



# महाराष्ट्र विद्युत नियामक आयोग

## Maharashtra Electricity Regulatory Commission

Ref. No. MERC/FAC/2021-22/ WFH/ SBR/ 06

Date: 21 May, 2021

To,

**The 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 February, 2021.

**Reference:** 1. MSEDCL's FAC submission dated 9 April, 2021 for prior approval of FAC for the month of February, 2021.  
2. Data gaps communicated to MSEDCL vide email dated 15 April, 2021.  
3. MSEDCL's response to data gaps by email dated 12 May, 2021.

Sir,

Upon vetting the FAC calculations for the month of February, 2021 as mentioned in the above reference, the Commission has accorded approval for negative FAC amount of Rs. (123.01) Crore. However, the said amount is added to the FAC Fund and accordingly the FAC chargeable to consumers is as shown in the table below:

Month	FAC Amount (Rs. Crore)
February, 2021	0 (Zero)

The Commission allows the accumulation of FAC amount of Rs. (573.19) 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 future FAC submissions 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 February, 2021.

## ANNEXURE A

**Detailed Vetting Report**

**Date: 21 May, 2021**

### **PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF FEBRUARY, 2021**

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

**Reference:** MSEDCL's FAC submission dated 9 April, 2021 and 12 May, 2021 for prior approval of FAC for the month of February, 2021.

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

1.1 MSEDCL has submitted FAC submissions for the month of February, 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. (123.01) 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 True-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 February, 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
			February 2021 (MU)
<b>HT Category</b>			
Industry (General)	33,829.98	2,710.90	2,728.26
Industry (Seasonal)	102.93	15.15	13.25
Commercial	1,887.38	130.91	102.98
Railways/Metro/Monorail	80.46	4.93	5.64
Public Water Works (PWW)	1,996.12	150.64	133.75
Agricultural - Pumpsets	1,243.85	74.08	71.62
Agricultural - Others	259.40	20.90	20.31
Group Housing Society (Residential)	239.68	16.34	14.48
Public Services - Government	273.16	18.79	17.85
Public Services - Others	825.16	58.12	47.07
Electric Vehicle Charging Stations	0.31	0.03	1.14
MSPGCL Auxiliary	183.74	14.47	8.82
Other Adjustment	4,842.00	403.50	369.95
<b>Sub-total (A)</b>	<b>45,764.17</b>	<b>3,618.75</b>	<b>3,535.11</b>
<b>LT Category</b>			
BPL	45.14	3.94	6.14
Residential	22,868.98	1,341.56	1,452.66
Non-Residential	6,934.28	465.30	366.16
Public Water Works	892.76	74.44	75.02
AG Metered (Pump-sets)	17,571.05	1,610.64	1,598.65
AG Metered (Others)	140.00	10.57	15.08
Industrial	9,618.89	783.01	921.45
Street Lights	2,272.61	167.46	155.70
Public Services	572.79	37.64	37.24
Electric Vehicle Charging Stations	0.23	0.02	0.05
Prepaid	-	-	-
<b>Sub-total (B)</b>	<b>60,916.73</b>	<b>4,494.58</b>	<b>4,628.15</b>
<b>Total – Metered (C = A+B)</b>	<b>1,06,680.90</b>	<b>8,113.32</b>	<b>8,163.26</b>
Unmetered Sale (D)	8,783.32	774.34	862.74
<b>Grand Total(C+D)</b>	<b>1,15,464.22</b>	<b>8,887.66</b>	<b>9,026.00</b>

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

3.2 For the month of February, 2021, it is observed that actual sales of 9026 MU is marginally higher by 1.5% as compared to the approved energy sales of 8887.66 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 February, 2021. As per the data, the billing of about 97% of sales is undertaken as per actual meter readings and balance 3% is still 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 February, 2021.

3.4 The number of actual and estimated meter readings undertaken by MSEDCL for the month of February, 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	22563	0	22563
2	LT	21453517	2629161	24082678
	<b>Total</b>	<b>21476080</b>	<b>2629161</b>	<b>24105241</b>

3.5 Further, comparison of sales from April 2020 to February, 2021 as compared to last year are as shown below:

Particulars	LT - Residential (MU)	LT Others (MU)	HT (MU)	Ag- Unmetered	Total (MU)
Apr-19	1914	3513	3716	1051	10194
Apr-20	1525	2687	2120	921	7254
May-19	2161	3573	3819	1051	10604
May-20	2075	2559	2802	925	8361
Jun-19	2353	3463	3552	440	9808
Jun-20	2936	2449	3009	773	9167
Jul-19	1975	2956	3389	624	8944
Jul-20	2294	2366	2967	711	8339
Aug-19	1798	2876	3263	624	8561
Aug-20	2003	2408	3090	711	8212

Particulars	LT - Residential (MU)	LT Others (MU)	HT (MU)	Ag- Unmetered	Total (MU)
Sep-19	1748	2749	3202	840	8539
Sep-20	1890	2990	3287	657	8825
Oct-19	1707	2783	3203	697	8390
Oct-20	1857	2766	3583	834	9040
Nov-19	1706	2229	3279	1075	8289
Nov-20	1646	2765	3367	834	8612
Dec-19	1522	2952	3473	900	8847
Dec-20	1507	2870	3732	834	8943
Jan-20	1415	2936	3550	894	8796
Jan-21	1504	3237	3801	863	9405
Feb-20	1376	2914	3419	894	8604
Feb-21	1453	3175	3535	863	9026
<b>April 19 – Feb 20</b>	<b>19677</b>	<b>32944</b>	<b>37866</b>	<b>9090</b>	<b>99577</b>
<b>April 20 – Feb 21</b>	<b>20690</b>	<b>30272</b>	<b>35293</b>	<b>8928</b>	<b>95183</b>

