Tariff Rationalization

Measures for Tariff Rationalization

Tata Power-DDL, requests the Hon'ble Commission to determine Tariff structure in such a manner that the total revenue to be realized should be able to meet the expenditure including past recoveries of the Licensee.

Tata Power-DDL proposals on "Tariff Rationalization" are as follows:

1. Time Bound Recovery of Regulatory Assets / Revenue Gap

We would like to draw your kind attention to the Judgment dated 11th Nov 2011 in OP No. 1 of 2011 of Hon'ble Appellate Tribunal for Electricity (APTEL) regarding *Tariff Revision (Suo-Moto action on the letter received from Ministry of Power)* where-in the Hon'ble APTEL has emphasized on timely recovery of regulatory assets.

The relevant observation of the Hon'ble Tribunal in the said matter is as under:

*"65 (iv)..... **The recovery of the Regulatory Asset should be time bound and within a period not exceeding three years** at the most and preferable within Control period. Carrying Cost of the Regulatory Asset should be allowed to utilities in the ARR of the year in which the Regulatory Assets are created to avoid problem of cash flow to the Distribution Licensee."*

The concern on creation of regulatory assets in future and the need for timely liquidation of the Regulatory assets has also been emphasized in the National tariff Policy. The relevant extracts have been reproduced below:

> *"8.2.2 The facility of a regulatory asset has been adopted by some Regulatory Commissions in the past to limit tariff impact in a particular year. This should be done only as a very rare exception in case of natural calamity or force majeure conditions and subject to the following:*

a. Under business as usual conditions, no creation of Regulatory Assets shall be allowed;

b. Recovery of outstanding Regulatory Assets along with carrying cost of Regulatory Assets should be time bound and within a period not exceeding seven years. The State Commission may specify the trajectory for the same."

"8.3(2) For achieving the objective that the tariff progressively reflects the cost of supply of electricity, the Appropriate Commission would notify a roadmap such that tariffs are brought within ±20% of the average cost of supply. The road map would also have intermediate milestones, based on the approach of a gradual reduction in cross subsidy."

The Hon'ble Commission since its tariff order dated 13th July 2012 and till date has allowed for an additional surcharge of 8% **towards recovery of past accumulated deficit /regulatory assets.**

Regulatory assets got created due to non-cost reflective tariff for previous years. Thus, in order to fund the said Regulatory assets, Tata Power-DDL is availing loans from the market and also paying interest on the same to the banks/FIs. However, current 8% surcharge is not sufficient to recover even the interest cost of Regulatory Assets. It is pertinent to mention that the said surcharge is not sufficient to ensure recovery of entire Revenue Gap in stipulated timeframe.

It may be appreciated that the major part of the Regulatory Asset has been hovering on the petitioner for more than 12 years and recovery of the high accumulated gap continues to remain a concern for the financial health of the Petitioner, given that there is no clear roadmap stipulated for recovery of the same.

The build-up of Regulatory Assets is given below as per book of records:

Gap between Commission Approved and Books of Accounts is Rs. 3,459 crore up to FY 20

The license to Tata Power-DDL was issued with effect from 12th March 2004 for a period of 25 years which expires on 11th March 2029. As evident, the license has balance period of seven (7) years. Hence, any further addition of Regulatory Assets should be avoided.

Credit rating agency ICRA in its last rating has also expressed his concerns on the liquidation prospects of regulatory assets. Even a one notch down in credit rating from existing level will impact our interest rate by around 70-90 basis points. Also, absence of clear cut roadmap for the liquidation of regulatory asset severely impacts the future lending rates. Therefore, an early amortization of such huge built up Revenue Gap would further help in sustenance of the current credit rating of the Petitioner, ultimately resulting into lower cost of debt and saving of the carrying cost to the benefit of the consumers.

Recently, banks have also starting raising concern for granting Capex loan for tenure beyond license period.

The Hon'ble Commission is requested to increase the **Regulatory Surcharge to 15% from current 8%** and give an amortization schedule with annual recovery of the accumulated Revenue Gap along with Carrying Costs and impact of true up of previous year may be allowed in the ARR & Tariff of subsequent year to avoid further accumulation of Regulatory Asset.

