



महाराष्ट्र विद्युत नियामक आयोग

Maharashtra Electricity Regulatory Commission

Ref. No. MERC/FAC/2020-21/WFH/SBR/ 36

Date: 20 October, 2020

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 July 2020.

Reference: 1. MSEDCL's FAC submission dated 27 August, 2020 for prior approval of FAC for the month of July, 2020.
2. Data gaps communicated to MSEDCL vide email dated 31 August, 2020, 15 September, 2020 and 29 September 2020
3. MSEDCL's response to data gaps by email dated 13 September, 2020, 28 September, 2020 and 29 September, 2020

Sir,

Upon vetting the FAC calculations for the month of July, 2020 as mentioned in the above reference, the Commission has accorded approval for FAC amount of Rs.130.46 Crore. However, the said amount is adjusted from the FAC Fund and accordingly the FAC chargeable to consumers is as shown in the table below:

Month	FAC Amount (Rs. Crore)
July, 2020	0 (Zero)

The Commission allows the accumulation of FAC amount of Rs. 297.10 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 Ambekar)
Executive Director

Encl: Annexure A: Detailed Vetting Report for the month of July, 2020.

ANNEXURE A

Detailed Vetting Report

Date: 20 October, 2020

PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF JULY, 2020

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

Reference: MSEDCL's FAC submission dated 27 August, 2020 for prior approval of FAC for the month of July, 2020.

1. FAC submission by MSEDCL:

1.1 MSEDCL has submitted FAC submissions for the month of July, 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.130.46 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 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 July, 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
			July 2020 (MU)
HT Category			
Industry (General)	33,829.98	2,728.39	2,204.63
Industry (Seasonal)	102.93	2.21	6.99
Commercial	1,887.38	153.38	86.96
Railways/Metro/Monorail	80.46	6.36	4.90
Public Water Works (PWW)	1,996.12	169.80	140.29
Agricultural - Pumpsets	1,243.85	18.05	18.52
Agricultural - Others	259.40	20.74	19.69
Group Housing Society (Residential)	239.68	19.72	18.43
Public Services - Government	273.16	23.08	19.70
Public Services - Others	825.16	69.23	54.18
Electric Vehicle Charging Stations	0.31	0.03	0.01
MSPGCL Auxiliary	183.74	13.91	8.49
Other Adjustment	4,842.00	403.50	384.03
Sub-total (A)	45,764.17	3,628.41	2,966.83
LT Category			
BPL	45.14	2.80	6.41
Residential	22,868.98	1,999.02	2,287.64
Non-Residential	6,934.28	575.87	328.29
Public Water Works	892.76	70.68	72.66
AG Metered (Pumpsets)	17,571.05	1,533.05	1,083.42
AG Metered (Others)	140.00	11.11	11.18
Industrial	9,618.89	797.54	684.83
Street Lights	2,272.61	192.29	146.83
Public Services	572.79	50.83	39.03
Electric Vehicle Charging Stations	0.23	0.02	0.02
Prepaid	-	-	-
Sub-total (B)	60,916.73	5,233.22	4,660.31
Total – Metered (C = A+B)	1,06,680.90	8,861.62	7,627.14
Unmetered Sale (D)	8,783.32	665.29	711.39
Grand Total(C+D)	1,15,464.22	9,526.92	8,338.53

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

3.2 Due to spread of Covid-19 pandemic, the Commission had issued Practice Directions on 26 March, 2020 providing certain relaxations in the Supply Code to all the Distribution

Licenses in respect of Meter Reading etc. Accordingly, the billed sales submitted by MSEDCL for the month of April 20 and May 20 were on estimated basis except for the consumers having Automatic Meter Reading (AMR) in place. However, in the month of June, MSEDCL has started actual meter reading and consumers for whom meter reading is done in July are billed as per meter reading and the said consumers are billed for 3 months by adjusting average units billed in April to June 20. This is reflected in higher sales for LT Residential consumers than approved by the Commission.

- 3.3 **For the month of July 2020, it can be observed from the actual sales that the actual sales for the month of July 2020 is 8338.53 MU which is lower by 13% as compared to the approved energy sales of 9526.92 MU.** With respect to the consumption, the HT category consumption is 2966.83 MU which is on a lower side by 18% compared to approved monthly HT energy sales of 3628.41 MU and the reduction has been noticed by 11% in LT side whereby the actual sales is 4660.31 MU as compared to approved monthly LT energy sales of 5233.32 MU
- 3.4 The major variation was observed across all categories, except residential consumers, in view of lockdown due to Covid-19 pandemic, economic slowdown and accordingly MSEDCL has submitted the data providing actual billing and estimated billing undertaken for the calculation of total energy consumption for the month of July 2020. **As per the data, the 100% of HT billing is undertaken on actual basis whereas under LT category, the billing of about 80% of sales is undertaken as per actual meter readings and balance 20% is still assessed on an estimated basis.** Considering the total sales, the estimated sales is 13% for the month of July 2020.
- 3.5 In reply to the query related to number of actual and estimated meter readings undertaken by MSEDCL for the month of July 2020, the following information was submitted:

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	21,446	0	21,446
2	LT	2,12,63,816	47,69,746	2,60,33,562
	Total	2,12,85,262	47,69,746	2,60,55,008

- 3.6 Further, comparison of sales from April to July 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
April – July 19	8403	13505	14476	3166	39550
April - July 20	8831	10061	10898	3331	33120

- 3.7 The Commission observes that sales for LT Residential were lower in April/May as compared to last year. This was mainly due to lower estimated readings due to widespread pandemic. However, the LT Residential sales have increased in June 20, as compared to last year and is due to the fact that estimated units billed in the previous months were on lower side and with actual meter reading it has resulted in incremental sales of previous period being billed in the month of June'2020. However, the LT Residential sales has witnessed a decreasing trend in July 2020 similar to July 2019, which is due to onset of monsoon there was dip in temperature resulting in lower consumption by residential consumers and decrease in demand.
- 3.8 Also, it is further observed that sales of LT others and HT Categories is lower as compared to last year due to Covid-19 pandemic and economic slowdown.

4. Power Purchase Details

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

It is pertinent to note that 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.

