

CHAPTER-10

NEW PROPOSALS

1. ToD Tariff for all HT consumers:

ToD slots / tariff which are being implemented, as approved by Hon'ble Commission, are as follows.

ToD tariff for HT-2a, HT-2b and HT-2c consumers with contract demand 500 KVA and above is compulsory. It is optional in respect of these categories for the contract demand below 500 KVA. It is also optional for HT-1 consumers, irrespective of contract demand.

Time Slots	ToD tariff charges (Rs./unit)	
	July to November	December to June
06.00 to 10.00 Hrs	0	0
10.00 to 18.00 Hrs	0	0
18.00 to 22.00 Hrs	0	1
22.00 to 06.00 Hrs	0	-1

As can be noted there is no ToD charges for the morning peak time slot 06.00 to 10.00 Hrs. This was removed in FY21 by Hon'ble Commission with intention to increase HT sales.

The Electricity Act, National Tariff Policy, National Electricity Policy and CEA (Installation and Operation of Meters) Regulations requires that ToD metering be implemented. Going forward, the Working Group Report of FOR on "Metering Issues" has recommended implementing ToD metering even for the connected load of 25 KW and above.

As such, it is desirable to implement ToD metering for all HT installations, irrespective of connected load and category of usage. Charging the energy consumption on flat rates mask the true system costs depending on season or time of day.

Given the vast variations between the peak system demand and average demand, it is pertinent to have rightly structured ToD slots with incentives and disincentives for efficient utilization of generation, transmission and distribution energy resources.

MESCOM's peak demand and average demand during the period October-2021 to September-2022 is indicated below;

Month	Peak Load MW	Date	Time	Avg. Demand MW	Avg. Morning Demand MW (6 to 11 Hrs)	Avg. Evening Demand MW (18 to 23 Hrs)
Oct-21	734	01.10.2021	10-11 hrs	534	538	583
Nov-21	715	11.11.2021	18-19 hrs	534	542	586
Dec-21	980	31.12.2021	09-10 hrs	635	648	689
Jan-22	1230	31.01.2022	11-12 hrs	861	886	850
Feb-22	1342	19.02.2022	09-10 hrs	1001	1025	952
Mar-22	1324	12.03.2022	15-16 hrs	1011	1047	973
Apr-22	1266	01.04.2022	09-10 hrs	814	838	792
May-22	1186	03.05.2022	09-10 hrs	634	643	661

Jun-22	812	04.06.2022	09-10 hrs	586	603	628
Jul-22	689	23.07.2022	19-20 hrs	484	491	544
Aug-22	735	18.08.2022	09-10 hrs	530	544	584
Sep-22	804	30.09.2022	10-11 hrs	557	574	610

Hence, MESCOM requests to approve disincentive for morning & evening peaks, incentives for day & night off-peaks and no ToD charges for normal usages in day & night, as follows;

Time Slots		ToD tariff charges (Rs./unit)	
		July to November	December to June
06.00 to 10.00 Hrs	PEAK	Rs.1.00	Rs.1.50
10.00 to 15.00 Hrs	Off-peak	(-) Rs.0.75	(-) Rs.0.75
15.00 to 18.00 Hrs	Normal	0	0
18.00 to 22.00 Hrs	PEAK	Rs.1.00	Rs.1.50
22.00 to 24.00 Hrs	Normal	0	0
24.00 to 06.00 Hrs	Off-peak	(-) Rs.0.75	(-) Rs.0.75

2. Grid Support charges / Parallel Operation charges for Captive Power Plants:

The Parallel Operation is defined as activity where one electrical system operates with the connectivity to another system in similar operating conditions. The CPPs opt for parallel operation to seek safety, security and reliability of operation with the support of a much larger and stable system as afforded by the grid. Captive Power Plants that are running in parallel with grid are continuously taking the support of grid for their captive and process operations.

Advantages to Captive Power Plants:

1. The fluctuations in the load are absorbed by the utility grid in the parallel operation mode. This will reduce the stresses on the captive generator and equipment. The bulk consumer can operate his generating units at constant power generation mode irrespective of his load cycle.
2. Fluctuating loads of the industries connected in parallel with the grid inject harmonics into the grid. The current harmonics absorbed by the utility grid is much more than that by CPP generator. These harmonics flowing in the grid system are harmful to the equipment and are also responsible for polluting the power quality of the system.
3. Negative phase sequence current is generated by unbalance loads. The magnitude of negative phase sequence current is much higher at the point of common coupling than at generator output terminal. This unbalance current normally creates problem of overheating of the generators and other equipment of CPP, if not running in parallel with grid. When they are connected to the grid, the negative phase sequence current flows into the grid and reduces stress on the captive generator.
4. Captive power plants have higher fault level support when they are running in parallel with the grid supply. Because of the higher fault level, the voltage drop at load terminal is less when connected with the grid.
5. On account of increase in plant load factor of captive generator, additional revenues can be generated by the CPPs by sale of surplus power to the utility.
6. In case of fault in a CPP generating unit or other equipment, bulk consumers can draw the required power from the grid and can save their production loss.

