considered in FAC computations. The Commission sought clarifications on the same along with reconciliation and additional bills, if any. MSEDCL submitted the reconciliation and clarified that the aforesaid differences are mainly on account of Change in Law (CIL) claim by IPPs in addition to monthly energy bills during the respective period.
- 5.24 Change in Law (CIL) events in respect of IPPs are related to imposition of GST compensation cess, change in royalty, custom duty, change in NCDP, shortfall in domestic coal etc. These Change in Law events have been approved by the respective Commission's through various Orders, as the case may be, under the provisions of respective PPAs. MSEDCL has submitted the CIL invoices for the concerned period. Further, while scrutinizing the CIL bills it was observed that the amount shown in CIL bills/invoices were not matching against the respective amount considered in FAC computation. In fact, the amounts considered in FAC calculations were observed to be lesser than that of CIL bills/invoices except for claim related to SHAKTI. Change in Law claims raised by the generators are according to their technical parameters, whereas MSEDCL works out the CIL claim amount based on normative / actual parameters. These parameters include SHR of power plant, Auxiliary consumption, GCV of coal, etc. which have impact of coal consumption. Therefore, there is difference in CIL amount claimed by generator and that worked out by MSEDCL. MSEDCL has submitted the detailed reconciliation of CIL, as summarised in Table below:

| IPP          | As per Vendor – Rs Cr |        |        | As per MSEDCL – Rs Cr |        |        |
|--------------|-----------------------|--------|--------|-----------------------|--------|--------|
|              | CIL                   | Shakti | Total  | CIL                   | Shakti | Total  |
| JSW          | -                     | -      | -      | -                     | -      | -      |
| CGPL         | -                     | -      | -      | -                     | -      | -      |
| APML 125 MW  | 3.38                  | 17.86  | 21.24  | 1.52                  | 7.63   | 9.15   |
| APML 1320 MW | 40.52                 | 348.51 | 389.03 | 32.46                 | 192.36 | 224.82 |
| APML 1200 MW | 32.45                 | 171.45 | 203.90 | 31.27                 | 157.06 | 188.33 |
| APML 440 MW  | 4.37                  | 23.08  | 27.45  | 3.17                  | 15.91  | 19.08  |
| EMCO Power   | 4.94                  | -      | 4.94   | 4.46                  | -      | 4.46   |
| RIPL 450 MW  | 9.70                  | 6.68   | 16.39  | 8.05                  | 5.18   | 13.23  |

| IPP          | As per Vendor – Rs Cr |               |               | As per MSEDCL – Rs Cr |               |               |
|--------------|-----------------------|---------------|---------------|-----------------------|---------------|---------------|
|              | CIL                   | Shakti        | Total         | CIL                   | Shakti        | Total         |
| RIPL 750 MW  | 16.17                 | 11.14         | 27.31         | 13.42                 | 8.64          | 22.06         |
| Sai Wardha   | 3.94                  | 3.00          | 6.94          | 3.94                  | 2.68          | 6.62          |
| <b>Total</b> | <b>115.47</b>         | <b>581.73</b> | <b>697.20</b> | <b>98.29</b>          | <b>389.45</b> | <b>487.75</b> |

5.25 Thus, on an overall basis considering the above impact, the average power purchase cost from IPPs stands at Rs. 5.44/kWh as compared to monthly approved rate of Rs. 4.09/kWh for the month of September, 2022. The said cost is being considered for the FAC computation based on the scrutiny of invoices and details submitted by MSEDCL.