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 5.10 to para 5.15)			
4	Pool Imbalance	No Imbalance pool quantum is computed by MSEDCL for July 2020.			
5	Sale of Surplus Power	MSEDCL has sold 21.71 MUs at Rs.3.81/kWh thereby benefitting its consumers.			
6	Power Purchase	Actual Power Purchase is 9,827.97 MUs as against approved 11,540.90 MUs due to lower sales			
7	Source wise Power Purchase	Source Name	Approved (MU)	Actual (MU)	Proportion of each Source in Actual Purchase
		MSPGCL	4,012.94	3,615.50	37%
		NTPC	2,302.77	2,347.88	24%
		IPP	2,501.11	1,772.66	18%
		Renewable	2,181.00	1,399.85	14%
		Must Run	543.09	466.36	5%
		Short Term	0.00	247.42	3%
		Sale of Power	0.00	21.71	0%
		Total	11,540.90	9,827.97	100%
8	Power Purchase: a. Section 62 of Electricity Act, 2003	<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>			

Sr. No.	Particular	Compliance
	b. Section 63 of Electricity Act, 2003 - IPPs	Cost and MUs are verified as per invoice Cost and MUs verified as per Invoice
9	RE Purchase	Cost and MUs verified as per FOCA 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 July, 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 July, 2020 submitted by MSEDCL as compared to average power purchase cost approved in Tariff Order:

Particulars	Tariff Order Dated 30.03.2020 Approved for July 2020			Actual for July 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	3,732.96	1,633.50	4.38	3,398.90	1,549.82	4.56	(334.05)	(83.68)	0.18
MSPGCL-Hydro (including Lease Rent)	279.98	70.33	2.51	216.60	69.15	3.19	(63.38)	(1.18)	0.68
NTPC	2,302.77	868.24	3.77	2,347.88	898.83	3.83	45.11	30.58	0.06
1.JSW	164.28	59.08	3.60	191.63	59.02	3.08	27.36	(0.06)	(0.52)
2.Mundra UMPP	438.07	127.96	2.92	529.17	148.01	2.80	91.10	20.05	(0.12)
3.Adani Power	1,782.40	660.54	3.71	792.30	395.52	4.99	(990.11)	(265.02)	1.29
4.Emco	116.36	51.95	4.46	127.50	55.97	4.39	11.14	4.02	(0.07)
5.Rattan India	0.00	57.71	-	-	62.16	-	-	4.45	-
6. Sai Wardha	0.00	0.00	-	132.06	52.65	-	132.06	52.65	-
Total IPPs (1 to 6)	2,501.11	957.23	3.83	1,772.66	773.33	4.36	(728.45)	(183.91)	0.54
7.Non-Solar	1,789.00	882.61	4.93	1,023.73	484.37	4.73	(765.27)	(398.24)	(0.20)
8.Solar	392.00	141.82	3.62	376.12	150.68	4.01	(15.88)	8.86	0.39

Particulars	Tariff Order Dated 30.03.2020 Approved for July 2020			Actual for July 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
Renewable Energy including REC (7 to 8)	2,181.00	1,035.27	4.75	1,399.85	635.05	4.54	(781.15)	(400.21)	(0.21)
Must Run - KAPP, TAPP, Dodson etc	543.09	144.44	2.66	466.36	104.51	2.24	(76.72)	(39.94)	(0.42)
Short Term	0.00	0.00	-	247.42	67.00	2.71	247.42	67.00	2.71
Sale of Power	0.00	0.00	-	21.71	8.27	3.81	21.71	8.27	3.81
PGCIL	0.00	276.79	-	-	288.40	-	-	11.61	-
Total	11,540.90	4,985.80	4.32	9,827.97	4,377.80	4.45	(1,712.93)	(608.00)	0.13

4.3 Thus, for the month of July 2020, total variation in power purchase cost is (Rs. 608 Crore), out of which (Rs. 740.01 Crore) was on account of lower quantum of power purchase (1712.93 MU) and Rs. 132.01 Crore was on account of higher rate of average power purchase Rs. 0.13/kWh. FAC mechanism allows only impact of variation in power purchase rate to be passed through as FAC rate over and above approved tariff.

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

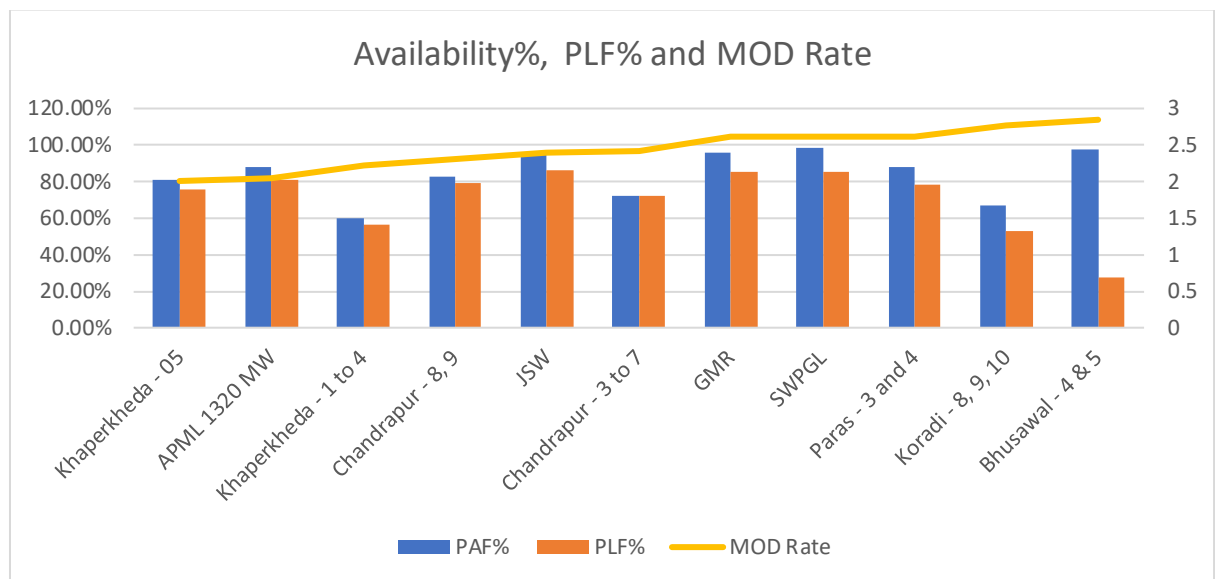
5.1 The Commission has sought detailed bills/invoices for all of the power purchase sources in order to verify the claim of MSEDCL with regards to average power purchase cost for the month of July, 2020. The Commission has verified the Net Purchase, Variable Cost, Fixed Charge and the Power Purchase 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 due to Covid 19 pandemic and lower prices prevailing on Power Exchange, it was observed that Zero Schedule was given to many State Generating Stations such as Bhusawal-3, Parli, Koradi 6-7 for the entire month and partially to Koradi

8-10 and Bhusawal 4 and 5 and IPP (Rattan India and APML) 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/IPP's Stations are considered for comparison and MOD Rate considered is as applicable from 12 July, 2020 to 30 July, 2020.

