



महाराष्ट्र विद्युत नियामक आयोग

Maharashtra Electricity Regulatory Commission



Ref. No. MERC/FAC/2021-22/085

Date: 28 February, 2022

To,

The Managing Director

Maharashtra State Electricity Distribution Company Ltd.,

5th 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 November, 2021.

Reference: 1. MSEDCL's FAC submission dated 4 January, 2022 for prior approval of FAC for the month of November, 2021.
2. Data gaps communicated to MSEDCL vide email dated 7 January, 2022 and 1 February, 2022.
3. MSEDCL's response to data gaps by email dated 31 January, 2022, 14 February, 2022 and 22 February, 2022.

Sir,

Upon vetting the FAC calculations for the month of November, 2021 as mentioned in the above reference, the Commission has accorded approval for FAC amount of Rs. 1361.56 Crore. However, the said amount is adjusted from the FAC Fund and accordingly the FAC chargeable to consumers is as shown in the table below:

| Month | FAC Amount (Rs. Crore) |
|----------------|------------------------|
| November, 2021 | 0 (Zero) |

The Commission allows the accumulation of FAC amount of Rs. (154.44) Crore which shall form part of FAC Fund and shall be carried forward to next FAC billing cycle with holding cost as per the Order dated 30 March, 2020 in Case No 322 of 2019. Further, as directed in the said Order, MSEDCL shall maintain the monthly account of FAC Fund and upload it on its website to maintain transparency of FAC Fund and also for information of all the stakeholders.

MSEDCL is directed to file their FAC submissions as per timelines mentioned in the letter dated 20 April, 2020 and also taking into consideration data gaps raised in previous months to ensure timely prior approval.

Yours faithfully,

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

Encl: Annexure A: Detailed Vetting Report for the month of November, 2021.

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ANNEXURE A

Detailed Vetting Report
Date: 28 February, 2022

PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF NOVEMBER, 2021

Subject: Prior Approval of Fuel Adjustment Charges (FAC) submission of MSEDCL for the month of November, 2021.

Reference: MSEDCL's FAC submission dated 4 January, 2022, 31 January, 2022 and 4 February, 2022 for prior approval of FAC for the month of November, 2021.

1. FAC submission by MSEDCL:

1.1 MSEDCL has submitted FAC submissions for the month of November, 2021 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. 1361.56 Crore. The approved FAC amount shall be adjusted from the FAC Fund and balance amount shall be carried forward to next FAC billing cycle with holding cost as per the Order dated 30 March, 2020 in Case No 322 of 2019 (herein after referred to as "Tariff Order").

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 15th 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 November, 2021 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 |
|-------------------------------------|--|-----------------------|--------------------|
| | | | November 2021 (MU) |
| HT Category | | | |
| Industry (General) | 35,183.18 | 2,791.63 | 2,777.39 |
| Industry (Seasonal) | 102.93 | 9.03 | 15.25 |
| Commercial | 1,927.21 | 157.37 | 127.94 |
| Railways/Metro/Monorail | 82.07 | 5.82 | 6.85 |
| Public Water Works (PWW) | 2,047.87 | 169.41 | 171.81 |
| Agricultural - Pumpsets | 1,282.89 | 146.74 | 32.77 |
| Agricultural - Others | 267.54 | 21.11 | 20.55 |
| Group Housing Society (Residential) | 241.73 | 18.08 | 16.63 |
| Public Services - Government | 285.74 | 21.41 | 21.84 |
| Public Services - Others | 863.17 | 64.85 | 54.30 |
| Electric Vehicle Charging Stations | 0.31 | 0.03 | 1.50 |
| MSPGCL Auxiliary | 183.74 | 13.10 | 18.45 |
| Other Adjustment | 4,842.00 | 403.50 | 454.29 |
| Sub-total (A) | 47,310.39 | 3,822.06 | 3,719.57 |
| LT Category | | | |
| BPL | 47.34 | 4.22 | 4.52 |
| Residential | 23,983.09 | 1,769.84 | 1,801.20 |
| Non-Residential | 7,503.43 | 590.98 | 440.51 |
| Public Water Works | 941.77 | 76.09 | 74.23 |
| AG Metered (Pump-sets) | 18,084.07 | 1,673.17 | 1,475.67 |
| AG Metered (Others) | 140.00 | 10.94 | 14.95 |
| Industrial | 10,084.02 | 735.81 | 884.75 |
| Street Lights | 2,417.55 | 194.93 | 119.44 |
| Public Services | 610.03 | 45.18 | 45.31 |
| Electric Vehicle Charging Stations | 0.23 | 0.02 | 0.13 |
| Sub-total (B) | 63,811.51 | 5,101.17 | 4,860.71 |
| Total – Metered (C = A+B) | 1,11,121.91 | 8,923.24 | 8,580.28 |
| Unmetered Sale (D) | 8,783.32 | 810.92 | 840.42 |
| Grand Total(C+D) | 1,19,905.23 | 9,734.16 | 9,420.70 |

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

3.2 For the month of November, 2021, it is observed that actual sales of 9420.70 MU are lower by 3% as compared to the approved energy sales of 9734.16 MU. This is mainly due to lower Ag Sales considered by MSEDCL than approved by the Commission.



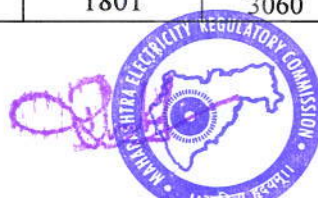
3.3 MSEDCL has submitted the data providing actual billing and estimated billing undertaken for the calculation of total energy consumption for the month of November, 2021. **As per the data, the billing of about 97% of sales is undertaken as per actual meter readings and balance 3% is assessed on an 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 November, 2021.