5.26 The table below shows the variation in power purchase in terms of per unit variable charge, per unit fixed charge and average power purchase cost for IPPs for September, 2022.

| Particulars                | Approved for September, 2022 |             |               |               |             |             | Actual for September, 2022 |             |                 |               |             |             | Variations    |              |               |             |
|----------------------------|------------------------------|-------------|---------------|---------------|-------------|-------------|----------------------------|-------------|-----------------|---------------|-------------|-------------|---------------|--------------|---------------|-------------|
|                            | Quantum                      | VC          | VC            | FC            | FC          | APPC        | Quantum                    | VC          | VC              | FC            | FC          | APPC        | Quantum       | VC           | FC            | APPC        |
|                            | MU                           | Rs./kWh     | Rs. Crore     | Rs. Crore     | Rs./kWh     | Rs./kWh     | MU                         | Rs./kWh     | Rs. Crore       | Rs. Crore     | Rs./kWh     | Rs./kWh     | MU            | Rs./kWh      | Rs./kWh       | Rs./kWh     |
| 1.JSW                      | 158.98                       | 3.23        | 51.32         | 13.01         | 0.82        | 4.05        | 142.99                     | 5.02        | 71.85           | 14.49         | 1.01        | 6.04        | (15.99)       | 1.80         | 0.19          | 1.99        |
| 2.Mundra UMPP              | 423.94                       | 2.22        | 94.03         | 39.96         | 0.94        | 3.16        | 178.51                     | 4.70        | 83.88           | 40.61         | 2.27        | 6.97        | (245.42)      | 2.48         | 1.33          | 3.81        |
| 3.Adani Power              | 1,724.91                     | 2.62        | 451.40        | 226.85        | 1.32        | 3.93        | 1,773.72                   | 4.47        | 792.76          | 235.76        | 1.33        | 5.80        | 48.81         | 1.85         | 0.01          | 1.87        |
| 4.Emco                     | 112.61                       | 3.70        | 41.67         | 14.90         | 1.32        | 5.02        | 108.07                     | 2.44        | 26.37           | 13.67         | 1.27        | 3.71        | (4.54)        | (1.26)       | (0.06)        | (1.32)      |
| 5.Rattan India             | -                            | -           | -             | 57.71         | -           | -           | 486.17                     | 3.12        | 151.71          | 39.55         | 0.81        | 3.93        | 486.17        | -            | -             | -           |
| 6. Sai Wardha              | -                            | -           | -             | -             | -           | -           | 89.15                      | 3.15        | 28.08           | 12.48         | 1.40        | 4.55        | 89.15         | -            | -             | -           |
| <b>Total IPPs (1 to 6)</b> | <b>2,420.43</b>              | <b>2.64</b> | <b>638.43</b> | <b>352.43</b> | <b>1.46</b> | <b>4.09</b> | <b>2,778.60</b>            | <b>4.16</b> | <b>1,154.66</b> | <b>356.56</b> | <b>1.28</b> | <b>5.44</b> | <b>358.18</b> | <b>1.518</b> | <b>(0.17)</b> | <b>1.35</b> |

Variable charge inclusive of other charges, CIL etc.

5.27 Variation in power purchase expenses from IPPs can be divided into increased on account of change in quantum and per unit rate as follows:

| Month          | Increase in Expenses for power purchase from IPP (Rs. Crore) |   |        |
|----------------|--|---|--------|
|                | On Account of change Quantum of Power Purchase               | On Account of increased Per Unit rate of Power Purchase | Total  |
| September 2022 | 146.63   | 373.74  | 520.37 |

Out of above, variation on account of increased per unit rate is only considered for FAC computation.

### Short Term Power Purchase

5.28 MSEDCL has purchased 143.94 MU at average rate of Rs. 5.09/kWh from Power Exchange. The Commission notes that it has not approved any short-term purchase in the Tariff Order. However, MSEDCL has purchased short term power to meet the demand

in view of lower availability of contracted thermal Plants. The Commission has verified the details of power purchase cost from the Daily Obligation Summary Report issued by Power Exchange and accordingly considered the said purchase in FAC computation of September, 2022.

### Must-Run Sources

5.29 The sources of Must Run Stations include KAPP, TAPP 1&2, TAPP 3&4, SSP, Pench, Dodson I and Dodson II, Renewable Energy and MSPGCL Hydro (including Ghatghar) etc.