2. Rationalization of Tariff by matching recovery of fixed cost of DISCOMs from fixed part of Retail supply Tariff

We have analysed the cross subsidy of different categories of consumers as allowed by the Hon'ble Commission in True up orders of Tata Power-DDL from FY 13 to have a more realistic understanding. Progressive reduction of cross subsidies of domestic consumer has been reversed in last two years. In fact instead on reducing trend, the cross subsidy of domestic customers has increased from 30% (FY13) to 57% (FY22) in last nine years.

Further, the Hon'ble Commission released an approach paper on Tariff Rationalization in Feb'18, wherein it agreed that in the present scenario, there is a mismatch between the actual Fixed and Variable Cost liability incurred by DISCOMs to the proportion of cost recoverable through Fixed Charge and Energy Charge. As a way forward, the Hon'ble Commission had proposed that the bifurcation between Fixed charges and Energy charges should be adjusted gradually, say over a period of three to five years, so as to make the retail tariff reflective of the actual Fixed Cost, so as to minimize the Cross Subsidy between Fixed & Energy Charges. At present, recovery from fixed charges is only **17.30%** against the **56.40 %** fixed cost of the ARR.

Percentage of fixed cost catered through Retail Tariff for Trued Up years

Particulars	FY 19-20	FY 18-19	FY 17-18	FY 16-17
Fixed cost provided in True Up	4190.79	3999.48	4006.71	3820.29
Fixed cost collected from consumers	1267.18	1422.91	534.53	476.94
Percentage of fixed cost catered through Retail Tariff	30.24%	35.58%	13.34%	12.48%

One of the objectives of the Tariff Policy is to ensure creation of adequate capacity including reserves in generation, transmission and distribution in advance for reliability of supply of electricity to consumers as per Section 4 (i) of the Tariff Policy. Lower recovery of fixed costs of a distribution utility from the Fixed Charges increases the variability of recovery of its costs as recovery of Energy Charges depends on the consumption thereby pushing the distribution utility to cut down on building efficient network.

There is an urgent need of gradual balancing of the fixed charge recovery from the consumers through tariff with the fixed charge obligation of the distribution utilities. The details of applicable fixed charges in Domestic Category for FY 18-19 and FY 2021-22 for various states like Delhi, Maharashtra (MSEDCL), UP and Rajasthan is given below. It is only in Delhi that the fixed charges have been reduced creating a mismatch in recovery of fixed cost as Fixed Charge forming part of the Tariff.

State	Domestic Slab	FY 21-22	FY 18-19
Delhi	Upto 2 kW	20 Rs./kW/month	125 Rs./kW/month
	> 2kW and ≤ 5 kW	50 Rs./kW/month	140 Rs./kW/month
	> 5kW and ≤ 15 kW	100 Rs./kW/month	175 Rs./kW/month
	>15kW and ≤ 25 kW	200 Rs./kW/month	200 Rs./kW/month
	> 25kW	250 Rs./kW/month	250 Rs./kW/month
Maharashtra (MSEDCL)	All loads	Single Phase : Rs.102 per month Three Phase - Rs. 340 per month	Single Phase : Rs.80 per month Three Phase - Rs. 300 per month
Uttar Pradesh (Govt. Owned DISCOMs)	All loads	Rs. 110.00 / kW / month	Rs. 100.00 / kW / month
Rajasthan (FY 19-20 & FY 18-19)	Consumption upto 150 units/month	Rs. 230/ connection / month	Rs. 200/ connection / month
	Consumption above 150 units and upto 300 units/month	Rs. 275/ connection / month	Rs. 220/ connection / month
	Consumption above 300 and upto 500 units/month	Rs. 345/ connection / month	Rs. 265/ connection / month
	Consumption above 500 units/month	Rs. 400/ connection / month	Rs. 285/ connection / month

In light of the facts highlighted above and in the interest of consumer and financial viability of the Delhi DISCOMs, the Hon'ble Commission is requested to kindly **revert to the fixed charges of FY 2018-19** and specify a trajectory in increase in Fixed Charge so as to ensure full recovery of fixed costs from fixed charges considering our submissions and ensure that the ensuing tariff should be cost reflective for each category of consumer as well as recover fixed cost of DISCOMs from fixed part of Tariff.

3. Progressive Tariff rationalization in Domestic Consumer Segment as per Electricity Act & National Tariff Policy and Non-Telescopic Tariff for high consuming Domestic Consumers:

One of the salient objectives of the electricity reforms beginning with the Electricity Act, 2003 (EA 2003) was reduction in the level of cross subsidies in tariff. The EA 2003, the National Electricity Policy, 2005 and the Tariff Policy, 2016 specify the framework to reduce cross subsidies in retail tariffs in India.

