



महाराष्ट्र विद्युत नियामक आयोग

Maharashtra Electricity Regulatory Commission

Ref. No. MERC/FAC/2021-22/ WFH/ SBR/ 02

Date: 26 April, 2021

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 December 2020.

Reference: 1. MSEDCL's FAC submission dated 6 February, 2021 for prior approval of FAC for the month of December, 2020.
2. Data gaps communicated to MSEDCL vide email dated 21 February, 2021.
3. MSEDCL's response to data gaps by email dated 8 April, 2021 and 12 April, 2021.

Sir,

Upon vetting the FAC calculations for the month of December, 2020 as mentioned in the above reference, the Commission has accorded approval for negative FAC amount of Rs. (80.74) 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)
December, 2020	0 (Zero)

The Commission allows the accumulation of FAC amount of Rs. (158.30) 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 December, 2020.

ANNEXURE A

Detailed Vetting Report

Date: 26 April, 2021

**PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF
DECEMBER, 2020**

Subject: Prior Approval of Fuel Adjustment Charges (FAC) submission of MSEDCL for the month of December, 2020.

Reference: MSEDCL's FAC submission dated 6 February, 2021, 8 April, 2021 and 12 April, 2021 for prior approval of FAC for the month of December, 2020.

1. FAC submission by MSEDCL:

1.1 MSEDCL has submitted FAC submissions for the month of December, 2020 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. (80.74) 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 December, 2020 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
			December 2020 (MU)
HT Category			
Industry (General)	33,829.98	2,893.83	2,890.86
Industry (Seasonal)	102.93	13.93	27.25
Commercial	1,887.38	140.36	109.44
Railways/Metro/Monorail	80.46	5.72	5.77
Public Water Works (PWW)	1,996.12	166.41	148.01
Agricultural - Pumpsets	1,243.85	139.63	46.76
Agricultural - Others	259.40	20.19	19.13
Group Housing Society (Residential)	239.68	17.54	15.82
Public Services - Government	273.16	19.44	19.27
Public Services - Others	825.16	59.29	48.50
Electric Vehicle Charging Stations	0.31	0.03	0.49
MSPGCL Auxiliary	183.74	12.99	10.42
Other Adjustment	4,842.00	403.50	390.08
Sub-total (A)	45,764.17	3,892.86	3,731.80
LT Category			
BPL	45.14	4.60	6.70
Residential	22,868.98	1,479.37	1,507.09
Non-Residential	6,934.28	507.81	368.98
Public Water Works	892.76	74.31	77.88
AG Metered (Pump-sets)	17,571.05	1,202.52	1,270.19
AG Metered (Others)	140.00	10.46	14.70
Industrial	9,618.89	824.90	932.96
Street Lights	2,272.61	186.91	162.72
Public Services	572.79	39.25	35.79
Electric Vehicle Charging Stations	0.23	0.02	0.05
Prepaid	-	-	-
Sub-total (B)	60,916.73	4,330.15	4,377.06
Total – Metered (C = A+B)	1,06,680.90	8,223.01	8,108.86
Unmetered Sale (D)	8,783.32	810.92	834.33
Grand Total(C+D)	1,15,464.22	9,033.93	8,943.20

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

3.2 For the month of December 2020, it is observed that actual sales of 8943.20 MU is lower as compared to the approved energy sales of 9033.93 MU resulting in marginal lower sales of 1%.

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 December 2020. 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 December 2020.

3.4 The number of actual and estimated meter readings undertaken by MSEDCL for the month of December, 2020 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	22049	0	22049
2	LT	21296739	2704875	24001614
	Total	21319198	2704875	24024073

3.5 Further, comparison of sales from April to December 20 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
April – Dec 19	16886	27093	30897	7301	82177
April – Dec 20	17734	23859	27957	7202	76752

- 3.6 The Commission observes that overall sales in December 2020 have increased marginally as compared to December 2019 mainly due to increase in HT category.
- 3.7 In response to the details sought by the Commission in respect of basis for considering agriculture sales for December 2020, 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 third quarter is trifurcated and considered for December 2020. Also metered, unmetered zone wise quantum is shared w.r.t to previous year proportions. MSEDCL further submitted that actual Agriculture billing at the end of the quarter is delayed and accordingly estimated reading is being considered for December 2020.
- 3.8 The Commission while approving the FAC for the month of September 2020 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 to December 2020. Further, as mentioned above as quarterly agriculture billing is delayed, the Commission has considered HP details submitted by MSEDCL for the month of September 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. 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 to Dec 2020	12439	129778504	96	7202	63737819	113	19641	193516322	101
As Approved – April to Dec 2020	12439	129778504	96	6285	63737819	99	18724	193516322	97