3.4 The number of actual and estimated meter readings undertaken by MSEDCL for the month of November, 2021 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 | 22488 | 0 | 22488 |
| 2 | LT | 22142884 | 2351959 | 24494843 |
| | Total | 22165372 | 2351959 | 24517331 |

3.5 Further, comparison of sales for April, 2021 to November, 2021 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-20 | 1525 | 2687 | 2120 | 921 | 7254 |
| May-21 | 2024 | 3091 | 3508 | 677 | 9300 |
| May-20 | 2075 | 2559 | 2802 | 925 | 8361 |
| June-21 | 2026 | 3126 | 3553 | 677 | 9382 |
| June-20 | 2936 | 2449 | 3009 | 773 | 9167 |
| July-21 | 2032 | 2879 | 3716 | 665 | 9293 |
| July-20 | 2294 | 2366 | 2967 | 711 | 8339 |
| August-21 | 2037 | 3084 | 3876 | 752 | 9749 |
| August-20 | 2003 | 2408 | 3090 | 711 | 8212 |
| September-21 | 2041 | 3101 | 3818 | 752 | 9712 |
| September-20 | 1890 | 2990 | 3287 | 657 | 8825 |
| October-21 | 1830 | 3121 | 4528 | 840 | 10320 |
| October-20 | 1857 | 2766 | 3583 | 834 | 9040 |
| November-21 | 1801 | 3060 | 3720 | 840 | 9421 |



| Particulars | LT - Residential (MU) | LT Others (MU) | HT (MU) | Ag- Unmetered | Total (MU) |
|--------------------------------|-----------------------|----------------|--------------|---------------|--------------|
| November-20 | 1646 | 2765 | 3367 | 834 | 8612 |
| April 21 to November 21 | 15802 | 24694 | 30453 | 5882 | 76830 |
| April 20 to November 20 | 16227 | 20989 | 24225 | 6368 | 67809 |

3.6 The Commission observes that overall sales in November, 2021 have increased as compared to November, 2020 due to increase in sales of all categories.

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 October, 2021 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 connection based on the reading done in November 21. 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 April, 2021 to November, 2021. 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 21 - Nov 21 | 12239 | 119065686 | 103 | 5882 | 60887205 | 97 | 18121 | 179952891 | 101 |
| As Approved - April 21 - Nov 21 | 11319 | 119065686 | 95 | 5751 | 60887205 | 94 | 17070 | 179952891 | 95 |

3.8 The Commission has already restricted the agriculture metered sales for the months of April, 2021 to October, 2021. Accordingly, based on the cumulative agriculture sales approved in the above table, the Commission has approved agriculture sales for November, 21 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.

a) MSPGCL



- b) Central Generating Stations i.e. NTPC, TAPP etc
- c) IPPs i.e. JSW, Adani Power, Mundra UMPP, Emco, Rattan India and Sai Wardha
- d) 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 (313.41 MU) from the actual schedule | | | |
| 5 | Sale of Surplus Power | MSEDCL has sold 1.82 MU at Rs. 10.02/kWh thereby benefitting its consumers. | | | |
| 6 | Power Purchase | Actual Net Power Purchase is 11480.75 MU as against approved 11499.47 MU. | | | |
| 7 | Source wise Power Purchase | Source Name | Approved (MU) | Actual (MU) | Proportion of each Source in Actual Purchase |
| | | MSPGCL | 4,316.00 | 4,322.48 | 38% |
| | | NTPC | 2,228.48 | 2,789.21 | 24% |
| | | IPP | 2,420.43 | 2,343.31 | 20% |
| | | Renewable | 2,009.00 | 1,500.71 | 13% |
| | | Must Run | 525.57 | 451.35 | 4% |
| | | Short Term | 0.00 | 388.93 | 3% |
| | | Sale of Power | 0.00 | 1.82 | 0% |
| | | DSM | 0.00 | -313.41 | -3% |
| | | Total | 11,499.47 | 11,480.75 | 100% |
| 8 | Power Purchase: a. Section 62 of Electricity Act, 2003 | A. MSPGCL 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 | | | |



| Sr. No. | Particular | Compliance |
|---------|---|---|
| | b. Section 63 of Electricity Act, 2003 – IPPs | 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 B. CGS- NTPC etc Cost and MUs are verified as per invoice 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 November, 2021 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 November, 2021 submitted by MSEDCL as compared to average power purchase cost approved in Tariff Order:

| Particulars | Tariff Order Dated 30.03.2020 Approved for November 2021 | | | Actual for November, 2021 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 | 4,045.05 | 1,753.61 | 4.34 | 4,138.29 | 1,802.34 | 4.36 | 93.24 | 48.73 | 0.02 |
| MSPGCL-Hydro (including Lease Rent) | 270.95 | 68.73 | 2.54 | 184.19 | 66.15 | 3.59 | (86.76) | (2.58) | 1.05 |
| NTPC | 2,228.48 | 870.52 | 3.91 | 2,789.21 | 1,050.55 | 3.77 | 560.73 | 180.03 | (0.14) |
| 1.JSW | 158.98 | 60.84 | 3.83 | - | - | - | (158.98) | (60.84) | - |
| 2.Mundra UMPP | 423.94 | 129.45 | 3.05 | - | 0.02 | - | (423.94) | (129.42) | - |
| 3.Adani Power | 1,724.91 | 657.86 | 3.81 | 1,505.81 | 515.06 | 3.42 | (219.09) | (142.80) | (0.39) |
| 4.Emco | 112.61 | 54.10 | 4.80 | 131.76 | 50.85 | 3.86 | 19.16 | (3.25) | (0.95) |
| 5.Rattan | 0.00 | 57.71 | | 584.15 | 214.41 | 3.67 | 584.15 | 156.70 | 3.67 |



| Particulars | Tariff Order Dated 30.03.2020 Approved for November 2021 | | | Actual for November, 2021 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 |
| <i>India</i> | | | | | | | | | |
| 6. <i>Sai Wardha</i> | 0.00 | 0.00 | | 121.58 | 58.57 | 4.82 | 121.58 | 58.57 | 4.82 |
| Total IPPs (1 to 6) | 2,420.43 | 959.96 | 3.97 | 2,343.31 | 838.91 | 3.58 | (77.12) | (121.05) | (0.39) |
| 7. <i>Non-Solar</i> | 1,127.00 | 536.53 | 4.76 | 1,033.97 | 624.54 | 6.04 | (93.03) | 88.02 | 1.28 |
| 8. <i>Solar</i> | 882.00 | 310.68 | 3.52 | 466.74 | 191.05 | 4.09 | (415.26) | (119.64) | 0.57 |
| Renewable Energy including REC (7 to 8) | 2,009.00 | 847.21 | 4.22 | 1,500.71 | 815.59 | 5.43 | (508.29) | (31.62) | 1.22 |
| Must Run - KAPP, TAPP, Dodson etc | 525.57 | 142.59 | 2.71 | 451.35 | 125.57 | 2.78 | (74.22) | (17.02) | 0.07 |
| Short Term | 0.00 | 0.00 | | 388.93 | 68.23 | 1.75 | 388.93 | 68.23 | 1.75 |
| Sale of Power | 0.00 | 0.00 | | 1.82 | 1.83 | 10.02 | 1.82 | 1.83 | 10.02 |
| DSM | 0.00 | 0.00 | | -313.41 | -40.38 | 1.29 | (313.41) | (40.38) | 1.29 |
| PGCIL | 0.00 | 290.63 | | - | 341.26 | | - | 50.63 | - |
| Total | 11,499.47 | 4,933.25 | 4.29 | 11,480.75 | 5,066.39 | 4.41 | (18.73) | 133.14 | 0.12 |