7. The grid provides stability to the plant to start heavy loads like HT motors.
8. The variation in the voltage and frequency at the time of starting large motors and heavy loads, is minimized in the industry, as the grid supply acts as an infinite bus. The active and reactive power demand due to sudden and fluctuating load is not recorded in the meter.
9. The impact created by sudden load throw off and consequent tripping of CPP generator on over speeding is avoided with the grid taking care of the impact.
10. The transient surges reduce the life of equipment of the CPP. In some cases, the equipment fails if transient is beyond a limit. If the system is connected to the grid, it absorbs the transient load. Hence, grid enhances the life of CPP equipment.

Disadvantages of Parallel Operation to Utility

1. Load fluctuations of captive consumer are passed on to the utility's system thereby the efficiency of utility's system may be affected, which may also impact on utility's other consumers.
2. In case of an ungrounded (or grounded through resistance) system supply, fault on interconnecting line (consumer's side) results in interruption of system. For single phase to ground fault which are 80 to 85% of the short circuit fault level, the grounding of the system is achieved through the neutral or step down transformer of the utility, when the generator runs in parallel with the utility's grid. This supply is likely to cause damage to the terminal equipment at utility's sub- stations and line insulators, as voltage on the other two healthy phases rise beyond the limit, under such conditions.
3. The utility has to sustain the impact of highly fluctuating peak loads like that of arc furnace, rolling mill, etc. for which it does not get any return on the capital invested to create system reserve.
4. The variation in reactive power requirement increases the system losses and lowering of the voltage profile. Utility has to bear the cost of such effects.
5. The lower voltage profile and fluctuations affect the service to the neighboring consumers due to deterioration in quality of supply, thus resulting in revenue loss to the utility.
6. Non-recording of high fluctuating / sudden active and reactive demand by the meter results in financial losses."

It is ascertained that the Grid Support Charges/Parallel operation charges are being levied on Captive Generators in the states of Gujarat, Chattisgarh, Madhya Pradesh and Tamil Nadu. Further, Discoms of Odisha have filed petitions under their respective ERCs in this regard. The applicability and charges of the Grid Support Charges/Parallel Operation Charges in various states are as follows:

S.No.	States	Grid Support Charge rate
1	Gujarat	Rs. 26.50 per KVA per month
2	Chattisgarh	Ps. 13.02 per kWh
3	Madhya Pradesh	Rs. 20.00 per KVA per month (Installed capacity of CPP (less load corresponding to auxiliary consumption))
4	Tamilnadu	Rs.30 per kW per month on the installed capacity of CPP/ Co-generating plants (less the OA quantum) agreed upon with distribution licensee as per the EWA.
5	Odisha	Rs.28.66/kVA/month (Petition filed by OPTCL before OERC for approval)

In MESCOM 20 Nos of captive / group captive consumers are existing as on 31.03.2022 who are utilizing grid.

The computation of grid support charges/Parallel Operation Charges from the captive consumers is as tabulated below;

Sl.No.	Particulars	Unit	Values
1.	Projected Annual Revenue Requirement for FY22	Rs. In Cr.	5214.40
2.	Generation Load		
a.	KPCL Thermal	MW	291.33
b.	KPCLHydel	MW	521.96
c.	Raichur Power Corporation Limited	MW	130.48
d.	Central Generating Stations	MW	405.40
e.	Jurala	MW	9.83
f.	Damodhar Valley Corporation	MW	36.70
g.	Udupi Power Corporation Limited	MW	57.81
h.	Renewable Energy Sources	MW	801.24
i.	Total	MW	2254.75
3.	Parallel Operation Charges [1/2i]	Rs./unit	2.64
4.	Captive / Group Captive Consumption	MU	204.60
5.	Parallel Operation Charges @ Rs. /unit	Rs. In Cr.	54.01

As such, Hon'ble Commission is requested to approve for collection of Grid Support Charges/Parallel Operation Charges @ Rs.2.43/unit from the captive consumers.