The EA 2003 prescribes that cross subsidies in electricity tariffs should be reduced. It was envisioned that post reforms, tariffs would progressively move towards cost of supplying electricity to consumers. Wherever subsidization is required (in case of Lifeline consumers, agriculture etc.), the EA 2003 favored a more transparent method of direct subsidies over cross subsidies.

But even after 17 years of power sector reforms, the Delhi Electricity Tariff is yet to achieve significant progress in reducing cross subsidies prevailing in the system. Instead of reducing the cross subsides, the cross subsidies of domestic consumers has increased in recent years.

Cross Subsidy as per Tata Power-DDL Tariff Order FY 2021-22

S. No.	Category	ACoS (Rs./unit)	ABR at Revised Tariff (Rs./unit)	Cross Subsidy (Rs./unit)	Cross-subsidy with respect to ACoS (%)
A	Domestic	7.64	4.35	3.29	43.06%
B	Non- Domestic	7.64	10.9	-3.26	-42.67%
C	Industrial	7.64	9.39	-1.75	-22.91%
D	Agriculture	7.64	4.3	3.34	43.72%
E	Public Utilities	7.64	7.65	-0.01	-0.13%
G	E-Vehicle Charging Stations	7.64	4.5	3.14	41.10%

Cross Subsidy burden is exceptionally high for domestic consumers. In fact, such high Cross Subsidy burden has not been provided for any other category except Agriculture and EV charging stations. Hence, it is submitted that there is a need for rebalancing of the Tariffs for domestic category. This would enable rationalisation of the Cross Subsidy across categories while at the same time creating a predictable and level playing field.

It is proposed that the category-wise Energy Charges be such that the cross-subsidy with respect to the ACoS across consumer categories is reduced from the present levels, and the Tariff of most of the consumer categories comes within the +/-20% of the ACoS as suggested in the Tariff Policy 2016.

The absence of the cost reflective tariff in the past years has resulted in creation of the Regulatory Asset and Delhi DISCOMs have already been facing problem of non-liquidation of this accumulated Revenue Gap in time bound manner creating a liquidity crunch situation. Further, the concern on creation of Regulatory Assets in future and the need for timely liquidation of the Regulatory Assets has also been emphasized in both the Tariff Policy, 2016 and amendments to the Tariff Policy.

Further on comparison of Different Slabs of Domestic Tariff of Delhi with Mumbai, it can be observed that the highest slab in Mumbai starts from 501 Units while in Delhi the Highest Slab Starts from 1200 Units. The Tariff of Highest Slab in Mumbai is INR 11.82 per unit while in Delhi it is INR 8 per unit

MSEDCL-Maharashtra				Tata Power-DDL-Delhi				
	Fixed charges	Energy charges	ACoS	Fixed charges		Energy charges		ACoS
Unit slab	Rs./ Connection/ Month	Rs./unit	(Rs./ unit)	Sanctioned load Slab	Rs./ kW/ month	Unit slab	Rs./unit	(Rs./unit)
				Upto 2 kW	20	0-200	3.0	7.64
0-100	102	3.44	7.10	> 2kW and ≤ 5 kW	50	201-400	4.5	7.64
101-300	102	7.34	7.10	> 5kW and ≤ 15 kW	100	401-800	6.5	7.64
301-500	102	10.36	7.10	>15kW and ≤ 25 kW	200	801-1200	7.0	7.64
501-1000	102	11.82	7.10	> 25kW	250	>1200	8.0	7.64

This clearly indicates that the domestic consumer in Delhi are highly cross subsidized even at higher consumption level of > 400 Units and highest slab of domestic tariff need to be brought down from current 1201 unit to 401 unit to make tariff equal to cost of supply.

Consumption is getting higher and higher in Delhi with changing times and lifestyle changes. Domestic category have lower tariffs for lower consumption slabs and as the consumption increases, tariff also increase. But the high consuming ones also get the benefit of lower tariff according to the slabs. A domestic consumer in Delhi on an average should have a consumption not more than 400 units a month.