4.3 Thus, for the month of November, 2021, total variation in power purchase cost is Rs. 133.14 Crore, out of which Rs. (8.03) Crore was on account of lower quantum (18.73 MU) of power purchase and Rs. 141.18 Crore was on account of higher rate of average power purchase by Rs. 0.12/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 increase in sales without corresponding increase in power purchase quantum than approved by the Commission has resulted in lower 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.

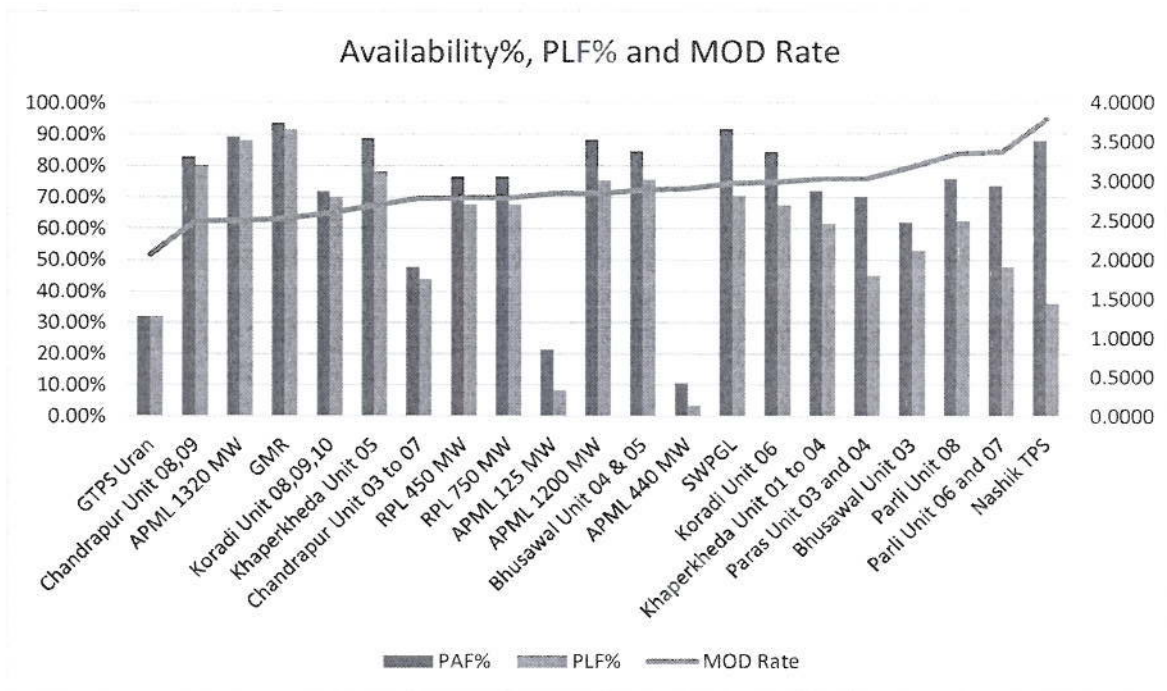
5. Power Purchase Cost

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 November, 2021. 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. Further, it was observed that MSEDCL has purchased power from Power Exchange to take advantage of the lower prices prevailing in the market by giving zero schedule to generating stations having higher variable cost and have benefitted the consumers by lowering the average power purchase cost.

- 5.2 It was observed that due to lower coal supply during the month and planned/forced outages during the month, the availability of 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 November, 2021 to 30 November, 2021.

APML -125 MW and 400 MW showing lower Availability/PLF due to planned outage

It is observed that Nashik Unit having higher MOD rate was kept on bar due to transmission constraints as per direction of MSLDC. Further, Parli Unit 8 having higher MOD rate has higher PLF than Paras Units. This is due to the fact that MOD rate (Rs



3.25/kWh) for Paras for 1st to 23rd November, 2021 was higher than Parli (Rs 3.17/kWh) and hence the Parli unit was run at higher PLF for the said period.

MSPGCL:

- 5.5 The Commission has observed that MSEDCL has purchased 4138.29 MU from MSPGCL Thermal and Gas Stations. It was observed that MSEDCL has purchased energy from Bhusawal-3 and Parli 6-7, 8 generating station of MSPGCL even though not included in MoD stack approved by the Commission in the Tariff Order in view of the fact that actual rates considered for MoD were lower than the approved rate.
- 5.6 The total overall generation was marginally higher 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 November, 2021. 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 November 2021 | | | | | | Actual for November 2021 | | | | | | Variations | | | |
|------------------|----------------------------|----------|-----------|-----------|----------|----------|--------------------------|----------|-----------|-----------|----------|----------|------------|----------|----------|----------|
| | Quantum | VC | VC | FC | FC | APP C | Quantum | VC | VC | FC | FC | APPC | Quantum | VC | FC | APP C |
| | 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 | 4,045.05 | 2.70 | 1,094.13 | 659.47 | 1.63 | 4.34 | 4,138.29 | 2.76 | 1,141.90 | 660.44 | 1.60 | 4.36 | 93.24 | 0.05 | (0.03) | 0.02 |

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

- 5.7 Further, in response to data gaps raised by the Commission, MSEDCL submitted that minor mismatch in Fixed Charges claimed in FAC and invoice raised by MSPGCL is due to variation in Average of Cumulative Availability considered by MSEDCL & MSPGCL for Parli 6-7, Parli 8, Koradi 6 and Uran. Also, the Commission has verified that the payment of 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 is yet to tie up for imported coal and only domestic coal is being used at the generating stations. This is not in consonance with the FUP approved by the Commission. Further, in response to query raised by the Commission



in respect of status of Washed coal and imported coal procurement as approved in FUP, MSEDCL submitted that MSPGCL has finalized the washed coal (beneficiated coal) supply contracts with M/s. MSMC for beneficiation of coal and supply of washed coal has started and supplied to Koradi 8,9,10, Koradi 6, Khaperkheda 5 and Chandrapur 8-9 in November, 2021.