5.30 A detailed comparison of approved against actual purchase from Must Run Stations is shown in Table below:

| Particulars                                    | Approved for September 2022 |             |               |           |          |             | Actual for September 2022 |             |               |             |             |             | Variations      |               |             |               |
|--|-----------------------------|-------------|---------------|-----------|----------|-------------|---------------------------|-------------|---------------|-------------|-------------|-------------|-----------------|---------------|-------------|---------------|
|  | Quantum                     | VC          | VC            | FC        | FC       | APPC        | Quantum                   | VC          | VC            | FC          | FC          | APPC        | Quantum         | VC            | FC          | APPC          |
|  | MU                          | Rs./kWh     | Rs. Crore     | Rs. Crore | Rs./kWh  | Rs./kWh     | MU                        | Rs./kWh     | Rs. Crore     | Rs. Crore   | Rs./kWh     | Rs./kWh     | MU              | Rs./kWh       | Rs./kWh     | Rs./kWh       |
| MSPGCL-Hydro*                                  | 270.95                      | -           | -             | 23.87     | 0.88     | 0.88        | 205.69                    | 0.26        | 5.35          | 13.56       | 0.66        | 0.92        | (65.26)         | 0.26          | (0.22)      | 0.04          |
| MSPGCL-Hydro Lease rent                        | -                           | -           | -             | 46.32     | -        | -           | -                         | -           | -             | 42.99       | -           | -           | -               | -             | -           | -             |
| 1.Non-Solar                                    | 830.88                      | 4.52        | 375.17        | -         | -        | 4.52        | 636.22                    | 4.22        | 268.26        | 3.56        | 0.06        | 4.27        | (194.66)        | (0.30)        | 0.06        | (0.24)        |
| 2.Solar  | 899.63                      | 3.49        | 314.42        | -         | -        | 3.49        | 631.75                    | 3.62        | 228.96        | -           | -           | 3.62        | (267.88)        | 0.13          | -           | 0.13          |
| <b>Renewable Energy including REC (1 to 2)</b> | <b>1,730.50</b>             | <b>3.98</b> | <b>689.58</b> | <b>-</b>  | <b>-</b> | <b>3.98</b> | <b>1,267.97</b>           | <b>3.92</b> | <b>497.22</b> | <b>3.56</b> | <b>0.03</b> | <b>3.95</b> | <b>(462.54)</b> | <b>(0.06)</b> | <b>0.03</b> | <b>(0.04)</b> |
| Others-KAPP, TAPP, Dodson etc                  | 525.57                      | 2.75        | 144.67        | 0.79      | 0.02     | 2.77        | 693.40                    | 2.69        | 186.70        | 0.79        | 0.01        | 2.70        | 167.84          | (0.06)        | (0.00)      | (0.06)        |

*\*Variable Cost for Hydro Power is approved in MSPGCL Order whereas total cost is considered under Fixed Cost in the Tariff Order of MSEDCL.*

5.31 As seen from the aforesaid table, MSEDCL has purchased 205.69 MU of Hydro Power as per variable cost approved by the Commission. This being the cheapest source of power helps in reduction of overall average cost of power purchase. The Koyna generation works on the principle of water year (1st June to 30 May) and hence the available water is used for the peak requirement based on the requirement of MSEDCL. It is observed that hydro purchase is lower than 270.95 MU approved by the Commission due to rainy season and demand was catered from the thermal & other must run generation and Koyna hydro was utilized during peak demand hours as per daily requirements.

5.32 It is observed that Solar and Non-Solar energy purchased in September, 2022 i.e., 1267.97 MU was lower than approved i.e., 1730.50 MU by the Commission in the Tariff Order. The generation is lower due lower solar capacity addition due to pandemic than considered by the Commission in the Tariff Order. MSEDCL has not purchased any RECs in the month of September, 2022. The Commission observes that MSEDCL has purchased 2.54 MU of RE power from G-DAM Market at Rs 5.94/kWh. The Commission



has considered the renewable purchase as per details submitted by MSEDCL and invoices of power purchased from SECI, NVVN and other IPPs.