- 3.6 The Commission observes that overall sales in February, 2021 have increased as compared to February, 2020 due to increase across all categories except agriculture.
- 3.7 In response to the details sought by the Commission in respect of basis for considering agriculture sales for February, 2021, MSEDCL has submitted that sales approved by the Commission in the Tariff order is divided into four quarters in proportion to the agriculture sale share for FY 2019-20. Agriculture sales for the fourth quarter is trifurcated and considered for February, 2021. Also metered, unmetered zone wise quantum is shared w.r.t to previous year proportions.
- 3.8 The Commission while approving the FAC for the month of February, 2021 has restricted the agriculture sales to approved sales (based on the approved norm of Consumption/HP) as specified in MYT Tariff Order. Accordingly, the Commission has followed the same methodology for approving the agriculture sales considering the cumulative sales for the month of April, 2020 to February, 2021. The Commission has considered HP details submitted by MSEDCL for the December 2020 to determine the consumption / HP. Any adjustment in sales due to HP variation will be reconciled while actual data is submitted as per actual billing undertaken by MSEDCL for the 4<sup>th</sup> Quarter. 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:

Quarter	Metered			Unmetered			Total		
	Sale in MU's	Cumulative Load (HP)	Consumption / HP – Units (Per Month)	Sale in MU's	Cumulative Load (HP)	Consumption / HP - Units (Per Month)	Sale in MU's	Cumulative Load (HP)	Consumption / HP - Units
MSEDCL - April 20 to Feb 21	15637	159383678	98	8928	78318136	114	24565	237701814	103
As Approved – April 20 to Feb 21	15637	159383678	98	7722	78318136	99	23359	237701814	98

3.9 The Commission has already restricted the agriculture unmetered sales in the month of January, 2021. Accordingly, based on the cumulative agriculture sales approved in the above table, the incremental adjustment of -156.30 MUs for unmetered connections in agriculture sales is being done in the month of February, 2021 and accordingly considered in computation of Distribution Loss so as 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.

- 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 5.9 to para 5.12)



Sr. No.	Particular	Compliance			
4	Pool Imbalance	No Imbalance pool quantum is computed by MSEDCL for February, 2021.			
5	Sale of Surplus Power	MSEDCL has sold 106.09 MUs at Rs. 4.26/kWh thereby benefitting its consumers.			
6	Power Purchase	Actual Net Power Purchase is 11636.10 MUs as against approved 10695.17 MUs.			
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	4,158.66	4,503.42	39%
		NTPC	2,079.92	2,569.49	22%
		IPP	2,259.06	3,038.31	26%
		Renewable	1,707.00	1,296.90	11%
		Must Run	490.53	314.46	3%
		Short Term	0.00	19.61	0%
		Sale of Power	0.00	(106.09)	1%
		<b>Total</b>	<b>10,695.17</b>	<b>11,636.10</b>	<b>100%</b>
8	Power Purchase: 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> <p>Cost and MUs are verified as per invoice.</p>			
	b. Section 63 of Electricity Act, 2003 - IPPs	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 February, 2021 are submitted by MSEDCL. All the power purchase quantum and rate are verified from the invoices and has been considered for FAC calculation.			

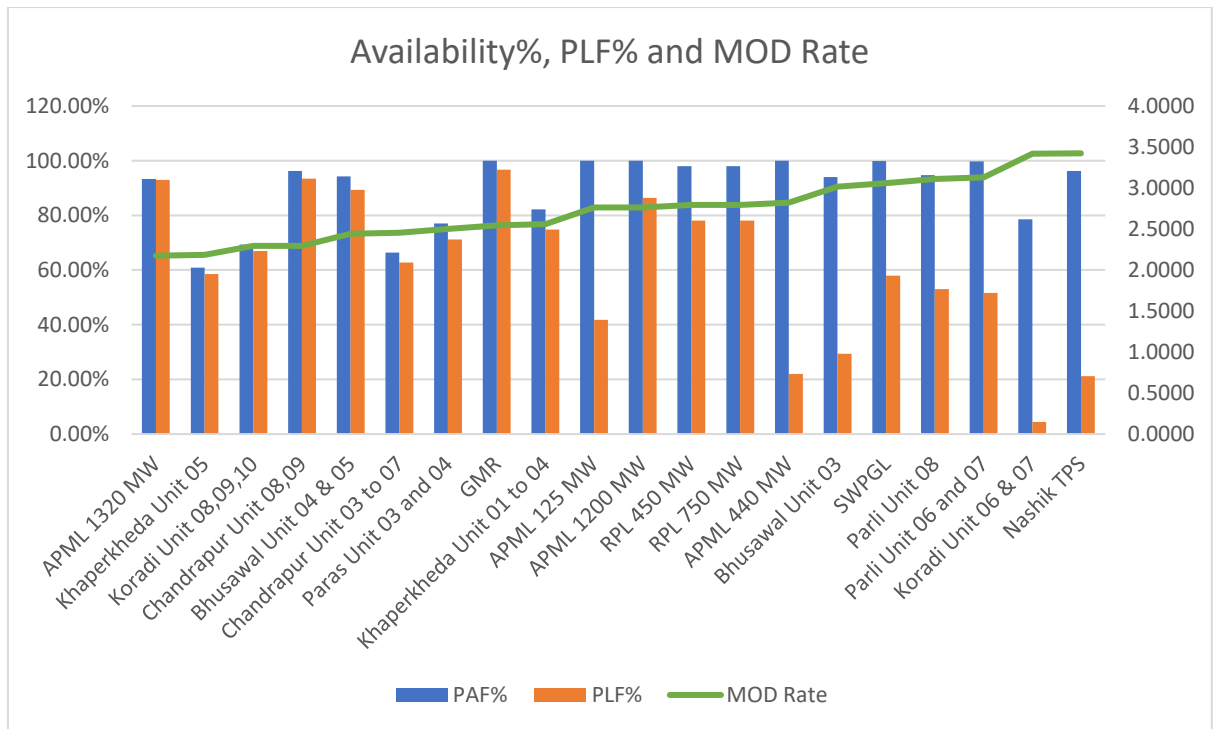
4.2 The following table show the variation in average power purchase cost (Rs/kWh) for the month of February, 2021 submitted by MSEDCL as compared to average power purchase cost approved in Tariff Order:

Particulars	Tariff Order Dated 30.03.2020 Approved for February 2021			Actual for February, 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	3,905.77	1,716.56	4.39	4,166.19	1,807.79	4.34	260.42	91.22	(0.06)
MSPGCL- Hydro (including Lease Rent)	252.89	70.33	2.78	337.23	69.79	2.07	84.34	(0.54)	(0.71)
NTPC	2,079.92	826.01	3.97	2,569.49	940.97	3.66	489.57	114.96	(0.31)
1.JSW	148.38	54.63	3.68	4.54	13.17	28.97	(143.83)	(41.47)	25.29
2.Mundra UMPP	395.67	119.45	3.02	477.43	120.51	2.52	81.76	1.06	(0.49)
3.Adani Power	1,609.91	618.99	3.84	1,621.60	621.28	3.83	11.69	2.29	(0.01)
4.Emco	105.10	49.14	4.68	134.40	44.87	3.34	29.30	(4.27)	(1.34)
5.Rattan India	0.00	57.71	-	696.91	246.27	-	696.91	188.57	-
6. Sai Wardha	0.00	0.00	-	103.42	49.43	-	103.42	49.43	-
<b>Total IPPs (1 to 6)</b>	<b>2,259.06</b>	<b>899.93</b>	<b>3.98</b>	<b>3,038.31</b>	<b>1,095.53</b>	<b>3.61</b>	<b>779.24</b>	<b>195.60</b>	<b>(0.38)</b>
7.Non-Solar	1,107.00	546.14	4.93	914.47	513.78	5.62	(192.53)	(32.36)	0.68
8.Solar	600.00	217.07	3.62	382.43	162.13	4.24	(217.57)	(54.95)	0.62
<b>Renewable Energy including REC (7 to 8)</b>	<b>1,707.00</b>	<b>774.05</b>	<b>4.53</b>	<b>1,296.90</b>	<b>675.91</b>	<b>5.21</b>	<b>(410.10)</b>	<b>(98.14)</b>	<b>0.68</b>
Must Run - KAPP, TAPP, Dodson etc	490.53	130.54	2.66	314.46	194.47	6.18	(176.07)	63.93	3.52
Short Term	0.00	0.00	-	19.61	5.34	2.72	19.61	5.34	2.72
Sale of Power	0.00	0.00	-	106.09	45.17	4.26	106.09	45.17	4.26
PGCIL	0.00	276.79	-	-	239.55	-	-	(37.24)	-
<b>Total</b>	<b>10,695.17</b>	<b>4,694.21</b>	<b>4.39</b>	<b>11,636.10</b>	<b>4,984.18</b>	<b>4.28</b>	<b>940.93</b>	<b>289.97</b>	<b>(0.11)</b>

- 4.3 Thus, for the month of February, 2021, total variation in power purchase cost is Rs. 289.97 Crore, out of which Rs. 412.98 Crore was on account of higher quantum of power purchase 940.93 MU and Rs. (123.01) Crore was on account of lower rate of average power purchase by Rs. 0.11/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 power purchase without corresponding increase in sales has resulted in higher distribution loss of 24.18% than 18% 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 February, 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 In view of lower demand and lower prices prevailing on Power Exchange, it was observed that Zero Schedule was partially given to many State Generating Stations such as Bhusawal-3, Koradi 6-7, Nashik, Parli and IPPs i.e. APML (125 and 440 MW PPA) and Sai Wardha due to higher variable cost in MOD to optimise the power purchase cost.
- 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/IPPs Stations are considered for comparison and MOD Rate considered is as applicable from 16 February, 2021 to 28 February, 2021.*

5.5 The Commission notes that MSEDCL has followed the Merit Order Dispatch (MOD) principle. APML units having PPA of 125 MW, 440 MW and Bhusawal-3 showing lower PLF even though MOD Rate is lower than other units. It is due to the fact that graph shows comparison with MOD Rates of 16-28 February, whereas PLF is for the entire month. APML units having PPA of 125 MW, 440 MW and Bhusawal-3 unit had higher MOD rate for the 1-15 February as compared to SWPGL, RPL and Parli Units. Koradi 6-7 units was only operational for 1<sup>st</sup> and 2<sup>nd</sup> February and subsequently was under reserve shutdown for the entire month. Further, MSEDCL has submitted that power was purchased from Nashik station inspite of higher MOD rate due to transmission constraints. The Commission notes the submission of MSEDCL.