5.10 MSEDCL submitted that as the working of the third party coal analysis agency, M/s. CIMFR is severely hampered due the COVID-19, the CIMFR reports for most of the coal samples for coal supplied in November 21 to all the MSPGCL stations are not received. In view of the same, MSPGCL has raised provisional FAC bill considering GCV as per the methodology submitted by MSPGCL in Case No 97 of 2020 as given below:

- a. 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.
- b. 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 17 December, 2021 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 | 4.007 | 3.702 | -0.305 | -7.61% |
| Bhusawal Unit 04 & 05 | 3.350 | 2.875 | -0.475 | -14.18% |
| Khaperkheda Unit 1 to 4 | 2.876 | 2.964 | 0.088 | 3.06% |
| Khaperkheda Unit 05 | 2.520 | 2.571 | 0.051 | 2.02% |
| Nashik TPS | 3.480 | 3.819 | 0.339 | 9.74% |
| Chandrapur Unit 03 to 07 | 2.598 | 2.821 | 0.223 | 8.58% |
| Chandrapur Unit 08 and 09 | 2.512 | 2.465 | -0.047 | -1.87% |
| Paras Unit 03 and 04 | 3.067 | 3.062 | -0.005 | -0.16% |
| Parli Unit 06 and 07 | 4.118 | 3.327 | -0.791 | -19.21% |
| Parli Unit 08 | 3.943 | 3.292 | -0.651 | -16.51% |
| Koradi Unit 06 and 07 | 3.225 | 2.965 | -0.260 | -8.06% |
| Koradi Unit 08,09,10 | 2.340 | 2.446 | 0.106 | 4.53% |
| GTPS Uran | 2.764 | 2.109 | -0.655 | -23.70% |

5.12 The Commission notes that for the month of November, 2021, energy charge of Chandrapur 3-7 and Nashik is beyond 5% of the approved charge. Hence, it is essential that MSPGCL takes adequate steps, appropriate action and work on various options to



implement the approved FUP to reduce the fuel cost. As mentioned above, MSPGCL has awarded contract for washing of coal and such washed coal is being used for Koradi 8-10, Koradi 6, Khaperkheda and Chandrapur 8-9 in November 2021. Further, actual Energy Charge is being computed considering GCV loss of 625 kCal/kg applicable from April, 2021 as allowed by the Commission in review order dated 1 March, 2021 of MSPGCL as against 500 kCal/kg considered by the Commission while approving Energy Charge in the Tariff Order. This has also resulted in increase of Energy Charge of 6-14 Paise/kWh for the aforesaid stations.

- 5.13 MSPGCL has undertaken Case-4 bidding and accordingly entered into contract with Dhariwal Industries Ltd (DIL) at Rs. 2.889/kWh for supply of 185 MW net sent out in lieu of power from one unit of at Nashik (Rs. 3.394/kWh) by transfer of corresponding linkage coal quantity to DIL unit for the period 1 November, 2019 to 31 October, 2020. The said arrangement was extended for further three months i.e. up to January, 2021 on the same terms and conditions. Thereafter, the agreement is extended up to March, 2022. It was observed that DIL has voluntarily lowered its rate upto Rs 2.74/kWh in November, 2021. Accordingly, for the month of November, 2021, DIL has supplied 116.90 MU at Rs 2.84/kWh. The Commission has accordingly considered the said purchase of 116.90 MU for Rs 33.22 Crore at Rs 2.84/kWh.
- 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. 4.36/kWh as against Rs. 4.34/kWh approved in the Tariff Order. The average power purchase cost is marginally higher mainly due to increase in Variable Cost by Rs 0.02/kWh.
- 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 |
| November 2021 | 40.42 | 8.31 | 48.73 |

- 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 2789.21 MUs of power from NTPC's stations as compared to approved MoD stack of 2228.48 MUs during the month of November, 2021.



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 November, 2021.

| Particulars | Approved for November 2021 | | | | | | Actual for November, 2021 | | | | | | 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 | 1.95 | 434.43 | 436.09 | 1.96 | 3.91 | 2,789.21 | 2.17 | 604.55 | 446.00 | 1.60 | 3.77 | 560.73 | 0.22 | (0.36) | (0.14) |

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

5.20 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 |
| November 2021 | 219.04 | (39.01) | 180.03 |

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, APMIL, 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 Order, 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 | 2.20 | 0.18 | 2.38 | 0.24 | - | 0.24 |
| APML 1320 MW | 31.64 | 151.28 | 182.92 | 24.09 | - | 24.09 |
| APML 1200 MW | 21.08 | 1.74 | 22.82 | 20.49 | - | 20.49 |
| APML 440 MW | 4.27 | 0.35 | 4.62 | 0.35 | - | 0.35 |
| GMR Warora | 6.12 | - | 6.12 | 5.41 | - | 5.41 |
| RIPL 450 MW | 11.34 | - | 11.34 | 12.69 | - | 12.69 |
| RIPL 750 MW | 18.90 | - | 18.90 | 7.61 | - | 7.61 |
| Sai Wardha | 4.91 | - | 4.91 | 4.89 | - | 4.89 |
| Total | 100.46 | 153.55 | 254.01 | 75.77 | - | 75.77 |

5.25 Thus, on an overall basis considering the above impact, the average power purchase cost from IPPs stands at Rs. 3.58/kWh as compared to monthly approved rate of Rs. 3.97/kWh for the month of November, 2021. The said cost is being considered for the FAC computation based on the scrutiny of invoices 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 November, 2021.