### ISTS Charges - CTU

5.33 As per Regulation 10 of the MYT Regulations, 2019, any variation in Inter-State Transmission Charges shall be pass through under FAC component of Z-factor charge as an adjustment in Tariff on monthly basis. The ISTS charges paid by MSEDCL to Central Transmission Utility of India Ltd (CTU) are considered under FAC computation. Accordingly, the Commission has considered the amount of Rs. 444.23 Crore towards ISTS charges payable to payable to CTU as against Rs. 305.16 Crore approved in the Tariff Order towards FAC computation as per invoice raised by CTU.

### Sale of Power

5.34 MSEDCL has sold/banked surplus power to the extent of 193.99 MU during the month of September, 2022 and has earned revenue of Rs. 11.49 Crore.

5.35 It is observed that MSEDCL sold 10.82 MU on IEX at Rs 8.75 /kWh and also sold 3.93 MU to BRPL on DEEP Portal at Rs 5.13/kWh. The sales realisation of Rs 7.78/kWh was more than that of variable cost of generator running above technical minimum operating in MOD thereby benefitting the consumers. Further, MSEDCL has also returned banked power (179.24 MU) to PTC and TPDDL in the month of September 2022. Hence, the Commission has considered the actual quantum and revenue against surplus sale.

### Deviation Quantum and Cost

5.36 MSEDCL has submitted that the deviation quantum (underdrawl) as per invoice raised by MSLDC is 148.28 MU and corresponding realisation is Rs 53.71 Crore. Accordingly, the Commission has considered the said Deviation quantum and cost in the FAC computation for the month of September, 2022.

### Approved Cost of Power Purchase

5.37 In view of the above, the overall cost approved in the Tariff Order and actual for the month of September, 2022 considered by the Commission is as shown below:

| Particulars              | Approved for September 2022 |         |           |           |         |         | Actual for September 2022 |         |           |           |         |         | Variations |         |         |         |
|--------------------------|-----------------------------|---------|-----------|-----------|---------|---------|---------------------------|---------|-----------|-----------|---------|---------|------------|---------|---------|---------|
|                          | Quantum                     | VC      | VC        | FC        | FC      | APPC    | Quantum                   | VC      | VC        | FC        | FC      | APPC    | Quantum    | VC      | FC      | APPC    |
|                          | MU                          | Rs./kWh | Rs. Crore | Rs. Crore | Rs./kWh | Rs./kWh | MU                        | Rs./kWh | Rs. Crore | Rs. Crore | Rs./kWh | Rs./kWh | MU         | Rs./kWh | Rs./kWh | Rs./kWh |
| MSPGC L – Thermal        | 3,888.73                    | 2.76    | 1,071.56  | 639.56    | 1.64    | 4.40    | 3,225.49                  | 4.50    | 1,452.31  | 477.93    | 1.48    | 5.98    | (663.24)   | 1.75    | (0.16)  | 1.58    |
| MSPGC L-Hydro            | 270.95                      | -       | -         | 23.87     | 0.88    | 0.88    | 205.69                    | 0.26    | 5.35      | 13.56     | 0.66    | 0.92    | (65.26)    | 0.26    | (0.22)  | 0.04    |
| MSPGC L-Hydro Lease Rent | -                           | -       | -         | 46.32     | -       | -       | -                         | -       | -         | 42.99     | -       | -       | -          | -       | -       | -       |