5.5 The Commission notes that MSEDCL has followed the Merit Order Dispatch (MOD) principle. In response to query raised by the Commission in respect of PLF of Plants lower than declared Availability, MSEDCL submitted that it is mainly due to declared Availability and backing down instructions given to the generator upto technical minimum on a daily basis whereas the figures considered in FAC are on monthly basis. As an illustration, MSEDCL submitted that there are two Units having same ex-bus of 100MW & technical minimum of 70MW. Unit-A is having Variable Cost (VC) of 3.00 and submitted DC of 100MW on daily basis and another Unit-B having lower VC of say 2.95 but declaring DC of 85MW. Plant A being costlier run at Technical Minimum for say 10 Hrs. and B run at technical minimum for 9 Hrs. Then PLF of these two plants will be as in Table below:

Plant	VC (Rs)	Avg. Daily DC (MW)	Technical Minimum (MW)	Avg. Full Schedule Hrs	Avg. Backdown Hrs	Daily Avg. Schedule Energy (MWh)	Daily Max. Schedule Energy (MWh)	% PLF
A	3	100	70	14	10	2100	2400	88%
B	2.95	85	70	15	9	1905	2400	79%

Hence it can be seen that even though Unit-B is having lower variable cost than Unit-A, it has lower PLF on account of less declaration than Maximum Availability (DC). The Commission notes the submission of MSEDCL.

MSPGCL:

5.6 The Commission has observed that MSEDCL has purchased 3398.90 MUs from MSPGCL Thermal and Gas Stations. It was observed that MSEDCL has not purchased any energy from generating station of MSPGCL not included in MoD stack approved by the Commission in the Tariff Order except for Bhusawal 5 (Rs 2.84/kWh) which was taken into service during the last week in view of lower variable cost in MOD as compared to Koradi 6 and 7 (Rs 3.24/kWh) which was part of MOD stack approved in the MYT Order.

5.7 The total overall generation was lower during the month leading to lower PLF mainly due to lower system demand. Even though the PLF for the thermal generating units was lower for the aforesaid month, the entire monthly fixed cost was payable in line with MYT Regulations, 2019. Accordingly, MSEDCL has considered the fixed cost as per the order of the Commission for the Units under Zero Schedule. Lower PLF has resulted into fixed cost being spread over lower net generation thereby increasing average power purchase price from these Units and thus impacting the APPC. The comparison of Actual and Approved Fixed and Variable Cost of MSPGCL Thermal/Gas units as shown in the table below shows the impact of fixed cost due to lower actual generation:

Particulars	Approved for July 2020						Actual for July 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 – Thermal	3,732.96	2.58	962.17	671.33	1.80	4.38	3,398.90	2.44	827.67	722.14	2.12	4.56	(334.05)	(0.14)	0.33	0.18

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. MSPGCL has submitted in Case No 97 of 2020 that energy charges would be lower for all the stations except for Nashik and Koradi. Based on provisional FAC bill raised by MSPGCL for the month of July 2020, comparison of actual energy charge based on provisional bill and approved by the Commission in the Tariff Order shows that actual energy charge only for Koradi 8-10 exceeds more than 5%. MSEDCL has submitted that as per approved Fuel Utilization Plan, usage of washed coal with GCV higher than raw coal GCV was considered. However, presently no washed coal is being procured by MSPGCL as the finalization of tender for the same is pending. Also, the coal available in stock is of lower GCV. This has resulted in increase in variable cost for Units at Koradi. MSPGCL further submitted that efforts are being taken to reduce the energy charge as per directions of the Commission in Case No 97 of 2020.

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 for the Koradi and Nashik Units by taking all possible measures to bring the energy charge within 5% of approved rate. The Commission notes that for the month of July 20, energy charge of only Koradi 8-10 Unit is beyond 5% of the approved charge for the reasons mentioned in the above para 5.12.

5.14 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	-	-	NA
Bhusawal Unit 04 & 05	3.267	2.799	-0.468	-14.33%
Khaperkheda Unit 1 to 4	2.808	2.686	-0.122	-4.34%
Khaperkheda Unit 05	2.458	2.409	-0.049	-1.99%
Nashik TPS	3.394	-	-	NA
Chandrapur Unit 03 to 07	2.539	2.357	-0.182	-7.17%
Chandrapur Unit 08 and 09	2.453	2.248	-0.205	-8.36%
Paras Unit 03 and 04	2.989	2.443	-0.546	-18.27%
Parli Unit 06 and 07	4.000	-	-	NA
Parli Unit 08	3.830	-	-	NA

Power Station	Approved Energy Charge Rs/kWh	Actual Energy Charge Rs/kWh	Difference Rs/kWh	Difference %
Koradi Unit 06 and 07	3.136	-	-	NA
Koradi Unit 08,09,10	2.284	2.525	0.241	10.55%
GTPS Uran	2.683	1.787	-0.896	-33.40%

5.15 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. The Commission notes that all the generating station except Koradi 8-10 Unit is having rate lower than approved by the Commission in the Tariff Order. It is also noted that MSPGCL has been able to lower the energy charge of Koradi from Rs 2.95/kWh in April 2020 to Rs 2.52/kWh in July 2020. 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.