3.9 The Commission has already restricted the agriculture unmetered sales in the month of November 20. Accordingly, based on the cumulative agriculture sales approved in the above table, the incremental adjustment of -136.14 MUs for unmetered connections in agriculture sales is being done in the month of December 2020 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 December 2020.																																							
5	Sale of Surplus Power	MSEDCL has sold 7.76 MUs at Rs.4.52/kWh thereby benefitting its consumers.																																							
6	Power Purchase	Actual Net Power Purchase is 12426.17 MUs as against approved 10861.63 MUs.																																							
7	Source wise Power Purchase	<table border="1"> <thead> <tr> <th>Source Name</th> <th>Approved (MU)</th> <th>Actual (MU)</th> <th>Proportion of each Source in Actual Purchase</th> </tr> </thead> <tbody> <tr> <td>MSPGCL</td> <td>3,861.12</td> <td>4,589.80</td> <td>37%</td> </tr> <tr> <td>NTPC</td> <td>2,201.32</td> <td>3,053.77</td> <td>25%</td> </tr> <tr> <td>IPP</td> <td>2,501.11</td> <td>2,476.93</td> <td>20%</td> </tr> <tr> <td>Renewable</td> <td>1,755.00</td> <td>1,492.23</td> <td>12%</td> </tr> <tr> <td>Must Run</td> <td>543.09</td> <td>452.59</td> <td>4%</td> </tr> <tr> <td>Short Term</td> <td>0.00</td> <td>368.60</td> <td>3%</td> </tr> <tr> <td>Sale of Power</td> <td>0.00</td> <td>7.76</td> <td>0%</td> </tr> <tr> <td>Total</td> <td>10,861.63</td> <td>12,426.17</td> <td>100%</td> </tr> </tbody> </table>				Source Name	Approved (MU)	Actual (MU)	Proportion of each Source in Actual Purchase	MSPGCL	3,861.12	4,589.80	37%	NTPC	2,201.32	3,053.77	25%	IPP	2,501.11	2,476.93	20%	Renewable	1,755.00	1,492.23	12%	Must Run	543.09	452.59	4%	Short Term	0.00	368.60	3%	Sale of Power	0.00	7.76	0%	Total	10,861.63	12,426.17	100%
Source Name	Approved (MU)	Actual (MU)	Proportion of each Source in Actual Purchase																																						
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8	<p>Power Purchase:</p> <p>a. Section 62 of Electricity Act, 2003</p> <p>b. Section 63 of Electricity Act, 2003 - IPPs</p>	<p>A. MSPGCL</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. CGS- NTPC etc</p> <p>Cost and MUs are verified as per invoice.</p> <p>Cost and MUs verified as per Invoice.</p>																																							
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 December, 2020 are submitted by MSEDCL. All the power purchase quantum and rate are verified from the invoices and has been considered for FAC calculation.																																							