| Particulars | Approved for November 2021 | | | | | | Actual for November 2021 | | | | | | 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 | |
| | | | | | | | | | | | | | | | | | |



| Particulars | Approved for November 2021 | | | | | | Actual for November 2021 | | | | | | 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 | 3.00 | 47.75 | 13.09 | 0.82 | 3.83 | - | - | - | - | - | - | (158.98) | - | - | - | - |
| 2.Mundra UPPP | 423.94 | 2.11 | 89.45 | 39.99 | 0.94 | 3.05 | - | - | 0.02 | - | - | - | (423.94) | - | - | - | - |
| 3.Adani Power | 1,724.91 | 2.49 | 428.82 | 229.04 | 1.33 | 3.81 | 1,505.81 | 2.17 | 327.34 | 187.72 | 1.25 | 3.42 | (219.09) | (0.31) | (0.08) | (0.39) | - |
| 4.Emco | 112.61 | 3.47 | 39.05 | 15.05 | 1.34 | 4.80 | 131.76 | 2.61 | 34.39 | 16.47 | 1.25 | 3.86 | 19.16 | (0.86) | (0.09) | (0.95) | - |
| 5.Rattan India | - | - | - | 57.71 | - | - | 584.15 | 2.79 | 163.23 | 51.18 | 0.88 | 3.67 | 584.15 | - | - | - | - |
| 6. Sai Wardha | - | - | - | - | - | - | 121.58 | 2.99 | 36.30 | 22.27 | 1.83 | 4.82 | 121.58 | - | - | - | - |
| Total IPPs (1 to 6) | 2,420.43 | 2.50 | 605.07 | 354.89 | 1.47 | 3.97 | 2,343.31 | 2.40 | 561.28 | 277.63 | 1.18 | 3.58 | (77.12) | (0.11) | (0.28) | (0.39) | - |

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 |
| November 2021 | (30.59) | (90.46) | (121.05) |

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

5.28 MSEDCL has claimed the amount of Rs 1,424.61 Crore towards Change in Law in relation to coal shortfall of APML in the FAC for November, 2021. MSEDCL submitted that the Commission has allowed Change in Law claim in the original orders dated 07.03.2018 (Case No 189 of 2013), 07.02.2019 (Case No 290 of 2018) and 06.09.2019 (Case No 68 of 2012) in NCDP, SHAKTI and Lohara Coal block matter respectively ('MERC Orders'). As per APTEL Judgment in the appeal filed against the aforesaid orders, the Commission has issued consequential orders dated 05.12.2020 in M.A No. 53 of 2020 and M.A 54 of 2020. MSEDCL has filed Civil Appeal challenging the said APTEL Judgments. APML filed an Interim Application dated 01.03.2021 for correction/ modification of the order dated 26.02.2021 and prayed for directions for payment of 50% balance claim amounts. Hon'ble Supreme Court during the hearing on 05.04.2021 directed APML to submit a chart of pending claims in all the three matters separately. Accordingly, APML, vide its additional affidavit dated 15.04.2021 has submitted that 50% of the balance principal claim amount till February 2021 as Rs. 4,478.50 Crore. MSEDCL also filed its reply on 30.07.2021 against APML's additional affidavit and submitted that the balance principal claim amount as per MSEDCL calculation after adjusting the payment already made is only Rs. 1,442 Crore. Hon'ble Supreme Court, heard the APML's IA on 31.01.2022 and has passed following order in the matter:



... Respondent no.1-Applicant is entitled to the sum equivalent to 50% of the outstanding claimed amount..."

Accordingly, as per the order of Hon'ble the Supreme Court, MSEDCL has submitted claim of Rs 9,556 Crore as per its own computation of principal amount as against Rs 16,544 Crore claimed by APML in respect of coal shortfall. Considering the amount (Rs 6,073 Crore) already approved in MYT Order dated 30.03.2020 and Rs 634 Crore (approved in FAC from April 20 to Oct 21), the balance outstanding claim is Rs 2,849 Crore. As per the principle laid down by the Commission in MYT Order and the order dated 31.01.2022 of the Hon'ble Supreme Court, MSEDCL has claimed 50% of the outstanding principal amount i.e. Rs 1,421.61 Crore.

5.29 MSEDCL further submitted that the above computation also includes the impact of IPT as per the Order dated 11.09.2021 in Case No 9 of 2021 and Order dated 28.11.2020 in Case No. 132 of 2020. MSEDCL further submitted that the said orders are challenged before Hon'ble the APTEL. The aforesaid calculations submitted by MSEDCL are without prejudice to the appeals filed by MSEDCL before Hon'ble the APTEL as DFR No. 385 of 2021 and before Hon'ble the Supreme Court in Civil Appeal No. 684 of 2021 in the matter of NCDP, Civil Appeal No. 677-678 of 2021 in the matter of SHAKTI and Civil Appeal No. 687-688 of 2021 in the matter of Lohara.

5.30 The details of the claim are as given below:

| Abstract of Principal Claims of APML and MSEDCL calculations - As submitted by MSEDCL | | | | | | |
|--|---------------------------------|------------------|---------------|---|------------------|-----------------|
| Particular | APML Claims (Principal) - Rs Cr | | | MSEDCL Calculations (Principal) - Rs Cr | | |
| | Till Dec-20 | Jan-21 to Nov-21 | Total | Till Dec-20 | Jan-21 to Nov-21 | Total |
| NCDP | 3,838 | - | 3,838 | 1,889 | - | 1,889 |
| SHAKTI | 4,576 | 408 | 4,984 | 3,163 | 134 | 3,297 |
| LOHARA | 6,477 | 1,245 | 7,722 | 4,020 | 350 | 4,370 |
| Total (A) | 14,891 | 1,653 | 16,544 | 9,072 | 484 | 9,556 |
| Amount previously approved by MERC- towards principal claims | | | | | | |
| a. Amount approved in tariff by MERC in MYT Order dtd 30.03.2020 (Case No 322 of 2019) (A) | | | | | | 6,073 |
| b. Amount claimed and approved in FAC up to Oct 21 (B) | | | | | | 634 |
| Outstanding principal claim amount (9556-A-B) | | | | | | 2,849 |
| 50% of outstanding Principal claim amount | | | | | | 1,424.61 |