In order to deter the high consumption consumers and to limit their consumption and keep it at some lower level, the benefit of lower tariff slabs of domestic category should be disallowed to those consuming more than 400 units a month. For consumers using more than 400 units, one flat rate should be specified without any slabs. This will help reduce wasteful consumption,

contribute in combating climate change, make consumers more energy saving conscious and will help only the economically weaker sections to take the benefit of cheaper power on lesser consumption.

For the reasons cited above, the Hon'ble Commission may kindly notify a separate flat rate for high consumption in Domestic Category.

Further, Following is the summary of ratio of ABR to PPC as per approved ARR over past 5 years:

As per Tariff Order					
FY	PPC per kwh	ACOS per kwh	ABR – Domestic	ABR / PPC	ABR / ACOS
FY 17-18	5.63	7.63	5.87	104%	77%
FY 18-19	5.19	7.34	5.42	104%	74%
FY 19-20	5.44	7.32	4.96	91%	68%
FY 20-21	5.34	7.40	4.73	89%	64%
FY 21-22	5.55	7.64	4.35	78%	57%

By analysing above table it can be concluded that as the % of ABR / ACoS is reducing from 77% in FY 17-18 to 57% in FY 21-22 (i.e. cross subsidy is increasing from 23% to 43%) & the DISCOM is even not in position to recover its approved PPC.

Delhi Electricity Tariff is yet to achieve significant progress in reducing cross subsidies prevailing in the system. Instead of reducing the cross subsides, the cross subsidies of domestic consumers is being increased.

Therefore in view of above submission, it is requested to the Hon'ble Commission:

1. Non-Telescopic Domestic Tariff for those consuming more than 400 units a month. Current slabs are at 0-200,201-400,401-800,801-1200 & > 1200 units. This will change to 0-200, 201-400 & >400 units (Non-telescopic). Non-telescopic Tariff is already

Implemented in states like Haryana, Assam, Kerala, Tripura, Jharkhand and Arunachal Pradesh.

2. Rationalization in tariff in line with paying capacity of consumers. Tariff for Unit Slabs of 200-400, >400 units may be rationalized as these are a relatively smaller base of consumers and can afford to pay as per cost of supply.