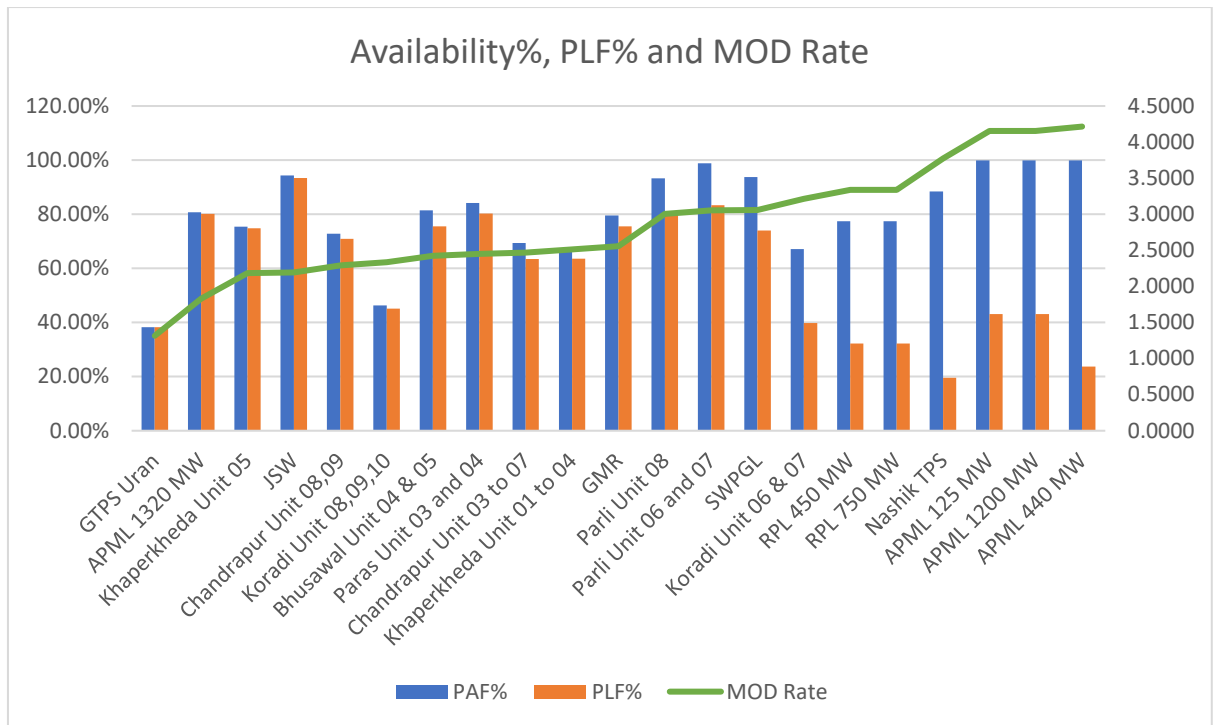
4.2 The following table show the variation in average power purchase cost (Rs/kWh) for the month of December, 2020 submitted by MSEDCL as compared to average power purchase cost approved in Tariff Order:

Particulars	Tariff Order Dated 30.03.2020 Approved for December 2020			Actual for December 2020 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	3,581.13	1,583.90	4.42	4,279.79	1,708.26	3.99	698.65	124.36	(0.43)
MSPGCL- Hydro (including Lease Rent)	279.98	70.33	2.51	310.01	68.80	2.22	30.03	(1.53)	(0.29)
NTPC	2,201.32	837.14	3.80	3,053.77	1,058.08	3.46	852.45	220.94	(0.34)
1.JSW	164.28	59.08	3.60	208.32	58.43	2.80	44.05	(0.65)	(0.79)
2.Mundra UMPP	438.07	127.96	2.92	445.24	122.49	2.75	7.17	(5.47)	(0.17)
3.Adani Power	1,782.40	660.54	3.71	1,290.73	552.73	4.28	(491.68)	(107.81)	0.58
4.Emco	116.36	51.95	4.46	112.30	41.49	3.69	(4.06)	(10.46)	(0.77)
5.Rattan India	0.00	57.71	-	288.14	153.93	-	288.14	96.22	-
6. Sai Wardha	0.00	0.00	-	132.20	55.10	-	132.20	55.10	-
Total IPPs (1 to 6)	2,501.11	957.23	3.83	2,476.93	984.16	3.97	(24.17)	26.93	0.15
7.Non-Solar	1,161.00	572.78	4.93	1,106.82	656.83	5.93	(54.18)	84.05	1.00
8.Solar	594.00	214.90	3.62	385.41	163.92	4.25	(208.59)	(50.98)	0.64
Renewable Energy including REC (7 to 8)	1,755.00	798.52	4.55	1,492.23	820.75	5.50	(262.77)	22.23	0.95
Must Run - KAPP, TAPP, Dodson etc	543.09	144.44	2.66	452.59	243.70	5.38	(90.50)	99.26	2.72
Short Term	0.00	0.00	-	368.60	116.69	3.17	368.60	116.69	3.17
Sale of Power	0.00	0.00	-	7.76	3.51	4.52	7.76	3.51	4.52
PGCIL	0.00	276.79	-	-	263.13	-	-	(13.66)	-
Total	10,861.63	4,668.36	4.30	12,426.17	5,260.06	4.23	1,564.53	591.70	(0.06)