3. Proposal to increase Demand charges for HT consumers:

Increased Open Access / wheeling & banking transactions by the HT consumers are substantially impacting the finances of ESCOMs. The prime issues that are coming up in the course of operationalization of Open Access / wheeling & banking transactions as below;

- Frequent shifting of Open Access consumers: Due to this it is unable to manage power procurement efficiently.
- Cross Subsidy Surcharge: CSS determined by the Hon'ble Commission is insufficient to recover the entire loss of cross subsidy.
- Group captive consumers: The number of group captive consumers is increased over the years. The group captive consumers are exempted from paying cross subsidy surcharge and additional surcharge. The actual consumption by each of the captive user is only calculated at the end of the year. Even if the captive user does not comply with the

conditions of group captive he enjoys the benefit till the end of year. This results in financial loss to the Company.

Although two part tariff has been introduced, the structuring of fixed and variable components of tariff is not reflective of the actual proportion of fixed and variable cost liability. As the fixed/demand charges is substantially less and energy charges is more, many HT Consumers are moving away from grid and opting for Open Access.

Under the two-part tariff mechanism, the total expenditure of distribution company can be divided into two parts viz., Fixed Cost and Variable Cost. The Marginal Costing principles which envisage two part cost bifurcation envisages recovery of fixed cost in full at the first instance (which is termed as contribution) followed by recovery of variable cost. Accordingly, the loss area, break-even point, profit area and margin of safety are computed to ascertain the performance and its impact.

The Fixed expenditure of MESCOM is contributing 63% of the total cost and Variable expenditure contributing 37% of the total cost.

Breakup of Fixed and variable charges approved and actual as per accounts for FY22 is tabulated below:

Particulars	Approved			Actual		
	Fixed	Variable	Total	Fixed	Variable	Total
Generation	740.11	1780.34	2520.45	690.11	1381.23	2071.34
Transmission	538.34		538.34	508.49		508.49
Distribution	1448.86		1448.86	1135.21		1135.21
Total	2727.31	1780.34	4507.65	2333.81	1381.23	3715.04
Sales in MU			5718.71			5161.71
Composition per unit cost (Rs./Unit)	4.77	3.11	7.88	4.52	2.68	7.20
	60%	40%	100%	63%	37%	100%

The revenue realization through retail power tariff should have been in the above proportion. However, the Revenue earned by MESCOM (based on approved tariff) from tariff comprise of Fixed cost recovery at 16% and Variable cost collected is 84% of the total fixed cost.

Breakup of fixed/demand charges and Energy charges received for FY-22 is tabulated below:

Particulars	Rs.in Cr.		
	Fixed / Demand Charges	Variable Charges	Total
LT consumers	451.30	2348.85	2800.15
HT consumers	188.30	913.58	1101.88
Misc.,	-	51.68	51.68
Total	639.60	3314.11	3953.71
	16%	84%	

Since the contribution of fixed charges is only 16% of the average realization rate the balance i.e. 47% (63%-16%) is concealed in the energy charges. Hence, the energy charge seems to be on a higher side. This is foremost reason for tapping HT consumers

by generators. If the Demand/Fixed charges which is masked in the energy charges are separated then the variable cost can be reduced. Hence, it is proposed for increasing the fixed charges for HT consumers.

Further, as against the total fixed costs of Rs.2333.81 Cr, for FY22, the component of fixed cost in the tariff i.e., Rs.639.60 Cr works out to only 27%. This aspect has been rightly appreciated by the Hon'ble Commission in the Discussion Paper on the "Recovery of Fixed Charges in the Electricity Bills".

Hence, in order to reflect the actual share of fixed cost in the revenue requirement of Distribution licensees, there is need to enhance recovery through fixed charges. The fixed charge shall be so set that it leads to recovery of 100% of the fixed costs of Distribution Licensees.

The Hon'ble Commission is requested to increase the demand charges at least for the HT consumers. This will not only help MESCO to charge reflective proportion of fixed cost but also helps in developing the competence to participate in the open market to attract the consumers.

To substantiate the proposed change in structure of tariff, **MESCO** has collected the details of demand charges prevailing in other States. The following table indicate the Demand Charges for HT Industrial category consumers prevailing in other States. **MESCO** submits that the fixed/demand charges in the neighbouring/other states are relatively higher than those approved for **MESCO**. Such charges eventually lead to appropriate fixed charge recovery for these States.