5.31 As seen from the aforesaid table, MSEDCL has computed claim of Rs 9,556 Crore as against claim of Rs 16,544 Crore. As submitted by MSEDCL, the difference in the claim is mainly due to issues in consideration of Auxiliary Consumption, unit wise allocation of FSA Coal, computation of cost and quantum of IPT coal etc. Further, it is observed that MSEDCL has considered Rs 6,073 Crore as amount approved by the



Commission in MYT Order dated 30 March, 2020. The Commission notes that in the MYT Order, it has approved Rs 6,458 Crore towards Change in Law and the said amount is also paid by MSEDCL as per its own submission dated 31 January, 2022. The Commission has therefore considered the said amount of Rs 6,458 Crore while computing outstanding principal amount. Accordingly, the outstanding principal amount as considered by the Commission is as given below:

| Abstract of Principal Claims of APML and MSEDCL calculations - As submitted by MSEDCL | | | | | | | As Approved - Rs Cr |
|--|---------------------------------|------------------|---------------|---|------------------|-----------------|---------------------|
| Particular | APML Claims (Principal) - Rs Cr | | | MSEDCL calculations (Principal) - Rs Cr | | | |
| | Till Dec-20 | Jan-21 to Nov-21 | Total | Till Dec-20 | Jan-21 to Nov-21 | Total | |
| NCDP | 3,838 | - | 3,838 | 1,889 | - | 1,889 | 1,889 |
| SHAKTI | 4,576 | 408 | 4,984 | 3,163 | 134 | 3,297 | 3,297 |
| LOHARA | 6,477 | 1,245 | 7,722 | 4,020 | 350 | 4,370 | 4,370 |
| Total (A) | 14,891 | 1,653 | 16,544 | 9,072 | 484 | 9,556 | 9,556 |
| Amount previously approved by MERC- towards principal claims | | | | | | | |
| a. Amount approved in tariff by MERC in MYT Order dtd 30.03.2020 (Case No 322 of 2019) (A) | | | | | | 6,073 | 6,458 |
| b. Amount claimed and approved in FAC up to Oct 21 (B) | | | | | | 634 | 634 |
| Outstanding principal claim amount (9556-A-B) | | | | | | 2,849 | 2,464 |
| 50% of outstanding Principal claim amount | | | | | | 1,424.61 | 1,232 |

The Commission has considered Rs 1,232 Crore towards 50% of the outstanding principal claim amount as per principle adopted by the Commission in the MYT Order and the order of the Hon'ble Supreme Court. The said amount is being added to the standalone FAC amount for November 2021.

Short Term Power Purchase

5.32 MSEDCL has purchased 244.93 MU at average rate of Rs. 2.79/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 and to optimise power purchase cost. 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. Further, MSEDCL has also entered into banking transaction with Tata Power Delhi Distribution Ltd (TPDDL) wherein TPDDL will supply to MSEDCL 200 MW RTC in November 2021, February and March 2022 and power will be returned by MSEDCL from June to September 2022 at 101% of banked power. As per the said banking transaction, TPDDL has supplied 144 MUs in November 2021 and the same is considered by the Commission for FAC



computation for November, 21. Accordingly, the total short term power purchased by MSEDCL is 388.93 MUs (IEX + Banking) at Rs 1.75/kWh for November, 2021.

Must-Run Sources

5.33 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.

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

| Particulars | Approved for November 2021 | | | | | | Actual for November 2021 | | | | | | 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 | - | - | 22.41 | 0.83 | 0.83 | 184.19 | 0.19 | 3.59 | 16.41 | 0.89 | 1.09 | (86.76) | 0.19 | 0.06 | 0.26 |
| MSPGCL-Hydro Lease rent | - | - | - | 46.32 | - | - | - | - | - | 46.14 | - | - | - | - | - | - |
| 1.Non-Solar | 1,127.00 | 4.76 | 536.53 | - | - | 4.76 | 1,033.97 | 6.04 | 624.54 | - | - | 6.04 | (93.03) | 1.28 | - | 1.28 |
| 2.Solar | 882.00 | 3.52 | 310.68 | - | - | 3.52 | 466.74 | 4.09 | 191.05 | - | - | 4.09 | (415.26) | 0.57 | - | 0.57 |
| Renewable Energy including REC (1 to 2) | 2,009.00 | 4.22 | 847.21 | - | - | 4.22 | 1,500.71 | 5.43 | 815.59 | - | - | 5.43 | (508.29) | 1.22 | - | 1.22 |
| Others-KAPP, TAPP, Dodson etc | 525.57 | 2.70 | 141.82 | 0.77 | 0.01 | 2.71 | 451.35 | 2.77 | 124.80 | 0.77 | 0.02 | 2.78 | (74.22) | 0.07 | 0.00 | 0.07 |

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

5.35 As seen from the aforesaid table, MSEDCL has purchased 184.19 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. In response to data gaps raised by the Commission, MSEDCL has submitted that due to increase in thermal generation availability as compared to October, 21, demand was catered mostly from the thermal and other must run generation and therefore Koyna hydro was utilized only during peak demand hours as per daily requirements. The Commission notes the submission of MSEDCL.



- 5.36 It is observed that Solar and Non-Solar energy purchased in November, 2021 i.e. 1500.71 MU was lower than approved i.e. 2009 MU by the Commission in the Tariff order. The generation is lower due to low wind and lower solar capacity addition due to pandemic than considered by the Commission in the Tariff Order. MSEDCL has not purchased any REC's in the month of November, 2021. The Commission observes that MSEDCL has purchased 1.52 MUs of RE power from G-DAM Market at Rs 3.44/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

- 5.37 As per Regulation 10 of 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. Accordingly, the ISTS charges paid by MSEDCL to Central Transmission Utility of India Ltd (CTU) are considered under FAC computation. The Commission notes that second bill of ISTS Charges for Rs 97.40 Crore for April, 2021 to June, 2021 has been raised by CTU as per CERC Regulations along with the monthly bill for November, 2021 of Rs 243.86 Crore. Accordingly, the Commission has considered the amount of Rs. 341.26 Crore towards ISTS charges payable to payable to CTU as against Rs. 290.63 Crore approved in the Tariff Order towards FAC computation as per invoice raised by CTU.