- 4.3 Thus, for the month of December 2020, total variation in power purchase cost is Rs. 591.70 Crore, out of which Rs. 672.11 Crore was on account of higher quantum of power purchase 1564.53 MU and Rs. (80.74) Crore was on account of lower rate of average power purchase by Rs. 0.06/kWh. FAC mechanism allows only impact of variation in power purchase rate to be passed through as FAC rate over and above approved tariff. In response to query raised by the Commission in respect of increase in power purchase quantum without corresponding increase in sales, MSEDCL submitted that sales for metered consumers is considered as per actual reading available whereas unmetered consumers sales i.e. agriculture sales is based on estimation. The Commission notes the submission of MSEDCL and also observes that increase in power purchase without corresponding increase in sales has resulted in higher distribution loss of 29.36% 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 December, 2020. 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 and IPPs i.e. APML (125 MW, 440 MW and 1200 MW PPA) and Rattan India 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/PPs Stations are considered for comparison and MOD Rate considered is as applicable from 16 December, 2020 to 26 December, 2020.

5.5 The Commission notes that MSEDCL has followed the Merit Order Dispatch (MOD) principle. APM units having PPA of 125 MW, 1200 MW showing higher PLF even though MOD Rate is higher than other units. It is due to the fact that graph shows comparison with MOD Rates of 16-26 December, whereas PLF is for the entire month. APM 125 MW, 1200 MW unit had lower MOD rate for the 1-15 December 2020 as compared to SWPGL, Parli Unit 8 and Rattan India units. 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 4279.79 MUs from MSPGCL Thermal and Gas Stations. It was observed that MSEDCL has purchased energy from Parli 6-7, Parli 8 and Nashik 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 thereby 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 December 2020						Actual for December 2020						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	3,581.13	2.55	912.58	671.33	1.87	4.42	4,279.79	2.48	1,061.32	646.94	1.51	3.99	698.65	(0.07)	(0.36)	(0.43)

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. Accordingly, the fixed cost is considered as submitted by MSEDCL for FAC computation.

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 is 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 it has informed generators to strictly follow FUP as approved by the Commission.
- 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 and Nashik 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 December 2020, energy charge of only Koradi 6-7 Unit is marginally beyond 5% of the approved charge mainly due to higher cost of coal (Rs 1111/MkCal) as compared to approved cost (Rs 1034/MkCal).
- 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 25 January, 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 December 2020 for MSPGCL has been considered as per CIMFR reports, MSEDCL submitted that FAC invoice dated 9 February, 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 9 February, 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	-	-	
Bhusawal Unit 04 & 05	3.267	2.441	-0.826	-25.28%
Khaperkheda Unit 1 to 4	2.808	2.558	-0.250	-8.90%
Khaperkheda Unit 05	2.458	2.185	-0.273	-11.11%
Nashik TPS	3.394	3.423	0.029	0.85%
Chandrapur Unit 03 to 07	2.539	2.455	-0.084	-3.31%
Chandrapur Unit 08 and 09	2.453	2.294	-0.159	-6.48%
Paras Unit 03 and 04	2.989	2.500	-0.489	-16.36%
Parli Unit 06 and 07	4.000	3.131	-0.869	-21.73%
Parli Unit 08	3.830	3.11	-0.720	-18.80%
Koradi Unit 06 and 07	3.136	3.418	0.282	8.99%
Koradi Unit 08,09,10	2.284	2.294	0.010	0.44%
GTPS Uran	2.683	1.329	-1.354	-50.47%

5.17 The Commission notes that all the generating station except Koradi 6-7 Unit a Unit are having rate lower 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.

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. upto January 2021 on the same terms and conditions. Accordingly, for the month of December 2020, DIL has supplied 124.79 MUs at Rs 2.889/kWh. The Commission has accordingly considered the said purchase of 124.79 MUs for Rs 36.05 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. 3.99/kWh as against Rs. 4.42/kWh approved in the Tariff Order. The average power purchase cost is lower due to lower fixed cost due to higher generation.
- 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
December 2020	309.01	(184.65)	124.36

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

NTPC:

- 5.22 MSEDCL has purchased total 3053.77 MUs of power from NTPC's stations as compared to approved MoD stack of 2201.32 MUs during the month of December 2020. It was observed that certain stations of NTPC viz: Mauda, Solapur and Gadawara 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 December 2020.