Madhya Pradesh:

Sub-Category of consumer	Monthly Fixed Charge (Rs./kVA of billing demand per month)	Energy Charge for consumption up to 50% load factor (paise/ unit)	Energy Charge for consumption in excess of 50% load factor (paise /unit)
Industrial			
11 kV supply	372	720	620
33 kV supply	597	716	611
132 kV supply	682	675	576
220/400kV supply	682	630	530
Non-Industrial			
11 kV supply	337	755	665
33 kV supply	485	738	640
132 kV supply	575	690	580
Shopping malls			
11 kV supply	345	735	660
33 kV supply	400	725	620
132 kV supply	530	675	600

Power intensive industries			
33 kV supply	608	550	550
132 kV supply	742	526	526
220 kV supply	742	520	520

Kerala:

HT-1(A)-Industries	
Demand Charges Rs. /Unit	390
Energy Charges Rs. /Unit	6.10

Andhra Pradesh:

HT-I(A): General		Fixed/Demand Charges / Month (Rs.)	Energy Charges Rs./Unit
132 KV and above	kVAh	475	5.40
33 KV	kVAh	475	5.85
11 KV	kVAh	475	6.30

Tamil Nadu:

Category	Rs. / KVA	Rs. / Unit
HT Industries (HT-1A)		
Fixed charges	550/kva/month	
Energy charges		6.75
Railway traction		
Fixed charges	550/kva/month	
Energy charges		6.75
Govt. Educational institution		
Fixed charges	550/kva/month	
Energy charges		6.75
Pvt. Educational institution		
Fixed charges	550/kva/month	
Energy charges		6.75
HT commercial		
Fixed charges	550/kva/month	
Energy charges		6.75

MESCOM has proposed increase in Demand Charges and uniform tariff rates for all units Consumed. The Hon'ble Commission is requested to increase the demand charges for HT consumers as proposed which will help MESCOM to charge reflective proportion of fixed cost in the tariff and also retain HT consumers with the Company.

4. Special Incentive Scheme and Discounted Energy Rate Scheme (DERS):

MESCOM has proposed to increase Demand Charges and reduce energy charges, in Chapter-08, considerably. Energy charges proposed for the categories HT-2a, HT-2b and HT-2c is in the range of Rs.6.50 / unit to 7.50 / unit. Hence, MESCOM requests the Hon'ble Commission to approve the proposed increase in the demand charges & reduction in energy charges and discontinue the **Special Incentive Scheme and Discounted Energy Rate Scheme (DERS)** with effect from 01.04.2023.

5. Solar Rebate for LT-2(a) category of consumers to be withdrawn:

Solar Rebate for LT-2(a) was introduced to encourage usage of environmental friendly energy i.e., solar energy and also aimed to reduced morning peak. Now in the changed scenario of increased RE power composition in the total mix and also the strengthened and highly stabled distribution network, it is not desirable to continue this rebate. As such, it is requested to remove the same.

6. Re-Classification of LT-7(b) tariff schedule under LT-3 category:

As a measure of rationalization it is proposed to classify the tariff schedule LT-7(b), applicable to Advertisement Boards and Hoardings, etc., which are on permanent connection basis, under LT-3 tariff schedule with tariff charges to be fixed at 1.5 times of LT-3 tariff.

7. Classification of Transformer Repair Centers under LT-5 category:

The Transformer Repair Centers that are in operation in the ESCOMs are not classified in the present tariff schedule. In order to have common implementation across the ESCOMs, considering the workshop nature of the activity in the Transformer Repair Centers, it is pertinent to classify the same under LT-5 category.

8. Form 10AC of Income Tax Department:

In Sl.No.25 of General Terms and Conditions of Tariff (Applicable to both HT and LT) it has been prescribed to obtain certificate Form-12A to decide whether an institution is charitable or otherwise. In this regard, it has been brought to the notice of Hon'ble Commission vide MESCOM letter dated 05.09.2022 that consequent to introduction of Section 12AB in the Income Tax Act certificate in Form-12A has been discontinued and instead Form-10C is introduced. Hon'ble Commission in the letter dated 26.09.2022 has also accorded approval to accept certificate Form-10AC. Hence, it is pertinent to incorporate Form 10AC in Sl.No.25 of General Terms and Conditions of Tariff (Applicable to both HT and LT).

9. Introduction of Telescopic Tariff for LT-2a category:

It is to ensure lower rate for lower consumption and higher rate for higher consumption. This approach will eliminate cross subsidization from other categories.

10. Merger of Urban and Rural tariff categories into one category:

At present, under LT-2a, LT-2b, LT-3 and LT-5 categories there is different tariff charges for urban and rural consumers. In these categories, tariff charges of urban consumers are kept slightly higher considering the comparatively better power supply position. This was introduced in 2010. Now quality and reliability of power supply at rural areas has been improved far. Hence, it may not be appropriate to continue with the separate tariff charges for urban & rural areas. However, the rural consumers can be given rebate titled "rural rebate" to compensate any probable deficiencies in the services. Accordingly, MESCOM is proposing to remove urban & rural differentiation existing under LT-2a, LT-2b, LT-3 and LT-5 tariff schedules.

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