**MSPGCL:**

5.6 The Commission has observed that MSEDCL has purchased 4166.19 MUs from MSPGCL Thermal and Gas Stations. It was observed that MSEDCL has purchased energy from Bhusawal-3, Parli 6-7 and Parli 8 generating station of MSPGCL even though not included in MoD stack approved by the Commission in the Tariff Order in view of lower variable cost in MOD as compared to approved variable cost.

5.7 The total overall generation was higher during the month leading to better PLF of generating stations. The monthly fixed cost was payable in line with MYT Regulations, 2019 considering the availability of the plant. Accordingly, MSEDCL has considered the fixed cost as per the order of the Commission. Better PLF has resulted into fixed cost being spread over higher net generation and also lower variable cost has resulted in

lowering average power purchase price from these Units. 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 higher actual generation:

Particulars	Approved for February 2021						Actual for February 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	3,905.77	2.68	1,045.23	671.33	1.72	4.39	4,166.19	2.61	1,087.39	720.40	1.73	4.34	260.42	(0.07)	0.01	(0.06)

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

5.8 Further, 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. In response to data gaps raised by the Commission in respect of minor variation in Fixed Cost of Koradi 6-7 Units, MSEDCL submitted that MSEDCL has recalculated the Availability as per provisions of State Grid Code Regulations, 2020 and has computed the fixed cost for the said units. Accordingly, the fixed cost is considered as submitted by MSEDCL for FAC computation. Further, it is observed that even though the overall generation is higher than approved by the Commission, the Fixed Cost/unit is marginally higher than approved Fixed Cost/Unit, in view of the fact that MSPGCL units have shown higher Availability than the reduced Availability and accordingly lower Fixed Cost considered by the Commission in the Tariff Order of MSPGCL.

5.9 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.

5.10 MSPGCL has subsequently filed Case No 97 of 2020 seeking deviation/relaxation in the Fuel Utilisation Plan (FUP) approved by the Commission and regarding need for seeking prior consent from beneficiary if energy charges as per Fuel Surcharge Adjustment is higher than the approved charge by margin of 5%.

5.11 The Commission in its Order in Case No 97 of 2020 has not allowed relaxation as sought for by MSPGCL and in-fact directed MSPGCL to work on various options to implement the approved FUP and utilise opportunities of sourcing cheaper domestic coal so as to reduce the power purchase cost to least possible level. The relevant extract of the Order is reproduced herein below for ready reference:

*“15. As explained earlier in this Order, the Commission has deliberately incorporated provision of prior consent with specific objective that Distribution Licensee, in the present case MSEDCL, is aware of the energy charge that is likely to be levied by any particular generator so that appropriate decision in respect of power purchase from*

*alternate cheaper sources can be explored so as to reduce its power purchase cost for the ultimate benefit of the consumers. In case the relaxation as sought by MSPGCL is allowed, it may unnecessarily burden MSEDCL's consumers and the purpose of cost optimization and reduction in FAC for which it was made mandatory will not be realised and relevant Provisions of MYT Regulations, 2019 will be rendered otiose. Hence, the Commission is not inclined to grant relaxation as sought by MSPGCL*

*16. Further, the Commission is of the opinion that FY 2020-21 has just started. Ten months are still available with MSPGCL in FY 2020-21 to abide by the FUP and to take corrective proactive actions. The Commission notes here the specific measures undertaken by NTPC in reducing the Energy Charges for some of its stations and advises MSPGCL to study the same for adoption. Further, as admitted by MSPGCL in its petition that except for few Stations viz. Nashik and Koradi, it will be able to implement FUP and in fact energy charge would be lower than that approved in MYT Order. Therefore, merely, on the experience of two months, seeking revision of FUP is not proper. MSPGCL may work on the various options available to implement the approved FUP and utilize opportunities of sourcing cheaper domestic coal provided by Government of India including the concessions proposed by Ministry of Power (MoP) in view of the pandemic situation, so as to reduce the power purchase cost to least possible level.*

*17. During the hearing, MSPGCL has stated that accumulated coal stock is creating difficulties in sourcing new coal. In the opinion of the Commission with relaxation in lock down, as energy demand increases, accumulated coal stock will be utilized and hence MSPGCL should plan smartly for further coal procurement. MSPGCL should also ensure that cheapest coal is made available to efficient generator so that least possible cost of generation is achieved.”*

5.12 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, as mentioned above, MSPGCL was yet to tie up for washed coal as well as 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 steps taken to implement the approved FUP, MSEDCL submitted that due to COVID-19 lockdown related difficulties, the washed coal supply contracts could not be executed. However, MSPGCL has finalized the washed coal (beneficiated coal) supply contracts with M/s. MSMC for beneficiation of coal from WCL mines and supply of washed coal to MSPGCL stations. The washed coal supply is expected to commence from March, 21.

5.13 MSEDCL in response to data gaps has submitted that as per Regulation 50.7 of MYT Regulations, 2019, MSPGCL has intimated MSEDCL and sought consent for scheduling units at Koradi, Chandrapur 3-7 and Nashik Units where energy charge is likely to exceed by 5% than approved by the Commission in the Tariff Order. MSEDCL in its response to the said letter had provided conditional consent and asked MSPGCL to take all possible measures to bring the energy charge within 5% of approved rate. The Commission notes that for the month of February, 2021, energy charge of Koradi 6-7, Koradi 8-10,

Chandrapur 3-7 and Nashik Units is beyond 5% of the approved charge mainly due to higher effective cost of coal (considering GCV and Cost) as compared to approved cost.