5.16 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. Also, considered actual data for opening stock wherever available and where the actual data is not available consider the average of Jan'2020 to March'2020 period
- b. GCV – As Received: GCV is considered based on the results available at each Station from their respective Station Laboratory

5.17 During scrutiny of FAC submissions, it was observed that Opening Inventory Details of Coal of Koradi, Bhusawal and Paras units did not match with Closing Inventory Details of June 2020. In response to data gaps raised by the Commission, MSEDCL submitted that the opening inventory cost for July 20 is lower than the closing inventory cost for June 2020, as the coal mine specific costs are reduced by the station considering the decision by MSPGCL for not paying the costs.

5.18 It was observed that methodology for computation of cost of consumption of coal considered by MSPGCL varies for each station. The Commission has already issued directions on this issue while approving the FAC for the month of April 2020 on 4 August, 2020. However, it is observed that MSPGCL is yet to implement the directions of the Commission in respect of computing the coal cost using weighted average of coal stock.

In its reply to datagaps to the query raised by the Commission on the said issue, it has requested the Commission to review the earlier direction and allow consideration of usage-based costs instead of the weightage average based costs in view of the following reasons

- MYT order dated 30.03.2020 in Case No. 296 of 2019 has allowed a maximum margin of 525 kcal/kg for the difference between “As billed” GCV and “As Received” GCV, the maximum margin allowed for the stacking loss for non-pit head stations is 120 kcal/kg
- The three GCV inputs are part of the coal sourcing process of supply-receipt-storage-usage. If we start from the usage end i.e. “As fired” GCV, for maintaining the synergy the GCV inputs for the same coal at corresponding places along the supply chain are essential. If such synergy is not maintained, the computed GCV loss based on such different path GCVs will not be proper representative.
- If the weighted average GCV data is considered, the same will not reflect the actual received GCV and billed GCV corresponding to the actual bunkered coal. The weighted average coal prices and weighted average coal GCV computed for total quantity of {opening stock + purchases} may not have correlation between them. On the contrary if we are using the data corresponding to the actual coal usage, the synergy will be maintained and also the correlation between coal GCV and coal price can be easily established.
- As per the MYT Regulations, 2019, the generators have to ensure higher availability during high demand season. Thus, it has become essential for generators to ensure adequate availability of good quality coal during the high demand season. For such coal stock built up, efforts are needed to be taken for at least 2 prior months. Such coal will be stored and used during the high demand season. In case if the weighted average based pricing is considered, it will not be possible to keep such separate identity of the coal procured earlier for usage in future months. If we are doing the same only on paper coal stock, there will be major mismatch physical inventory and is improper from accounting angle also. When the coal costs are booked as per actual usage, it will be always easier to keep track of the stock in physical form as well as in accounting.
- In case the coal prices are considered as per weighted averages, there will not be any special advantage to the generator to use the coal with adequate flexibility for achieving cost benefit. e.g. as submitted by MSEDCL in Case No. 97 of 2020, for the units at Mouda and Solapur, the NTPC has been arranging coal from cheaper sources from May’20 onwards as compared to their sources till April’20 and has reduced the VC by more than 30 paise per unit since May’20. It is submitted that the coal stock with these NTPC units at the beginning of May’20 must be of costly coal (based on purchases till end of April’20). It is further submitted that NTPC is considering only the cheaper coal costs and not factoring the opening coal stock

prices, otherwise it is difficult to reduce the VC by this much amount. To provide such facility to MSPGCL also, there is need to allow it to consider “usage based coal costing” methodology

- MSPGCL is already trying to maintain the energy charge within the given 5% limit. Thus, even with the usage-based coal cost booking there may not be much wide variation in energy charge which can affect predictability of power purchase cost of MSEDCL.
- It is further submitted that with any of the method followed for computing the coal cost the impact is shown on variable cost of Bhusawal and Koradi whereas for rest of the stations, there is no significant difference in coal cost.

5.19 Based on the aforesaid submissions, the Commission’s view are as given below:

- MSPGCL has been following weighted average method of coal cost computation at its few stations i.e. Chandrapur, Paras and Bhusawal under the framework of new MYT Regulations, 2019 and the MYT order of the Commission wherein all the three GCV’s required for the computation for the energy charge are being considered. MSPGCL has computed Energy Charge considering the maximum GCV loss of 525 kcal/kg and stacking loss of 120kcal/kg for all the stations wherein weighted average method is being followed. MSPGCL has to follow the said methodology at its other stations wherein usage-based methodology is being used. Accordingly, the contention that provisions of MYT Regulations and MYT order can be followed only in case of usage-based method of coal costing is not tenable as MSPGCL itself is following the said Regulations in its stations at Chandrapur, Paras etc. The principles and methods adopted should be applied consistently from one period to another and for all Stations for reasonable uniformity.
- It is not correct to content that generator has to maintain availability only during high demand season and plan accordingly by building quality stock of coal. Further, the generator is expected to maintain its Availability throughout the year to recover its fixed cost and supply power to Discom. It is pertinent to note that discretion of usage of coal if left to the generator may lead to situation wherein generator may use high cost coal during high demand season as being reasonably assured of being dispatched and low cost coal during low demand season for getting dispatched. Also, carrying such inventory till the period of utilisation during high cost coal also results into carrying cost of such inventory and affects the working capital of the Utility. Such discretion cannot be left to the Generator. Accordingly, the Commission is of the view that weighted average rate of computing coal cost should be followed by MSPGCL at all its stations as similar methodology is also being followed by other generators within the State and is also being adopted by MSPGCL for few of its own stations.