Particulars	Approved for December 2020						Actual for December 2020						Variations			
	Quantum	VC	VC	FC	FC	APP C	Quantum	VC	VC	FC	FC	AP PC	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	2,201.32	1.84	405.32	431.82	1.96	3.80	3,053.77	2.07	630.81	427.27	1.40	3.46	852.45	0.22	(0.56)	(0.34)

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
December 2020	324.18	(103.24)	220.94

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 Rattan India and APLM 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	4.29	-	4.29	3.88	-	3.88
CGPL	8.02	-	8.02	7.59	-	7.59
APML 125 MW	1.53	-	1.53	1.27	4.03	5.30
APML 1320 MW	32.01	74.12	106.13	23.96	10.65	34.60
APML 1200 MW	14.66	0.58	15.24	12.58	10.21	22.79
APML 440 MW	2.96	-	2.96	2.47	7.81	10.28
EMCO Power	4.90	-	4.90	4.15	-	4.15
RIPL 450 MW	0.11	-	0.11	3.11	-	3.11
RIPL 750 MW	0.19	-	0.19	5.18	-	5.18
Sai Wardha	-	-	-	-	-	-
Total	68.67	74.69	143.36	64.17	32.71	96.88

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. 3.97/kWh as compared to monthly approved rate of Rs. 3.83/kWh for the month of December 2020. 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 paid to Rattan India/APML without any considerable 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 December 2020.

Particulars	Approved for December 2020						Actual for December 2020						Variations			
	Quantum	VC	VC	FC	FC	APP C	Quantum	VC	VC	FC	FC	AP PC	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	164.28	2.79	45.91	13.17	0.80	3.60	208.32	2.16	45.06	13.36	0.64	2.80	44.05	(0.63)	(0.16)	(0.79)
2.Mundra UMPP	438.07	2.01	87.93	40.03	0.91	2.92	445.24	1.83	81.66	40.83	0.92	2.75	7.17	(0.17)	0.00	(0.17)
3.Adani Power	1,782.40	2.41	429.31	231.23	1.30	3.71	1,290.73	2.47	318.40	234.33	1.82	4.28	(491.68)	0.06	0.52	0.58
4.Emco	116.36	3.23	37.54	14.41	1.24	4.46	112.30	2.38	26.71	14.78	1.32	3.69	(4.06)	(0.85)	0.08	(0.77)
5.Rattan India	-	-	-	57.71	-	-	288.14	3.30	95.11	58.81	2.04	5.34	288.14	-	-	-

Particulars	Approved for December 2020						Actual for December 2020						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
6. Sai Wardha	-	-	-	-	-	-	132.20	2.63	34.82	20.28	1.53	4.17	132.20	-	-	-
Total IPPs (1 to 6)	2,501.11	2.40	600.68	356.55	1.43	3.83	2,476.93	2.43	601.77	382.39	1.54	3.97	(24.17)	0.03	0.12	0.15

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
December 2020	(9.25)	36.18	26.93

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 368.60 MUs at average rate of Rs. 3.17/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 December 2020						Actual for December 2020						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*	279.98	-	-	23.05	0.82	0.82	310.01	0.18	5.62	16.08	0.52	0.70	30.03	0.18	(0.30)	(0.12)
MSPGCL-Hydro Lease rent	-	-	-	47.28	-	-	-	-	-	47.09	-	-	-	-	-	-

Particulars	Approved for December 2020						Actual for December 2020						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.Non-Solar	1,161.00	4.93	572.78	-	-	4.93	1,106.82	5.93	656.83	-	-	5.93	(54.18)	1.00	-	1.00
2.Solar	594.00	3.62	214.90	-	-	3.62	385.41	4.25	163.92	-	-	4.25	(208.59)	0.64	-	0.64
Renewable Energy including REC (1 to 2)	1,755.00	4.49	787.69	10.83	0.06	4.55	1,492.23	5.50	820.75	-	-	5.50	(262.77)	1.01	(0.06)	0.95
Others-KAPP, TAPP, Dodson etc	543.09	2.65	143.68	0.76	0.01	2.66	452.59	5.37	242.94	0.76	0.02	5.38	(90.50)	2.72	0.00	2.72

**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 310.01 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 279.98 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 December 2020 i.e. 1492.23 MUs was lower than approved i.e. 1755 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 December 2020. The Commission has considered the renewable purchase as per details submitted by MSEDCL and invoices of power purchased from SECI, NRVN 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 (3rd Instalment) was paid on 31 December, 2020 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. 263.13 Crore towards ISTS charges payable to 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 7.76 MUs during the month at Rs. 4.52/kWh. With such a sale of power MSEDCL has earned revenue of Rs. 3.51 Crore.