5.14 As mentioned herein above, MSPGCL has used domestic raw coal for its generation. MSPGCL had also raised issue in respect of consideration of GCV of Coal (As Billed and As Received) in absence of timely availability of CIMFR reports. The Commission in its Order in Case No 97 of 2020 has held that MSPGCL may consider provisional GCV which can be either based on mid-point of declared grade GCV or GCV measured by MSPGCL's Testing Team or adopt any other better approach in consultation with MSEDCL for provisional billing. Accordingly, 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 31 March, 2021 considering the aforesaid methodology and same was considered by MSEDCL in its FAC submission.

5.15 In response to data gaps raised by the Commission in respect of availability of CIMFR reports and whether GCV at loading end for February, 2021 for MSPGCL has been considered as per CIMFR reports, MSEDCL submitted that FAC invoice dated 8 April, 2021 has been raised considering all the CIMFR reports. MSEDCL has accordingly revised the original FAC submission by considering the revised FAC invoice raised by MSPGCL. The Commission has verified the energy charge considered by MSEDCL and same are as per revised FAC invoice dated 8 April, 2021.

5.16 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	3.915	3.016	-0.899	-22.96%
Bhusawal Unit 04 & 05	3.267	2.759	-0.508	-15.55%
Khaperkheda Unit 1 to 4	2.808	2.755	-0.053	-1.89%
Khaperkheda Unit 05	2.458	2.371	-0.087	-3.54%
Nashik TPS	3.394	3.58	0.186	5.48%
Chandrapur Unit 03 to 07	2.539	2.740	0.201	7.92%
Chandrapur Unit 08 and 09	2.453	2.414	-0.039	-1.59%
Paras Unit 03 and 04	2.989	2.604	-0.385	-12.88%

Power Station	Approved Energy Charge Rs/kWh	Actual Energy Charge Rs/kWh	Difference Rs/kWh	Difference %
Parli Unit 06 and 07	4.000	3.014	-0.986	-24.65%
Parli Unit 08	3.830	2.99	-0.840	-21.93%
Koradi Unit 06 and 07	3.136	3.48	0.344	10.97%
Koradi Unit 08,09,10	2.284	2.525	0.241	10.55%
GTPS Uran	2.683	1.307	-1.376	-51.29%

5.17 The Commission notes that rate Koradi Units, Chandrapur 3-7 and Nashik are having rate higher than approved by the Commission in the Tariff Order. However, 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 from WCL and such washed coal is expected to be available from March, 2021 which will improve the GCV and accordingly reduce the energy charge in coming months.

5.18 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, by a tripartite agreement dated 20 January, 2021, the agreement is now extended up to October, 2021. Accordingly, for the month of February, 2021, DIL has supplied 99.45 MUs at Rs 2.889/kWh. The Commission has accordingly considered the said purchase of 99.45 MUs for Rs 28.73 Crore at Rs 2.889/kWh.

5.19 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.

5.20 Considering the overall cost of MSPGCL thermal/gas stations, the average power purchase cost is Rs. 4.34/kWh as against Rs. 4.39/kWh approved in the Tariff Order. The average power purchase cost is lower due to lower variable cost.

5.21 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
February 2021	114.45	(23.23)	91.22



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

#### **NTPC:**

5.22 MSEDCL has purchased total 2569.49 MUs of power from NTPC's stations as compared to approved MoD stack of 2079.92 MUs during the month of February, 2021. It was observed that certain stations of NTPC viz: Mauda, Solapur and Gadarwara though not part of MOD stack approved by the Commission but were despatched as being CGS and MSEDCL having share in the said Plants, it has to schedule the power when the same was requested by the other states and MOD rates were also lower than approved rates for the said plants.

5.23 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 February, 2021.

Particulars	Approved for February 2021						Actual for February, 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
NTPC	2,079.92	1.90	394.19	431.82	2.08	3.97	2,569.49	2.02	519.44	421.54	1.64	3.66	489.57	0.13	(0.44)	(0.31)

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

5.24 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.

5.25 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
February 2021	194.43	(79.46)	114.96

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

#### **IPPs**

5.26 MSEDCL has long term PPA's with IPP's viz: JSW, CGPL Mundra, APLM, 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.

- 5.27 The Commission notes that in view of high variable charge of APML Units, MSEDCL has issued Zero Schedule during the month and purchased power from Power Exchange to optimize the power purchase cost.
- 5.28 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.
- 5.29 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	0.12	-	0.12	0.11	-	0.11
CGPL	9.12	-	9.12	8.83	-	8.83
APML 125 MW	1.31	0.12	1.44	1.15	-	1.15
APML 1320 MW	31.69	60.75	92.44	25.54	36.19	61.73
APML 1200 MW	26.20	2.44	28.64	22.87	-	22.87
APML 440 MW	2.45	0.23	2.68	2.14	-	2.14
EMCO Power	5.52	-	5.52	4.67	-	4.67
RIPL 450 MW	1.07	-	1.07	7.50	-	7.50
RIPL 750 MW	1.78	-	1.78	12.50	-	12.50
Sai Wardha	4.78	-	4.78	3.65	-	3.65
<b>Total</b>	<b>84.04</b>	<b>63.54</b>	<b>147.58</b>	<b>88.95</b>	<b>36.19</b>	<b>125.14</b>