- The issue of flexibility of using coal to reduce the variable cost was raised by MSEDCL in light of pandemic like situation wherein NTPC has taken certain steps to reduce the cost. On the other hand, MSPGCL has not adhered to the FUP approved by the Commission and the Commission has directed MSPGCL to take appropriate steps in the remaining period of FY 2020-21 to comply with the FUP approved by the Commission. In normal circumstances, such a situation would not arise. Further, the generator is expected to take necessary proactive steps to reduce the coal cost based on market conditions to reduce the variable charges and benefit the consumers.
- In respect of the contention of variation in energy charges, the Commission has perused the data of coal purchase cost for the month of July and closing inventory stock for the said month. It appears that coal purchase cost for the month is more or less same as the closing value of the stock without any significant difference. Also, since the coal is procured from CIL, the coal purchase price is likely to be in the same range without any significant variation unless there is a variation in Grade of coal allocated from CIL or in case there is any change in the price as notified by CIL. Accordingly, the Commission is of the view that the post 6 months of start of financial year, the old stock might have been fired for generation of fire and the coal stock in the inventory may be related to the recent coal allocation and therefore, following the weighted average method for station where usage-based method is being used for computing the coal cost will not have significant impact on energy charge.
- The Commission in Regulation 50.7 of MYT Regulations 2019 has also clearly provided a mandate for calculation of energy charges on the basis of Average GCV of coal in stock and received as well as weighted average landed cost incurred for the corresponding coal. Therefore, logically the GCV and landed price of coal needs to be calculated for same batch of coal available in the inventory or is fired for generating power and as mandate in the Tariff Regulations, the same is required to be undertaken on weighted average basis:

“50.7 Adjustment of ECR [Fuel Surcharge Adjustment] on account of variation in price or heat value of fuels

Any variation in Price and Gross Calorific Value of coal/lignite or gas or liquid fuel as billed by supplier less actual stacking loss subject to the maximum stacking loss of 85 kcal/kg or 120 kcal/kg, as the case may be, vis-a-vis approved values shall be adjusted on month to month basis on the basis of average Gross Calorific Value of coal/lignite or gas or liquid fuel in stock received and weighted average landed cost incurred by the Generating Company for procurement of coal/lignite, oil, or gas or liquid fuel, as the case may be for a power Station:

.....”

- Also, considering the IND AS (Accounting standard) for valuation of Inventory, it clearly states that the cost of inventories of items which can be

segregated for specific projects should be assigned by specific identification of their individual costs (Specific identification method). All other items cost should be assigned by using the first-in, first-out (FIFO), or weighted average cost (WAC) formula. The formula used should reflect the fairest possible approximation to the cost incurred in bringing the items of inventory to their present location and condition.

22. The cost of inventories, shall be assigned by using the first-in, first-out (FIFO) or weighted average cost formula. Inventories with a different nature or use, different cost formulas may be justified.

- The Commission has given directions in August 2020 while approving the FAC for the month of April 2020. The said directions are not yet implemented by MSPGCL. The Commission in the present approval has reiterated its directions to follow weighted average method for computing coal cost and expects that MSPGCL will implement the same with immediate effect. The Commission is wary of the fact that the month of October has already commenced and MSPGCL would have already raised FAC bills for the month of September 2020 as per its existing methodology. Accordingly, the Commission directs MSPGCL to raise the FAC bill from October 2020 onwards as per the weighted average method of computation of coal cost.

5.20 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. During the pendency of the MYT Order in respect of relaxation of norms related to GCV loss, MSPGCL extended the agreement of DIL post 31 March 2020 with the condition that the quoted tariff of Rs. 2.889 per unit to be reduced by 30 paise per unit (i.e. Rs. 2.589 per unit) till further clarity on treatment of GCV and post issue of Tariff Order, the calculation of GCV and the financial impact of the same will be considered. The Commission in MYT Order in Case No. 296 of 2019 dated 30 March 2020 allowed the relaxation of 225 kCal/kWh in loss of GCV in addition to 300 kCal/kg as per MYT Regulations, 2019, for FY 2020-21. The Commission clearly specified that the above relaxation would be applicable to only raw coal including the case IV generators (if any) which have lower GCV on account of Grade Slippage between Loading and Unloading end, and moisture effect. However, pending the process of reconciliation and finalizing the calculation of GCV, MSPGCL has continued to raise provisional bill at the rate of Rs. 2.589/kWh as against the discovered tariff of Rs. 2.889/kWh. For the month of July 2020, MSEDCL has purchased 118.85 MUs from DIL at Rs. 2.589/kWh as against approved variable cost of Rs. 3.39 for Nashik Unit. The Commission notes that this has resulted in substantial savings to consumers. The same is considered by the Commission for FAC computation. As and when final bill is raised by MSPGCL, the Commission will consider the said differential cost in future FAC approvals.

- 5.21 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.
- 5.22 Considering the overall cost of MSPGCL thermal/gas stations, the average power purchase cost is Rs. 4.56/kWh as against Rs. 4.38/kWh approved in the Tariff Order. The higher average power purchase cost is mainly due to fixed cost being distributed over lower generating units.
- 5.23 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
July 2020	(146.18)	62.50	(83.68)

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

- 5.24 It was observed by the Commission that MOD rates considered by MSPGCL for 12 July to 31 July 2020 are different/lower than Variable Cost approved for the Month of May 20. In response to query raised by the Commission, it was submitted that invoices for coal from Mine Specific Sources are to be corrected to notified price as per communication to Western Coalfields Ltd, there was need to reduce the coal cost booking and accordingly, the impact of reduction in coal stock price was needed to be reflected in the variable rates to be considered for the MOD stack for month of July 20. Accordingly, MSPGCL reworked the variable rates computed during May 2020 computation and such reworked rates were submitted for MOD stack for July 2020. It was further submitted that the impact of the reduced variable charge for May 2020 was not passed on to MSEDCL as the final decision on the prior-period differential amount is being taken by MSPGCL management. Also, as the Part-II of FAC billing for April 2020 onwards, in line with the direction by Hon'ble Commission, vide order dated 10.06.2020 in Case No. 97 of 2020 based on actual GCV as per CIMFR reports is yet not done by MSPGCL, the reduction of coal price based on decision of non-payment of mine-specific charges will be factored while carrying out the Part-II FAC bill computations and accordingly credit benefit, if any, will be passed on to MSEDCL. The Commission is of the view that MSPGCL has already computed the reduced variable charge and submitted the same to MSLDC for MOD operations for the month of July 2020. The Commission is unable to fathom the fact why the said benefit is not passed to MSEDCL and ultimately to consumers as per the normal practice of passing on the difference in fuel cost through FAC. The final adjustment considering actual GCV as per CIMFR reports can be done by MSPGCL and appropriate debit/credit adjustments as and when done will be considered by the Commission. It would not be correct to wait for the said final adjustments for passing on the credit of lower variable cost to MSEDCL/consumers when MSPGCL has already

computed the same and considered the same in MOD operations. Accordingly, the Commission has worked out the differential of energy charge approved in May 2020 and considered by MSPGCL for MOD operations and accordingly considered the additional amount of FAC credit of Rs 47.58 Crore. The details are as given below:

Power Station	May 2020 - Actual Energy Charge Rs/kWh (A)	MOD Rate for July 2020 - Rs/kWh (B)	May 2020- MUs (C)	Difference in Rate - Rs/kWh D=(A-B)	Amount Rs. Crore (D*C)
Bhusawal Unit 03	-	3.421	-	-	-
Bhusawal Unit 04 & 05	3.089	2.846	38.3	-0.243	-0.93
Khaperkheda Unit 1 to 4	2.47	2.219	401.9	-0.251	-10.09
Khaperkheda Unit 05	2.231	2.008	317.1	-0.223	-7.07
Nashik TPS	-	3.592	-	-	-
Chandrapur Unit 03 to 07	2.59	2.426	760.8	-0.164	-12.48
Chandrapur Unit 08 and 09	2.454	2.315	624.2	-0.139	-8.68
Paras Unit 03 and 04	2.738	2.625	266.7	-0.113	-3.01
Parli Unit 06 and 07	3.112	3.01	4.8	-0.102	-0.05
Parli Unit 08	3.085	2.983	71.7	-0.102	-0.73
Koradi Unit 06 and 07	-	3.239	-	-	-
Koradi Unit 08,09,10	2.935	2.766	269.1	-0.169	-4.55
GTPS Uran	1.793	1.793	-	-	-
Total			2754.5		-47.58

NTPC:

5.25 MSEDCL has purchased total 2347.88 MUs of power from NTPC's Stations as compared to approved MoD stack of 2302.77 MUs during the month of July 2020. It was observed that certain stations of NTPC viz: Solapur, Gadgarwara though not part of MOD stack approved by the Commission but were despatched to the extent of 67 MUs only 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.

5.26 The Table below shows the variation in power purchase in terms of per unit variable charge, per unit fixed charge and average power purchase cost for NTPC's generating stations for July 2020.

Particulars	Approved for July 2020						Actual for July 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	2,302.77	1.90	436.42	431.82	1.88	3.77	2,347.88	1.72	403.27	495.56	2.11	3.83	45.11	(0.18)	0.24	0.06

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

5.27 In view of the prevailing conditions of Covid-19 pandemic in the country and the difficulties faced by various sections of society, NTPC has given rebate of Rs. 167.97 Crore on capacity charges billed for the lockdown period and deferred the Capacity charges amounting to Rs. 257.01 Crore payable without interest in three equal monthly instalments of Rs. 85.67 Crore in July, August and September 2020. Accordingly, NTPC has passed on total relief of Rs. 424.98 Crore. The said amount was considered by MSEDCL while computing the FAC for April 2020. However, the first instalment of Rs 85.67 Crore of the deferment done during April 2020 is being claimed by NTPC and also considered by MSEDCL in the month of July 2020. The Commission has considered the same in the FAC computation of July 2020.

5.28 It is further observed that there has been increase in fixed cost per unit due to lower schedule of few stations as mentioned above and consequently fixed cost getting distributed over remaining units. However, the lower variable cost is compensating the increase in per unit fixed cost and additional amount of Rs 85.67 Crore. Accordingly, the overall average power purchase cost is slightly higher than approved by the Commission in the Tariff Order.

5.29 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.

5.30 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
July 2020	17.01	13.57	30.58

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

IPPs

5.31 MSEDCL has long term PPA's with IPP's viz: JSW, CGPL Mundra, APML, 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, as mentioned above, 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.

- 5.32 The Commission notes that in view of lower demand and high variable charge of Rattan India and APML, MSEDCL has issued Zero Schedule during the month and purchased power from Power Exchange to optimize the power purchase cost.
- 5.33 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.
- 5.34 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 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. In response to query sought, MSEDCL clarified the 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 / bid parameters. These parameters include SHR of power plant, 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 IPP - Rs Cr	As per MSEDCL -Rs Cr
APML 125	-	-
APML 440	-	-
APML 1200	-	-
APML 1320	63.88	37.65
RIPL 450	-	-
RIPL 750	-	-
CGPL	10.61	9.98
GMR	6.38	4.57
JSW	4.97	4.48
Total	85.83	56.68

- 5.35 Thus, on an overall basis considering the above impact the average power purchase cost from IPPs stands at Rs. 4.36/kWh as compared to monthly approved rate of Rs. 3.83/kWh for the month of July 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 and 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 July 2020.

Particulars	Approved for July 2020						Actual for July 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
1.JSW	164.28	2.79	45.91	13.17	0.80	3.60	191.63	2.46	47.14	11.88	0.62	3.08	27.36	(0.33)	(0.18)	(0.52)
2.Mundra UMPP	438.07	2.01	87.93	40.03	0.91	2.92	529.17	1.97	104.22	43.79	0.83	2.80	91.10	(0.04)	(0.09)	(0.12)
3.Adani Power	1,782.40	2.41	429.31	231.23	1.30	3.71	792.30	2.03	161.18	234.33	2.96	4.99	(990.11)	(0.37)	1.66	1.29
4.Emco	116.36	3.23	37.54	14.41	1.24	4.46	127.50	3.09	39.34	16.63	1.30	4.39	11.14	(0.14)	0.07	(0.07)
5.Rattan India	-	-	-	57.71	-	-	-	-	3.35	58.81	-	-	-	-	-	-
6. Sai Wardha	-	-	-	-	-	-	132.06	2.65	34.98	17.66	1.34	3.99	132.06	-	-	-
Total IPPs (1 to 6)	2,501.11	2.40	600.68	356.55	1.43	3.83	1,772.66	2.20	390.22	383.11	2.16	4.36	(728.45)	(0.20)	0.74	0.54

Variable charge inclusive of other charges, CIL etc.

5.36 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
July 2020	(278.79)	94.89	(183.91)

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

Short Term Power Purchase

5.37 MSEDCL has purchased 247.42 MUs at average rate of Rs. 2.71/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

5.38 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.