5.40 It is observed that the out of total sale of 7.76 MUs, 4.71 MUs were sold at Rs 4.89/kWh to MADC, whereas 3.04 MUs were sold on IEX at Rs 4.10/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.4.52/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 December, 2020 considered by the Commission is as shown below:

Particulars	Approved for December 2020						Actual for December 2020						Variations			
	Quantum	VC	VC	FC	FC	APPC	Quantum	VC	VC	FC	FC	APPC	Quantum	VC	FC	APPC
	MU	Rs./kWh	Rs. Crore	Rs. Crore	Rs./kWh	Rs./kWh	MU	Rs./kWh	Rs. Crore	Rs. Crore	Rs./kWh	Rs./kWh	MU	Rs./kWh	Rs./kWh	Rs./kWh
MSPGC L - Thermal	3,581.13	2.55	912.58	671.33	1.87	4.42	4,279.79	2.48	1,061.32	646.94	1.51	3.99	698.65	(0.07)	(0.36)	(0.43)
MSPGC L-Hydro	279.98	-	-	23.05	0.82	0.82	310.01	0.18	5.62	16.08	0.52	0.70	30.03	0.18	(0.30)	(0.12)
MSPGC L-Hydro Lease Rent				47.28						47.09						
NTPC	2,201.32	1.84	405.32	431.82	1.96	3.80	3,053.77	2.07	630.81	427.27	1.40	3.46	852.45	0.22	(0.56)	(0.34)
IPPs	2,501.11	2.40	600.68	356.55	1.43	3.83	2,476.93	2.43	601.77	382.39	1.54	3.97	(24.17)	0.03	0.12	0.15
RE including REC	1,755.00	4.49	787.69	10.83	0.06	4.55	1,492.23	5.50	820.75	-	-	5.50	(262.77)	1.01	(0.06)	0.95
Must Run - KAPP, TAPP, Dodson etc	543.09	2.65	143.68	0.76	0.01	2.66	452.59	5.37	242.94	0.76	0.02	5.38	(90.50)	2.72	0.00	2.72
Short Term	-	-	-	-	-	-	368.60	3.17	116.69	-	-	3.17	368.60	-	-	-
Sale of Power	-	-	-	-	-	-	7.76	4.52	3.51	-	-	4.52	7.76	-	-	-

Particulars	Approved for December 2020						Actual for December 2020						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
PGCIL	-	-	-	276.79	-	-	-	-	-	263.13	-	-	-	-	-	-
Total	10,861.63	2.62	2,849.95	1,818.41	1.67	4.30	12,426.17	2.80	3,476.40	1,783.67	1.44	4.23	1,564.53	0.17	(0.24)	(0.06)

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 December, 2020 to 31 December, 2020
- Lowest Cost Generators in MoD being run at higher PLF.
- Purchasing cheaper power from Power Exchange at Rs 3.17/kWh which is lower than Variable Cost of Units under shutdown.

5.43 The recovery of accumulated FAC of Rs 107.33 Crore (3rd instalment) as per invoice raised by NPCIL as mentioned above has also increased the overall cost.

5.44 Considering the above, the Commission allows the average power purchase cost of Rs.4.23/kWh for the month of December, 2020 as against Rs. 4.30/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 December, 2020 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 December, 2020.

S. No.	Particulars	Units	December 2020
1	Average power purchase cost approved by the Commission	Rs./kWh	4.30
2	Actual average power purchase cost	Rs./kWh	4.23
3	Change in average power purchase cost (=2 -1)	Rs./kWh	(0.06)
4	Net Power Purchase	MU	12426.17

S. No.	Particulars	Units	December 2020
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	(80.74)

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 August 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 December 2020.