In case of Rattan India, MSEDCL has considered higher CIL amount as compared to claimed for the month of February, 2021. MSEDCL considers CIL amount as per quantum of coal required for scheduled generation for the month, while Rattan India is claiming CIL for the coal quantum purchased in that month and applies normative CIL rate in Rs/ton on the same instead of actual coal consumption. In FY 2020-21, most of the time plant of Rattan India was not scheduled and accordingly the past amount was not considered and paid by MSEDCL. However, the power from Rattan India was scheduled in February, 2021 and accordingly, MSEDCL has considered the CIL amount as per coal consumed during the month. Therefore, CIL amount claimed is Rs 7.50 Crore and Rs 12.50 Crore for 450 MW and 750 MW PPA respectively is paid by MSEDCL.

Accordingly, the Commission has considered the CIL amount as submitted by MSEDCL in its FAC submission.

5.30 Thus, on an overall basis considering the above impact the average power purchase cost from IPPs stands at Rs. 3.61/kWh as compared to monthly approved rate of Rs. 3.98/kWh for the month of February, 2021. The said cost is being considered for the FAC computation based on the scrutiny of invoices submitted by MSEDCL. The variation is mainly due to fixed cost spread over higher generation. 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 February, 2021.

Particulars	Approved for February 2021						Actual for February 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	148.38	2.79	41.47	13.17	0.89	3.68	4.54	2.07	0.94	12.23	26.90	28.97	(143.83)	(0.73)	26.02	25.29
2.Mundra UMPP	395.67	2.01	79.42	40.03	1.01	3.02	477.43	1.75	83.63	36.88	0.77	2.52	81.76	(0.26)	(0.24)	(0.49)
3.Adani Power	1,609.91	2.41	387.76	231.23	1.44	3.84	1,621.60	2.53	409.62	211.65	1.31	3.83	11.69	0.12	(0.13)	(0.01)
4.Emco	105.10	3.30	34.73	14.41	1.37	4.68	134.40	2.34	31.51	13.35	0.99	3.34	29.30	(0.96)	(0.38)	(1.34)
5.Rattan India	-	-	-	57.71	-	-	696.91	2.77	193.15	53.12	0.76	3.53	696.91	-	-	-
6. Sai Wardha	-	-	-	-	-	-	103.42	3.01	31.11	18.31	1.77	4.78	103.42	-	-	-
<b>Total IPPs (1 to 6)</b>	<b>2,259.06</b>	<b>2.41</b>	<b>543.38</b>	<b>356.55</b>	<b>1.58</b>	<b>3.98</b>	<b>3,038.31</b>	<b>2.47</b>	<b>749.97</b>	<b>345.55</b>	<b>1.14</b>	<b>3.61</b>	<b>779.24</b>	<b>0.06</b>	<b>(0.44)</b>	<b>(0.38)</b>

*Variable charge inclusive of other charges, CIL etc.*

5.31 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
February 2021	310.42	(114.82)	195.60

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

### Short Term Power Purchase

5.32 MSEDCL has purchased 19.61 MUs at average rate of Rs. 2.72/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 as the said rate is lower than the generating units which were under Zero Schedule thereby benefitting the consumers. The Commission has verified the details of power purchase and cost of power from the Daily Obligation Summary Report issued by Power Exchange and accordingly considered the said purchase in FAC computation.

### 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 February 2021						Actual for February 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*	252.89	-	-	23.05	0.91	0.91	337.23	0.18	5.99	16.70	0.50	0.67	84.34	0.18	(0.42)	(0.24)
MSPGCL-Hydro Lease rent	-	-	-	47.28	-	-	-	-	-	47.09	-	-	-	-	-	-
1.Non-Solar	1,107.00	4.93	546.14	-	-	4.93	914.47	5.62	513.78	-	-	5.62	(192.53)	0.68	-	0.68
2.Solar	600.00	3.62	217.07	-	-	3.62	382.43	4.24	162.13	-	-	4.24	(217.57)	0.62	-	0.62
Renewable Energy including REC (1 to 2)	1,707.00	4.47	763.22	10.83	0.06	4.53	1,296.90	5.21	675.91	-	-	5.21	(410.10)	0.74	(0.06)	0.68
Others-KAPP, TAPP, Dodson etc	490.53	2.65	129.78	0.76	0.02	2.66	314.46	6.16	193.70	0.76	0.02	6.18	(176.07)	3.51	0.01	3.52

\*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 337.23 MUs 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 higher than 252.89 MUs approved by the Commission. MSEDCL in response to data gaps has submitted that due to high demand

of Rabi season, hydro generation was picked up during peak hours instead of purchasing from costly generation plants on RTC basis.