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

Particulars	Approved for July 2020						Actual for July 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
MSPGC L-Hydro*	279.98	-	-	23.05	0.82	0.82	216.60	0.26	5.57	16.48	0.76	1.02	(63.38)	0.26	(0.06)	0.19
MSPGC L-Hydro Lease rent	-	-	-	47.28	-	-	-	-	-	47.09	-	-	-	-	-	-
1.Non-Solar	1,789.00	4.93	882.61	-	-	4.93	1,023.73	4.73	484.37	-	-	4.73	(765.27)	(0.20)	-	(0.20)
2.Solar	392.00	3.62	141.82	-	-	3.62	376.12	4.01	150.68	-	-	4.01	(15.88)	0.39	-	0.39
Renewable Energy including REC (1 to 2)	2,181.00	4.75	1,035.27	-	-	4.75	1,399.85	4.54	635.05	-	-	4.54	(781.15)	(0.21)	-	(0.21)
Others-KAPP, TAPP, Dodson etc	543.09	2.65	143.68	0.76	0.01	2.66	466.36	2.22	103.75	0.76	0.02	2.24	(76.72)	(0.42)	0.00	(0.42)

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

5.40 As seen from the aforesaid table, MSEDCL has purchased 216.60 MUs of Hydro Power as per variable cost approved by the Commission. This being the cheapest source of power has helped 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 which has happened in this month also.

5.41 MSEDCL had considered other charges of Rs (36.58) Cr as other charges for KAPP, MSEDCL submitted that Kakrapar 1 & 2, NPCIL vide Credit Note dated 23.05.2020 has informed that as per revised fuel rate notified by DAE w.e.f. 2009-10 onwards, Tariff component-Fuel Adjustment Charge is reduced and credit for the same is Rs. 106.39 Cr. Out of Rs. 106.39 Cr, KAPS 1 & 2 has adjusted Rs. 70.26 Cr against outstanding amount of MSEDCL in June 2020 and balance amount is be adjusted in the present month. Accordingly, MSEDCL has considered the credit of Rs (36.58) Cr in the month of July 2020.

5.42 It is observed that Solar and Non-Solar energy purchased in July 2020 i.e. 1399.85 MUs was lower than approved i.e. 2181 MUs by the Commission in the Tariff order. The Commission in its data gaps has sought clarification in respect of higher average power purchase rate for solar purchase by MSEDCL than approved by the Commission. MSEDCL submitted that rates are higher due to the higher share of solar generation having higher tariff i.e. 40.96% purchase is from SECI having average power purchase cost of Rs. 4.56/kWh. and 17.21% purchase is as per old EPA having average power

purchase cost of Rs. 13.49/kWh. MSEDCL has not purchased any REC's in the month of July 2020.

ISTS Charges - PGCIL

5.43 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. 288.40 Crore towards ISTS charges payable to payable to PGCIL as against Rs. 276.79 Crore approved in the Tariff Order towards FAC computation.

Sale of Power

5.44 MSEDCL has done sale of surplus power to the extent of 21.71 MUs during the month at Rs. 3.81/kWh. With such a sale of power MSEDCL has earned revenue of Rs. 8.27 Crore.

5.45 It is observed that the out of total sale of 21.71 MUs, 5.94 MUs were sold at Rs 4.89/kWh whereas 15.77 MUs were sold on IEX at Rs 3.35/kWh. The sale realisation for MSEDCL is Rs 3.81/kWh which is higher than the marginal cost generator of MSEDCL. Accordingly, the overall realisation in respect of sale of power is Rs. 3.81/kWh has aided in lowering the APPC and benefitting the consumers. Hence, based on this the Commission has considered the actual quantum and revenue against surplus sale.

Approved Cost of Power Purchase

5.46 In view of the above, the overall cost approved in the Tariff Order and actual for the month of July, 2020 considered by the Commission is as shown below:

Particulars	Approved for July 2020						Actual for July 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 - Thermal	3,732.96	2.58	962.17	671.33	1.80	4.38	3,398.90	2.44	827.67	722.14	2.12	4.56	(334.05)	(0.14)	0.33	0.18
MSPGCL-Hydro	279.98	-	-	23.05	0.82	0.82	216.60	0.26	5.57	16.48	0.76	1.02	(63.38)	0.26	(0.06)	0.19
MSPGCL-Hydro Lease Rent			47.28							47.09						
NTPC	2,302.77	1.90	436.42	431.82	1.88	3.77	2,347.88	1.72	403.27	495.56	2.11	3.83	45.11	(0.18)	0.24	0.06
IPPs	2,501.11	2.40	600.68	356.55	1.43	3.83	1,772.66	2.20	390.22	383.11	2.16	4.36	(728.45)	(0.20)	0.74	0.54
RE including REC	2,181.00	4.75	1,035.27	-	-	4.75	1,399.85	4.54	635.05	-	-	4.54	(781.15)	(0.21)	-	(0.21)
Must Run - KAPP,	543.09	2.65	143.68	0.76	0.01	2.66	466.36	2.22	103.75	0.76	0.02	2.24	(76.72)	(0.42)	0.00	(0.42)

Particulars	Approved for July 2020						Actual for July 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	
TAPP, Dodson etc																	
Short Term	-	-	-	-	-	-	247.42	2.71	67.00	-	-	2.71	247.42	-	-	-	-
Sale of Power	-	-	-	-	-	-	21.71	3.81	8.27	-	-	3.81	21.71	-	-	-	-
PGCIL	-	-	-	276.79	-	-	-	-	-	288.40	-	-	-	-	-	-	-
Total	11,540.90	2.75	3,178.22	1,807.58	1.57	4.32	9,827.97	2.47	2,424.25	1,953.55	1.99	4.45	(1,712.93)	(0.29)	0.42	0.13	

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

5.47 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 July, 2020 to 30 July, 2020
- Lowest Cost Generators in MoD being run at higher PLF.
- Purchasing cheaper power from Power Exchange at Rs 2.71/kWh which is lower than Variable Cost of Units under shutdown.

5.48 In view of Zero Schedule given to multiple units of contracted generation, fixed cost payable to such generators being spread over lesser units being purchased has impacted the overall average power purchase cost. Further, the recovery of deferred instalment of Rs 85.67 Crore has increased the overall cost. However, the credit note of Rs 36 Cr received from KAPP, NPCIL has also aided in lowering the average power purchase cost for the month of July 2020.