| Particulars                       | Approved for September 2022 |          |           |           |          |          | Actual for September 2022 |         |           |           |          |         | Variations |          |          |         |
|-----------------------------------|-----------------------------|----------|-----------|-----------|----------|----------|---------------------------|---------|-----------|-----------|----------|---------|------------|----------|----------|---------|
|                                   | Quantum                     | VC       | VC        | FC        | FC       | APP C    | Quantum                   | VC      | VC        | FC        | FC       | AP PC   | Quantum    | VC       | FC       | APPC    |
|                                   | MU                          | Rs./k Wh | Rs. Crore | Rs. Crore | Rs./k Wh | Rs./k Wh | MU                        | Rs./kWh | Rs. Crore | Rs. Crore | Rs./k Wh | Rs./kWh | MU         | Rs./k Wh | Rs./k Wh | Rs./kWh |
| NTPC                              | 2,228.48                    | 2.01     | 446.89    | 440.48    | 1.98     | 3.98     | 2,964.73                  | 2.88    | 852.59    | 444.36    | 1.50     | 4.37    | 736.24     | 0.87     | (0.48)   | 0.39    |
| IPPs                              | 2,420.43                    | 2.64     | 638.43    | 352.43    | 1.46     | 4.09     | 2,778.60                  | 4.16    | 1,154.66  | 356.56    | 1.28     | 5.44    | 358.18     | 1.52     | (0.17)   | 1.35    |
| RE including REC                  | 1,730.50                    | 3.98     | 689.58    | -         | -        | 3.98     | 1,267.97                  | 3.92    | 497.22    | 3.56      | 0.03     | 3.95    | (462.54)   | (0.06)   | 0.03     | (0.04)  |
| Must Run - KAPP, TAPP, Dodson etc | 525.57                      | 2.75     | 144.67    | 0.79      | 0.02     | 2.77     | 693.40                    | 2.69    | 186.70    | 0.79      | 0.01     | 2.70    | 167.84     | (0.06)   | (0.00)   | (0.06)  |
| Short Term                        | -                           | -        | -         | -         | -        | -        | 143.94                    | 5.09    | 73.32     | -         | -        | 5.09    | 143.94     | -        | -        | -       |
| Sale of Power                     | -                           | -        | -         | -         | -        | -        | 193.99                    | 0.59    | 11.49     | -         | -        | 0.59    | 193.99     | -        | -        | -       |
| DSM                               | -                           | -        | -         | -         | -        | -        | (148.28)                  | 3.62    | (53.71)   | -         | -        | 3.62    | (148.28)   | -        | -        | -       |
| PGCIL                             | -                           | -        | -         | 305.16    | -        | -        | -                         | -       | -         | 444.23    | -        | -       | -          | -        | -        | -       |
| <b>Total</b>                      | 11,064.66                   | 2.70     | 2,991.13  | 1,808.61  | 1.63     | 4.34     | 10,937.56                 | 3.80    | 4,156.95  | 1,783.97  | 1.63     | 5.43    | (127.10)   | 1.10     | (0.00)   | 1.09    |

Variable charge inclusive of other charges (Fuel adjustment charges, CIL etc.)

5.38 The overall power purchase cost is higher mainly due to variable cost of power supplied by MSPGCL, NTPC and IPPs. However, the higher variable cost is offset by lower fixed cost/unit due to higher despatch than approved by the Commission from NTPC and lower fixed cost paid to MSPGCL and IPPs due to lower Availability.

5.39 Considering the above, the Commission allows the average power purchase cost of Rs.5.43/kWh for the month of September, 2022 as against Rs. 4.34/kWh approved in the Tariff Order.

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

6.1 The Commission has worked out the average power purchase cost for the month of September, 2022 as shown in above table. The same has been compared with the average power purchase cost approved by the Commission in Tariff Order dated 30 March, 2020 and accordingly arrived at differential per unit rate at which Z<sub>FAC</sub> is to be passed on to the consumers.

6.2 The following table shows the Z<sub>FAC</sub> worked out by the Commission on account of difference in fuel and power purchase cost for the month of September, 2022.

| S. No. | Particulars  | Units   | September, 2022 |
|--------|--|---------|-----------------|
| 1      | Average power purchase cost approved by the Commission | Rs./kWh | 4.34            |
| 2      | Actual average power purchase cost                     | Rs./kWh | 5.43            |
| 3      | Change in average power purchase cost (=2 -1)          | Rs./kWh | 1.09            |
| 4      | Net Power Purchase                                     | MU      | 10,937.56       |

| S. No. | Particulars  | Units     | September, 2022 |
|--------|--|-----------|-----------------|
| 5      | Change in fuel and power purchase cost (=3 x 4/10) | Rs. Crore | 1,196.32        |

**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. Since any over recovery/under recovery for MSEDCL is spilt into Ag and Non-Ag and has to be adjusted towards levy of FAC for Ag and Non-Ag, the Commission has not considered any adjustment towards the same for September, 2022 as there is no FAC to be levied in September, 2022.