- 5.36 It is observed that Solar and Non-Solar energy purchased in February, 2021 i.e. 1296.90 MUs was lower than approved i.e. 1707 MUs by the Commission in the Tariff order. MSEDCL submitted that there is lower generation due to low wind. MSEDCL has not purchased any REC's in the month of February, 2021. The Commission has considered the renewable purchase as per details submitted by MSEDCL and invoices of power purchased from SECI, NVVN and other IPPs.
- 5.37 MSEDCL has claimed Rs 43.90 Crore and Rs 63.44 Crore as other charges for TAPP 1&2 and TAPP 3&4 respectively. In response to query raised by the Commission, MSEDCL submitted that NPCIL has raised bills towards Fuel Adjustment Charges on account of revision in fuel prices from FY 2009-10 to FY 2019-20 vide DAE office memorandum No. 13/2(4)/2017-I&M(NFC)/Vol.II/2441 dated 18 February, 2020. Total amount of bill for TAPS 1&2 and TAPS 3&4 is Rs. 307.30 Crore and Rs. 453.25 Crore respectively. MSEDCL is making such payment in 7 equal instalments and accordingly the total amount of Rs 107.33 Crore (5<sup>th</sup> Instalment) was paid on 26 February, 2021 and hence same is considered in FAC. The Commission notes the submission of MSEDCL and has also considered in FAC as the payment is done by MSEDCL.

#### **ISTS Charges - PGCIL**

- 5.38 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 PGCIL are considered under FAC computation. The Commission has considered the amount of Rs. 239.55 Crore towards ISTS charges payable to PGCIL as against Rs. 276.79 Crore approved in the Tariff Order towards FAC computation as per invoice raised by PGCIL.

#### **Sale of Power**

- 5.39 MSEDCL has done sale of surplus power to the extent of 106.09 MUs during the month at Rs. 4.26/kWh. With such a sale of power MSEDCL has earned revenue of Rs. 45.17 Crore.
- 5.40 It is observed that the out of total sale of 106.09 MUs, 4.40 MUs were sold at Rs 4.89/kWh to MADC, whereas 101.69 MUs were sold on IEX at Rs 4.23/kWh. MSEDCL submitted that 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.4.26/kWh has benefitted the consumers. Hence, the Commission has considered the actual quantum and revenue against surplus sale.

## 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 February, 2021 considered by the Commission is as shown below:

Particulars	Approved for February 2021						Actual for February 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 - Thermal	3,905.77	2.68	1,045.23	671.33	1.72	4.39	4,166.19	2.61	1,087.39	720.40	1.73	4.34	260.42	(0.07)	0.01	(0.06)
MSPGCL-Hydro	252.89	-	-	23.05	0.91	0.91	337.23	0.18	5.99	16.70	0.50	0.67	84.34	0.18	(0.42)	(0.24)
MSPGCL-Hydro Lease Rent				47.28						47.09						
NTPC	2,079.92	1.90	394.19	431.82	2.08	3.97	2,569.49	2.02	519.44	421.54	1.64	3.66	489.57	0.13	(0.44)	(0.31)
IPPs	2,259.06	2.41	543.38	356.55	1.58	3.98	3,038.31	2.47	749.97	345.55	1.14	3.61	779.24	0.06	(0.44)	(0.38)
RE including REC	1,707.00	4.47	763.22	10.83	0.06	4.53	1,296.90	5.21	675.91	-	-	5.21	(410.10)	0.74	(0.06)	0.68
Must Run - KAPP, TAPP, Dodson etc	490.53	2.65	129.78	0.76	0.02	2.66	314.46	6.16	193.70	0.76	0.02	6.18	(176.07)	3.51	0.01	3.52
Short Term	-	-	-	-	-	-	19.61	2.72	5.34	-	-	2.72	19.61	-	-	-
Sale of Power	-	-	-	-	-	-	106.09	4.26	45.17	-	-	4.26	106.09	-	-	-
PGCIL	-	-	-	276.79	-	-	-	-	-	239.55	-	-	-	-	-	-
<b>Total</b>	<b>10,695.17</b>	<b>2.69</b>	<b>2,875.79</b>	<b>1,818.41</b>	<b>1.70</b>	<b>4.39</b>	<b>11,636.10</b>	<b>2.74</b>	<b>3,192.58</b>	<b>1,791.60</b>	<b>1.54</b>	<b>4.28</b>	<b>940.93</b>	<b>0.05</b>	<b>(0.16)</b>	<b>(0.11)</b>

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

5.42 To summarise, MSEDCL has optimised its overall power purchase cost by taking following actions:

- Zero Schedule to MSPGCL stations/IPPs having high variable cost from 01 February, 2021 to 28 February, 2021.
- Lowest Cost Generators in MoD being run at higher PLF.
- Purchasing cheaper power from Power Exchange at Rs 2.72/kWh which is lower than Variable Cost of Units under shutdown.
- Higher hydro generation at 337.23 MUs

5.43 The recovery of accumulated FAC of Rs 107.33 Crore (4<sup>th</sup> instalment) as per invoice raised by NPCIL as mentioned above has increased the overall cost.

5.44 Considering the above, the Commission allows the average power purchase cost of Rs.4.28/kWh for the month of February, 2021 as against Rs. 4.39/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 February, 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 February, 2021.

S. No.	Particulars	Units	February 2021
1	Average power purchase cost approved by the Commission	Rs./kWh	4.39
2	Actual average power purchase cost	Rs./kWh	4.28
3	Change in average power purchase cost (=2 -1)	Rs./kWh	(0.11)
4	Net Power Purchase	MU	11636.10
5	<b>Change in fuel and power purchase cost (=3 x 4/10)</b>	<b>Rs. Crore</b>	<b>(123.01)</b>

## **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 October, 2020, 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 February, 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<sub>FAC</sub> 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<sub>FAC</sub> corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total Z<sub>FAC</sub> recoverable”*