5.49 Considering the above, the Commission allows the average power purchase cost of Rs.4.45/kWh for the month of July, 2020 as against Rs. 4.32/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 July, 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 July, 2020.

S. No.	Particulars	Units	July 2020
1	Average power purchase cost approved by the Commission	Rs./kWh	4.32
2	Actual average power purchase cost	Rs./kWh	4.45
3	Change in average power purchase cost (=2 -1)	Rs./kWh	0.13
4	Net Power Purchase	MU	9,827.97
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	132.01

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 April 2020, there would not be any adjustment factor for April 2020 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 July, 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 July 2020	Actual upto July 2020
1	Net Energy Input at Distribution Voltage	MU	123451.49	8,735.62	37,084.75
2	MSEDCL Metered Sales (excluding sales at EHV level)	MU	92427.90	6,984.75	26,659.51
3	Estimated Consumption of unmetered Sales	MU	8783.32	711.39	3,330.88
4	Distribution Loss (1-2-3)	MU	22240.27	1,039.48	7,094.36
5	Distribution Loss as % of net energy input (4/1)	%	18%	11.90%	19.13%
6	Excess Distribution Loss = [Actual Distribution Loss (5) - Distribution loss approved] x Net Energy Input (1)	MU	-	-	97.38
7	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	-	1.54

9.3 As seen from the above table, Distribution Loss upto July, 2020 is 19.13% which is higher than the approved Distribution Loss of 18% due to lower estimated sales considered since the meter reading has not been done due to Covid-19 pandemic. However, in the month of July 2020, MSEDCL has started actual meter reading and consumers are billed as per meter reading and the said consumers are billed by adjusting average units billed in April to June 20. This is reflected in higher sales without any corresponding input energy leading to lower standalone losses for the month of July 2020.

9.4 The comparison of Distribution Loss for the April to July 20 as compared to last year is as given below:

Particulars	Approved Loss	April	May	June	July	Cumulative upto July
FY 2020-21	18%	30%	28.47%	2.82%	11.90%	19.13%
FY 2019-20	13.26%	14.99 %	17.16 %	7.07%	12.69%	12.41%

The Commission notes that there has been significant variation in Distribution Loss. It is expected that as actual meter reading is done for all the consumers, there would be normalcy in distribution loss % and cumulative losses would converge near to approved losses. As mentioned herein above, 13% sales are still on estimated basis. Therefore, as actual meter reading percentage increase, the actual Distribution Loss figure is likely to reach near approved loss.

9.5 It is observed that MSEDCL has worked out disallowance of Rs. 6.54 Crore due to excess distribution loss considering the cumulative input energy upto July 2020 instead of considering input energy for the standalone month of July 2020. Accordingly, the

Commission has worked out disallowance on account of excess Distribution Loss of Rs. 1.54 Crore as shown in the table above.

10. Summary of Allowable Z_{FAC}

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

S. No.	Particulars	Units	July-2020 As submitted	July 2020- As Approved
1.0	Calculation of Z_{FAC}			
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	132.01	132.01
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	0.00	0.00
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	0.00	0.00
1.4	$Z_{FAC} = F+C+B$	Rs. Crore	132.01	132.01
2.0	Calculation of Per Unit FAC			
2.1	Energy Sales within the License Area	MU	8338.53	8338.53
2.2	Excess Distribution Loss	MU	413.40	97.38*
2.3	Z_{FAC} per kWh	Rs./kWh	0.16	0.16
3.0	Allowable FAC			
3.1	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.3)/10]	Rs. Crore	6.54	1.54
3.2	FAC allowable [1.4-3.1]	Rs. Crore	125.46	130.46
4.0	Utilization of FAC Fund			
4.1	Opening Balance of FAC Fund	Rs. Crore	(377.35)	(377.35)
4.2	Holding Cost on FAC Fund	Rs. Crore	(2.64)	(2.64)
4.3	Z_{FAC} for the month (Sr. N. 3.2)	Rs. Crore	125.46	130.46
4.4	Closing Balance of FAC Fund	Rs. Crore	(254.52)	(249.52)
4.5	Z_{FAC} leviable/refundable to consumer	Rs. Crore	0.00	0.00
5.0	Total FAC based on category wise and slab wise allowed to be recovered in the billing month of Jun-20	Rs. Crore	0.00	0.00
6.0	Carried forward FAC for recovery during future period (4.5-5.0)	Rs. Crore	0.00	0.00

* MSEDCL has erroneously considered excess distribution loss on cumulative input energy instead of monthly energy

10.2 It can be seen from the above table that standalone FAC for the month of July, 2020 is Rs. 130.46 Crore. As the FAC is positive, the said amount will be adjusted from the FAC Fund of Rs 377.35 Crore.

11. Recovery from Consumers:

11.1 Regulation 10.9 of MYT Regulations, 2019 provides for methodology of recovery of FAC charge from each category of consumers. The relevant extract is reproduced as below.

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

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

Where:

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

k = Average Billing Rate / ACOS;

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

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

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

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

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

11.2 The Commission allows the FAC amount of Rs. 130.46 Crore. As the FAC is positive, the said amount will be adjusted from the FAC Fund of Rs 377.35 Crore.

11.3 The Commission in its approval for the month of June, 2020 has directed MSEDCL to carry forward the approved FAC amount of Rs. (377.35) 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. (379.99) Crore.

- 11.4 Accordingly, considering the approved standalone FAC amount of Rs. 130.46 Crore for the month of July, 2020 and the same being adjusted from the FAC fund, the total balance amount in FAC fund is Rs. (249.52) Crore.
- 11.5 The Commission in Para 5.24 above has allowed surplus of Rs 47.58 Crore towards adjustment of Energy Charges by MSPGCL for the month of May 2020. Accordingly, the said amount of Rs.47.58 Crore is being added to the FAC Fund. Accordingly, the total FAC Fund of Rs. (297.10) Crore is being allowed to be accumulated in the FAC Fund and shall be carried forward to the next billing cycle with holding cost.
- 11.6 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.
- 11.7 In view of the above, the per unit Z_{FAC} for the month of July, 2020 to be levied on consumers of MSEDCL in the billing month of September 2020 is **Nil**.