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

8.1 As explained in the above paragraph in absence of any levy for September, 2022 as per letter dated 5 April, 2022, the Commission will consider any over recovery/under recovery along with carrying cost while approving FAC for the month of November, 2022.

**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 provides the comparison of approved and actual distribution loss and disallowance due to excess distribution loss if any.

| S. N | Particulars   | Units            | Approved in Tariff Order | Actual for September 2022 | Actual – cumulative up to September 2022 | Annual Sliding Distribution Loss – Oct 21 to Sep 22 |
|------|---|------------------|--------------------------|---------------------------|--|---|
| 1    | Net Energy Input at Distribution Voltage  | MU               | 1,27,414.02              | 9,444.95                  | 67,277.99                                | 134743.60   |
| 2    | MSEDCL Metered Sales (excluding sales at EHV level)   | MU               | 1,00,813.73              | 7,310.83                  | 49,773.34                                | 96428.35  |
| 3    | Estimated Consumption of unmetered Sales  | MU               | 8,783.32                 | 719.18                    | 4,317.64                                 | 9214.17   |
| 4    | Distribution Loss (1-2-3)   | MU               | 17,816.97                | 1,414.94                  | 13,187.01                                | 29101.07  |
| 5    | Distribution Loss as % of net energy input (4/1)  | %                | 14%                      | 14.98%                    | 19.60%                                   | 21.60%  |
| 6    | Excess Distribution Loss = [Actual Distribution Loss (5) - Distribution loss approved] x Net Energy Input (1) | MU               | -                        | 717.57                    | -  | -   |
| 7    | <b>Disallowance of FAC due to excess Distribution Loss</b>  | <b>Rs. Crore</b> | -                        | <b>89.88</b>              | -  | -   |

9.3 As seen from the above table, the standalone distribution loss for the month of September, 2022 is marginally higher at 14.98% as against approved loss of 14%. The standalone loss for September, 2022 is higher mainly due to estimated Ag sales and sales considered as per billing cycle whereas power purchase is considered for the standalone month. Also, the Commission has restricted the Ag Sales as per norms approved in the Tariff Order leading to higher loss.

9.4 The comparison of Distribution Loss for the April, 2022 to September, 2022 as compared to last year is as given below:

| Particulars                | FY 2022-23    | FY 2021-22    |
|----------------------------|---------------|---------------|
| <i>Approved Loss</i>       | <i>14%</i>    | <i>16%</i>    |
| April                      | 30.33%        | 30.44%        |
| May                        | 26.19%        | 27.15%        |
| June                       | 16.83%        | 13.31%        |
| July                       | 7.35%         | 16.05%        |
| August                     | 15.19%        | 19.36%        |
| September                  | 14.98%        | 13.93%        |
| Cumulative up-to September | <b>19.60%</b> | <b>20.60%</b> |

9.5 As Annual Sliding Distribution Loss of 21.60% is higher than the approved loss of 14%, the Commission has disallowed Rs 89.88 Crore towards the same.

## 10. Summary of Allowable Z<sub>FAC</sub>

10.1 The summary of the FAC amount as approved by the Commission for the month of September, 2022 is as shown in the Table below:

| S. No.     | Particulars  | Units            | September, 2022 -As submitted | September, 2022 - As Approved |
|------------|--|------------------|-------------------------------|-------------------------------|
| <b>1</b>   | <b>Calculation of ZFAC</b>   |                  |                               |                               |
| 1.1        | Change in cost of generation and power purchase attributable to Sales within the License Area (F)  | Rs. Crore        | 890.86                        | 1196.32                       |
| 1.2        | Carrying cost for over-recovery/under-recovery (C)   | Rs. Crore        | 2.58                          | -                             |
| 1.3        | Adjustment factor for over-recovery/under-recovery (B)   | Rs. Crore        | 337.12                        | -                             |
| <b>1.4</b> | <b>ZFAC = F+C+B</b>  | Rs. Crore        | 1,536.02                      | 1196.32                       |
| <b>2</b>   | <b>Calculation of Per Unit FAC</b>   |                  |                               |                               |
| 2.1        | Energy Sales within the License Area   | MU               | 10,057.15                     | 9550.72*                      |
| 2.2        | Excess Distribution Loss   | MU               | 680.04                        | 717.57                        |
| 2.3        | ZFAC per kWh   | Rs./kWh          | 1.19                          | 1.25                          |
| <b>3</b>   | <b>Allowable FAC</b>   |                  |                               |                               |
| 3.1        | FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.3)/10]                          | Rs. Crore        | 80.69                         | 89.88                         |
| 3.2        | FAC allowable [1.4-3.1]  | Rs. Crore        | 1,455.34                      | 1106.44                       |
| <b>4</b>   | <b>Utilization of FAC Fund</b>   |                  |                               |                               |
| 4.1        | Opening Balance of FAC Fund  | Rs. Crore        | 573.56                        | 0                             |
| 4.2        | Carrying Cost/(Holding Cost) on FAC Fund   | Rs. Crore        | 0                             | 0                             |
| 4.3        | Z <sub>FAC</sub> for the month (Sr. N. 3.2)  | Rs. Crore        | 1,455.34                      | 1106.44                       |
| 4.4        | Closing Balance of FAC Fund  | Rs. Crore        | 2028.90                       | 1106.44                       |
| 4.5        | Z <sub>FAC</sub> leviable/(refundable) to consumer   | Rs. Crore        | 2028.90                       | 1106.44                       |
| <b>5</b>   | <b>Total FAC based on category wise and slab wise allowed to be recovered in the billing month</b> | <b>Rs. Crore</b> | -                             | -                             |

\*Ag Sales allowed as per norms approved by the Commission in the Tariff Order.

10.2 The standalone FAC for the month of September, 2022 is Rs 1106.44 Crore which will added to the FAC Fund. The approved amount is lower than claimed by MSEDCL in view of higher disallowance due to excess distribution loss after allowing Ag Sales as per norms approved by the Commission in the Tariff Order and under-recovery amount will be considered while approving the FAC for November, 2022.

## 11. Recovery from Consumers:

11.1 Regulation 10.9 of 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<sub>FAC</sub> per kWh for a particular Tariff category/sub-category/consumption slab shall be computed as per the following formula: —*

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

*Where:*

$Z_{FAC\ Cat} = Z_{FAC}$  component for a particular Tariff category/sub-category/consumption slab in ‘Rupees per kWh’ terms;

$k = Average\ Billing\ Rate / ACOS;$

*Average Billing Rate = Average Billing Rate for a particular Tariff category/sub-category/consumption slab under consideration in ‘Rupees per kWh’ as approved by the Commission in the Tariff Order:*

*Provided that the Average Billing Rate for the unmetered consumers shall be based on the estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission:*

*ACOS = Average Cost of Supply in ‘Rupees per kWh’ as approved for recovery by the Commission in the Tariff Order:*

*Provided that the monthly Z<sub>FAC</sub> 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<sub>FAC</sub> 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. 1106.44 Crore for the month of September, 2022 to be added to the FAC Fund.

11.3 The Commission in its approval for the month of August, 2022 has directed MSEDCL to levy and recover FAC from December, 2022 to February, 2023 and balance amount of Rs 573.56 Crore is carried forward and will be considered for recovery in March, 2023. Accordingly, the opening FAC Fund is nil.

11.4 Considering the approved FAC amount of Rs. 1106.44 Crore for the month of September, 2022 and same after being added to the FAC fund, the total balance amount to be recovered is Rs. 1106.44 Crore. The said amount is being carried forward and will be

accumulated up to the month of November, 2022 as per letter dated 5 April, 2022 issued by the Commission. While approving FAC for the month of November, 2022, the Commission will allow the recovery of cumulative amount in March, 2023 along with carrying cost.

11.5 In view of the above, the per unit  $Z_{FAC}$  for the month of September, 2022 to be levied on consumers of MSEDCL in the billing month of November, 2022 is **Nil**.