Sale of Power

- 5.38 MSEDCL has done sale of surplus power to the extent of 1.82 MU during the month at Rs. 10.02/kWh. With such a sale of power MSEDCL has earned revenue of Rs. 1.83 Crore.
- 5.39 It is observed that entire 1.82 MU was sold on IEX. The sale realisation was more than that of variable cost of generator running above technical minimum operating in MOD. Accordingly, the overall realisation in respect of sale of power is Rs.10.02/kWh has benefitted the consumers. Hence, the Commission has considered the actual quantum and revenue against surplus sale.

Deviation Quantum and Cost

- 5.40 MSEDCL has submitted that the deviation quantum (under drawl) as per invoice raised by MSLDC is 313.41 MU and corresponding realisation of Rs (40.38) Crore at Rs 1.29/kWh. Accordingly, the Commission has considered the said Deviation quantum and cost in the FAC computation for the month of November, 2021.

Approved Cost of Power Purchase

- 5.41 In view of the above, the overall cost approved in the Tariff Order and actual for the month of November, 2021 considered by the Commission is as shown below:



| Particulars | Approved for November 2021 | | | | | | Actual for November 2021 | | | | | | 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 |
| MSPGC L - Thermal | 4,045.05 | 2.70 | 1,094.13 | 659.47 | 1.63 | 4.34 | 4,138.29 | 2.76 | 1,141.90 | 660.44 | 1.60 | 4.36 | 93.24 | 0.05 | (0.03) | 0.02 |
| MSPGC L-Hydro | 270.95 | - | - | 22.41 | 0.83 | 0.83 | 184.19 | 0.19 | 3.59 | 16.41 | 0.89 | 1.09 | (86.76) | 0.19 | 0.06 | 0.26 |
| MSPGC L-Hydro Lease Rent | - | - | - | 46.32 | - | - | - | - | - | 46.14 | - | - | - | - | - | - |
| NTPC | 2,228.48 | 1.95 | 434.43 | 436.09 | 1.96 | 3.91 | 2,789.21 | 2.17 | 604.55 | 446.00 | 1.60 | 3.77 | 560.73 | 0.22 | (0.36) | (0.14) |
| IPPs | 2,420.43 | 2.50 | 605.07 | 354.89 | 1.47 | 3.97 | 2,343.31 | 2.40 | 561.28 | 277.63 | 1.18 | 3.58 | (77.12) | (0.10) | (0.28) | (0.39) |
| RE including REC | 2,009.00 | 4.22 | 847.21 | - | - | 4.22 | 1,500.71 | 5.43 | 815.59 | - | - | 5.43 | (508.29) | 1.22 | - | 1.22 |
| Must Run KAPP, TAPP, Dodson etc | 525.57 | 2.70 | 141.82 | 0.77 | 0.01 | 2.71 | 451.35 | 2.77 | 124.80 | 0.77 | 0.02 | 2.78 | (74.22) | 0.07 | 0.00 | 0.07 |
| Short Term | - | - | - | - | - | - | 388.93 | 1.75 | 68.23 | - | - | 1.75 | 388.93 | - | - | - |
| Sale of Power | - | - | - | - | - | - | 1.82 | 10.02 | 1.83 | - | - | 10.02 | 1.82 | - | - | - |
| DSM | - | - | - | - | - | - | (313.41) | 1.29 | (40.38) | - | - | 1.29 | (313.41) | - | - | - |
| PGCIL | - | - | - | 290.63 | - | - | - | - | - | 341.26 | - | - | - | - | - | - |
| Total | 11,499.47 | 2.72 | 3,122.66 | 1,810.58 | 1.57 | 4.29 | 11,480.75 | 2.85 | 3,277.73 | 1,788.66 | 1.56 | 4.41 | (18.73) | 0.14 | (0.02) | 0.12 |

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

5.42 The overall power purchase cost is higher mainly due to higher transmission charges in view of the second bill (Rs 97 Crore) raised for April 21 to June 21 to adjust for variations on account of any revision in transmission charges allowed by the Commission, including incentives as applicable as per CERC (Sharing of Inter-State Transmission Charges and Losses), Regulations 2020 and under drawl of 313 MUs by MSEDCL with realisation of only Rs 1.29/kWh resulting in higher average power purchase cost.

5.43 Considering the above, the Commission allows the average power purchase cost of Rs.4.41/kWh for the month of November, 2021 as against Rs. 4.29/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 November, 2021 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_{FAC} is to be passed on to the consumers.



6.2 The following table shows the Z_{FAC} worked out by the Commission on account of difference in fuel and power purchase cost for the month of November, 2021.

| S. No. | Particulars | Units | November 2021 |
|--------|---|------------------|---------------|
| 1 | Average power purchase cost approved by the Commission | Rs./kWh | 4.29 |
| 2 | Actual average power purchase cost | Rs./kWh | 4.41 |
| 3 | Change in average power purchase cost (=2 -1) | Rs./kWh | 0.12 |
| 4 | Net Power Purchase | MU | 11480.74 |
| 5 | Change in fuel and power purchase cost (=3 x 4/10) | Rs. Crore | 141.18 |

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

7.1 The adjustment for over recovery/under recovery has to be done for the (n-4) month as per provisions of MYT Regulations, 2019. As 'Nil' FAC levied for the month of July, 2021, there would not be any adjustment factor while computing the allowable FAC.

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

8.1 As explained in the above paragraph in absence of any adjustment factor for previous month, there is no carrying cost which is to be allowed in FAC for the month of November, 2021.