9.2 The following table 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	Standalone for February 2021	Actual upto February 2021
1	Net Energy Input at Distribution Voltage	MU	123451.49	10,602.02	1,07,585.94
2	MSEDCL Metered Sales (excluding sales at EHV level)	MU	92427.90	7,331.64	77,512.34
3	Estimated Consumption of unmetered Sales	MU	8783.32	706.44	7,722.27
4	Distribution Loss (1-2-3)	MU	22240.27	2,563.94	22,351.33
5	Distribution Loss as % of net energy input (4/1)	%	18%	24.18%	20.78%
6	Excess Distribution Loss = [Actual Distribution Loss (5) - Distribution loss approved] x Net Energy Input (1)	MU	-	-	292.61
7	<b>Disallowance of FAC due to excess Distribution Loss</b>	<b>Rs. Crore</b>	-	-	-

*\*Estimated Consumption of Agriculture Sales for April 2020 to February 2021 adjusted as per norms approved in Tariff Order and accordingly 156.30 MUs are disallowed for unmetered Ag connections.*

9.3 As seen from the above table, against the standalone distribution loss submitted by MSEDCL of 22.71%, the Commission has approved distribution loss of 24.18% due to restriction of agriculture sales up to the approved level as specified in Tariff Order. Also, the Distribution Loss up to February, 2021 is 20.78%, against 20.14% submitted by MSEDCL, which is higher than the approved Distribution Loss of 18%. The standalone loss for February, 2021 is also higher. This is 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, 2020 to February, 2021 as compared to last year is as given below:

Particulars	FY 2020-21	FY 2019-20
<b>Approved Loss</b>	<b>18%</b>	<b>13.26%</b>
April	30%	14.99%
May	28.47%	17.16%
June	2.82%	7.07%
July	11.90%	12.69%
Aug	11.12%	15.97%
Sep	15.63%	11.04%
Oct	15.04%	14.38%
Nov	24.97%	17.56%
Dec	29.36%	25.48%
Jan	26.70%	26.50%
Feb	24.18%	28.55%
<b>Cumulative upto Feb</b>	<b>20.78%</b>	<b>16.59%</b>

The Commission notes that there has been significant variation in Distribution Loss on monthly basis whereas cumulative distribution loss have converged to approved loss number as actual meter reading is done for the consumers. As mentioned herein above, only 3% of Non-Ag sales are still on estimated basis.

9.5 As FAC amount for the month is negative, there is no disallowance in respect of higher Distribution Loss than approved by the Commission.

## 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 February, 2021 is as shown in the Table below:

S. No.	Particulars	Units	February-2021-As submitted	February 2021- 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	(122.81)	(123.01)
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
<b>1.4</b>	<b>ZFAC = F+C+B</b>	Rs. Crore	(122.81)	(123.01)
<b>2</b>	<b>Calculation of Per Unit FAC</b>			
2.1	Energy Sales within the License Area	MU	9026.00	8869.70 <sup>#</sup>

S. No.	Particulars	Units	February-2021-As submitted	February 2021- As Approved
2.2	Excess Distribution Loss	MU	-	-
2.3	ZFAC per kWh	Rs./kWh	(0.14)	(0.14)
<b>3</b>	<b>Allowable FAC</b>			
3.1	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.3)/10]	Rs. Crore	-	-
3.2	FAC allowable [1.4-3.1]	Rs. Crore	(104.40)	(123.01)
<b>4</b>	<b>Utilization of FAC Fund</b>			
4.1	Opening Balance of FAC Fund	Rs. Crore	(370.51)	(447.10) *
4.2	Holding Cost on FAC Fund	Rs. Crore	(2.54)	(3.08)
4.3	Z <sub>FAC</sub> for the month (Sr. N. 3.2)	Rs. Crore	(122.81)	(123.01)
4.4	Closing Balance of FAC Fund	Rs. Crore	(495.86)	(573.19)
4.5	Z <sub>FAC</sub> leviable/(refundable) to consumer	Rs. Crore	0	0
<b>5</b>	<b>Total FAC based on category wise and slab wise allowed to be recovered in the billing month of April, 2021</b>	<b>Rs. Crore</b>	0	0
<b>6</b>	<b>Carried forward FAC for recovery during future period (4.5-5.0)</b>	<b>Rs. Crore</b>	0	0

\* The Commission has considered opening balance as approved in FAC report for the month of January 2021

# Adjusted for excess Agriculture Sales not considered for the period April 20 to February 21

10.2 The standalone FAC for the month of February, 2021 is Rs (123.01) Crore and the closing balance of FAC Fund after considering the said amount is Rs (573.19) Crore as on February, 2021.

## 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 ZFAC 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<sub>FAC</sub> 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. (123.01) Crore for the month of February, 2021 and the said amount is being added to the FAC Fund.
- 11.3 The Commission in its approval for the month of January, 2021 has directed MSEDCL to carry forward the approved FAC amount of Rs. (447.10) 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. (450.18) Crore.
- 11.4 Accordingly, considering the approved standalone FAC amount of Rs. (123.01) Crore for the month of February, 2021 and the same being added to the FAC fund of Rs. (450.18) Crore, the total balance amount in FAC fund is Rs. (573.19) Crore. Accordingly, the total FAC Fund of Rs. (573.19) 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 Tariff Order had held that negative FAC amount shall be carried forward to the next FAC billing cycle with holding cost till the accumulated negative FAC reaches the limit of Rs. 1500 Crore.
- 11.6 In view of the above, the per unit  $Z_{FAC}$  for the month of February, 2021 to be levied on consumers of MSEDCL in the billing month of April, 2021 is **Nil**.