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	Standalone for December 2020	Actual upto December 2020
1	Net Energy Input at Distribution Voltage	MU	123451.49	11,264.50	85,551.14

S. N	Particulars	Units	Approved in Tariff Order	Standalone for December 2020	Actual upto December 2020
2	MSEDCL Metered Sales (excluding sales at EHV level)	MU	92427.90	7,259.42	62,531.21
3	Estimated Consumption of unmetered Sales	MU	8783.32	698.19	6,284.62
4	Distribution Loss (1-2-3)	MU	22240.27	3,306.89	16,735.30
5	Distribution Loss as % of net energy input (4/1)	%	18%	29.36%	19.56%
6	Excess Distribution Loss = [Actual Distribution Loss (5) - Distribution loss approved] x Net Energy Input (1)	MU	-	-	174.19
7	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	-	-

**Estimated Consumption of Agriculture Sales for April 2020 to December 2020 adjusted as per norms approved in Tariff Order and accordingly 136.14 MUs are disallowed for unmetered Ag connections.*

9.3 As seen from the above table, against the standalone distribution loss submitted by MSEDCL of 28.15%, the Commission has approved distribution loss of 29.36% due to restriction of agriculture sales up to the approved level as specified in Tariff Order. Also, the Distribution Loss up to December, 2020 is 19.56%, against 19.10% submitted by MSEDCL, which is higher than the approved Distribution Loss of 18%. The standalone loss for December 2020 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 to December 20 as compared to last year is as given below:

Particulars	Approved Loss	April	May	June	July	August	September	October	November	December	Cumulative upto December
FY 2020-21	18%	30%	28.47%	2.82%	11.90%	11.12%	15.63%	15.04%	24.97%	29.36%	19.56%
FY 2019-20	13.26%	14.99%	17.16%	7.07%	12.69%	15.97%	11.04%	14.38%	17.56%	25.48%	14.98%

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_{FAC}

10.1 The summary of the FAC amount as approved by the Commission for the month of December, 2020 is as shown in the Table below:

S. No.	Particulars	Units	December-2020-As submitted	December 2020- As Approved
1	Calculation of ZFAC			
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	(80.74)	(80.74)
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	ZFAC = F+C+B	Rs. Crore	(80.74)	(80.74)
2	Calculation of Per Unit FAC			
2.1	Energy Sales within the License Area	MU	8943.20	8807.05 [#]
2.2	Excess Distribution Loss	MU	-	-
2.3	ZFAC per kWh	Rs./kWh	(0.09)	(0.09)
3	Allowable FAC			
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	(70.53)	(80.74)
4	Utilization of FAC Fund			
4.1	Opening Balance of FAC Fund	Rs. Crore	193.24	(77.10) *
4.2	Holding Cost on FAC Fund	Rs. Crore	(0.04)	(0.47)
4.3	Z _{FAC} for the month (Sr. N. 3.2)	Rs. Crore	(70.53)	(80.74)
4.4	Closing Balance of FAC Fund	Rs. Crore	122.67	(158.30)
4.5	Z _{FAC} leviable/(refundable) to consumer	Rs. Crore	131.36	0
5	Total FAC based on category wise and slab wise allowed to be recovered in the billing month of February-21	Rs. Crore	131.36	0
6	Carried forward FAC for recovery during future period (4.5-5.0)	Rs. Crore	0	0

* The Commission has considered opening balance as approved in FAC report for the month of November 2020.

Adjusted for excess Agriculture Sales not considered for the period April 20 to December 20

10.2 The standalone FAC for the month of December, 2020 is Rs. (80.74) Crore and the same is being added to the FAC Fund of Rs (77.10) Crore available as on November 2020.

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:

$Z_{FAC\ Cat} = Z_{FAC}$ 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. (80.74) Crore for the month of December, 2020. As the FAC is negative, the said amount is being added to the FAC Fund of Rs (77.10) Crore.
- 11.3 The Commission in its approval for the month of November, 2020 has directed MSEDCL to carry forward the approved FAC amount of Rs. (77.10) 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. (77.56) Crore.
- 11.4 Accordingly, considering the approved standalone FAC amount of Rs. (80.74) Crore for the month of December, 2020 and the same is being added to the FAC fund of Rs. (77.56) Crore, the total balance amount in FAC fund is Rs. (158.30) Crore. Accordingly, the total FAC Fund of Rs. (158.30) 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 December, 2020 to be levied on consumers of MSEDCL in the billing month of February, 2021 is **Nil**.