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 November 2021 | Actual - April 2021 to Nov 2021 | Annual Sliding Distribution Loss – Dec 20 to Nov 21 |
|------|---|------------------|--------------------------|--------------------------|---------------------------------|---|
| 1 | Net Energy Input at Distribution Voltage | MU | 1,25,356.68 | 10,733.86 | 84,736.15 | 130527.91 |
| 2 | MSEDCL Metered Sales (excluding sales at EHV level) | MU | 96,520.20 | 7,667.80 | 62,618.87 | 92822.24 |
| 3 | Estimated Consumption of unmetered Sales | MU | 8,783.32 | 840.42 | 5,751.14 | 8593.42 |
| 4 | Distribution Loss (1-2-3) | MU | 20,053.16 | 2,225.65 | 16,366.13 | 29112.24 |
| 5 | Distribution Loss as % of net energy input (4/1) | % | 16.00% | 20.73% | 19.31% | 22.30% |
| 6 | Excess Distribution Loss = [Actual Distribution Loss (5) - Distribution loss approved] x Net Energy Input (1) | MU | - | 684.68 | - | - |
| 7 | Disallowance of FAC due to excess Distribution Loss | Rs. Crore | - | 10.26 | - | - |

9.3 As seen from the above table, the standalone distribution loss for the month of November is higher at 20.73% as against approved loss of 16%. The cumulative distribution loss upto November 2021 is 19.31% which is also higher than approved loss. The standalone loss for November, 2021 is higher mainly due to estimated Ag sales and sales considered as per billing cycle whereas power purchase is considered for the standalone month.

9.4 The comparison of Distribution Loss for the April, 2021 to November, 2021 as compared to last year is as given below:

| Particulars | FY 2021-22 | FY 2020-21 |
|---------------------------------|---------------|---------------|
| <i>Approved Loss</i> | <i>16%</i> | <i>18%</i> |
| April | 30.44% | 30% |
| May | 27.15% | 28.47% |
| June | 13.31% | 24.28% |
| July | 16.05% | 11.90% |
| August | 19.36% | 11.12% |
| September | 13.93% | 15.63% |
| October | 9.86% | 15.04% |
| November | 20.73% | 24.97% |
| Cumulative upto November | 19.31% | 18.08% |



9.5 As Annual Sliding Distribution Loss of 22.30% is higher than the approved loss of 16%, the Commission has disallowed Rs 10.26 Crore towards the same.

10. Summary of Allowable Z_{FAC}

10.1 The summary of the FAC amount as approved by the Commission for the month of November, 2021 is as shown in the Table below:

| S. No. | Particulars | Units | November 2021-As submitted | November 2021- As Approved |
|------------|---|------------------|----------------------------|----------------------------|
| 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 | 1564.43 | 141.18 |
| 1.2 | Carrying cost for over-recovery/under-recovery (C) | Rs. Crore | 0 | 0 |
| 1.3 | Adjustment factor for over-recovery/under-recovery (B) | Rs. Crore | 0 | 0 |
| 1.4 | Z_{FAC} = F+C+B | Rs. Crore | 1564.43 | 141.18 |
| 2 | Calculation of Per Unit FAC | | | |
| 2.1 | Energy Sales within the License Area | MU | 9420.70 | 9420.70 |
| 2.2 | Excess Distribution Loss | MU | 508.56 | 684.68 |
| 2.3 | Z _{FAC} per kWh | Rs./kWh | 0.05 | 0.15 |
| 3 | Allowable FAC | | | |
| 3.1 | FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.3)/10] | Rs. Crore | - | 10.26 |
| 3.2 | FAC allowable [1.4-3.1] | Rs. Crore | 1564.43 | 130.92 |
| 4 | Utilization of FAC Fund | | | |
| 4.1 | Opening Balance of FAC Fund | Rs. Crore | (1505.90) | (1505.90) |
| 4.2 | Holding Cost on FAC Fund | Rs. Crore | (10.10) | (10.10) |
| 4.3 | Z _{FAC} for the month (Sr. N. 3.2) | Rs. Crore | 1564.43 | 130.92 |
| 4.4 | Closing Balance of FAC Fund | Rs. Crore | 48.42 | (1385.08) |
| 4.5 | Z _{FAC} leviable/(refundable) to consumer | Rs. Crore | 0 | 0 |
| 5 | Total FAC based on category wise and slab wise allowed to be recovered in the billing month of January, 2022 | Rs. Crore | 0 | 0 |

10.2 The standalone FAC for the month of November, 2021 is Rs 130.92 Crore which will adjusted from the FAC Fund. The approved amount is lower than claimed by MSEDCL in view of the fact that Commission has not considered claim of Rs 1432 Crore towards past claim of Change in Law in the standalone computation of FAC for November 2021.

10.3 In response to data gaps raised by the Commission, MSEDCL submitted that it has received Rs 1.36 Crore towards FBSM payment in November, 2021. Further, as mentioned above in Para 5.31, the Commission has considered Rs 1232 Crore towards Change in Law claim in relation to coal shortfall. The Commission has considered the said amounts (Rs (1.36) Crore and Rs 1232 Crore) in the standalone FAC for the month



and accordingly, the monthly FAC amount to be adjusted from FAC Fund is Rs 1361.56 Crore. Considering the said adjustment of Rs 1361.56 Crore, the balance amount in FAC Fund is Rs 154.44 Crore.

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

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

Where:

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

k = Average Billing Rate / ACOS;

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

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

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

Provided that the monthly Z_{FAC} shall not exceed 20% of the variable component of Tariff or such other ceiling as may be stipulated by the Commission from time to time:

Provided further that any under-recovery in the Z_{FAC} on account of such ceiling shall be carried forward and shall be recovered by the Distribution Licensee over such future period as may be directed by the Commission....”

11.2 The Commission allows the FAC amount of Rs. 1361.56 Crore for the month of November, 2021 to be adjusted from the FAC Fund.

11.3 The Commission in its approval for the month of October, 2021 has directed MSEDCL to carry forward the approved FAC amount of Rs. (1505.90) Crore to be accumulated as



FAC Fund to be carried forward to the next billing cycle with holding cost. The opening balance of FAC fund along with holding cost is Rs. (1516) Crore.

- 11.4 Accordingly, considering the approved FAC amount of Rs. 1361.56 Crore for the month of November, 2021 and the same after being adjusted from the FAC fund of Rs. (1516) Crore, the total balance amount in FAC fund is Rs. (154.44) Crore. Accordingly, the total FAC Fund of Rs. (154.44) Crore is being allowed to be accumulated in the FAC Fund and shall be carried forward to the next billing cycle with holding cost.
- 11.5 The Commission in the FAC approval Order for August, 2021 had decided to accumulate the FAC Fund arising out of negative FAC up to March 2023 along with the holding cost.
- 11.6 In view of the above, the per unit Z_{FAC} for the month of November, 2021 to be levied on consumers of MSEDCL in the billing month of January, 2022 is Nil.