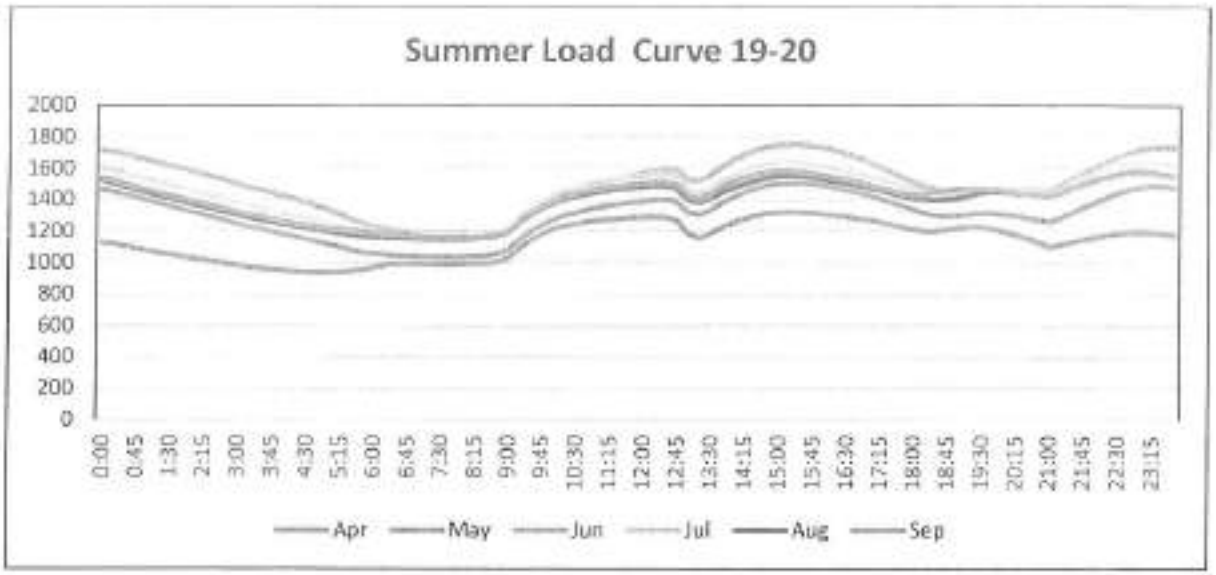
4. Review of ToD Tariff

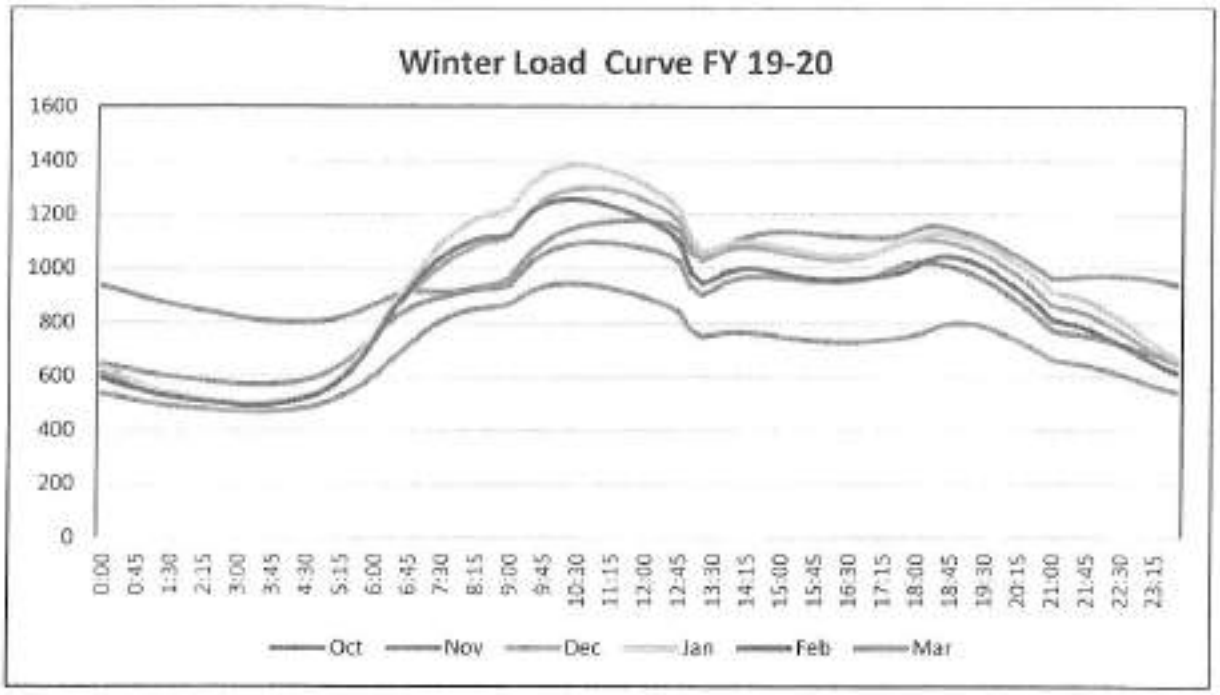
The Hon'ble Commission, in its Tariff Orders dated 13.07.2012 and 29.09.2015 implemented ToD Tariff wherein peak hour consumption is charged at a higher rate reflecting the higher cost of power purchase during peak hours. At the same time, a rebate was offered on consumption during the off-peak hours. This was meant to incentivise customers to shift a portion of their loads from peak hours to off-peak-hours thereby improving the system load factor, flatten the load curve and optimize the cost of power purchase which constitute over 80% of the tariff charged from the consumers. Both these steps were envisaged to facilitate flattening of the load curves for the DISCOMs.

Hon'ble Commission, in its Tariff Order dated 29.09.2015 had reviewed the ToD time slots and restricted the applicability of ToD Tariff for the period May – September instead of the whole year as below:

Months	Peak Hours	Surcharge on Energy Charges	Off-Peak Hours	Rebate on Energy Charges
May-September	1300-1700 hrs and 2100-2400 hrs	20%	0300-0900 hrs	20%

The aforesaid ToD Tariff is applicable since last 6 years and hence, Tata Power-DDL requests the Hon'ble Commission to review its performance basis the load curves noticed during the summer months [April – September] and winter months [October – March] in its distribution area as below:





As evident from above,

1. Two distinct peaks and two distinct off-peak periods are noticed in the load curves for summer as well as winter months.

2. **Summer:**
   a. Peak Periods: 0000 – 0100 hrs, 1300 – 1700 hrs. and 2100 – 2400 hrs;
   b. Off-peak Period: 0300 – 0900 hrs.

3. **Winter:**
   a. Peak Periods: 0600 – 1200 hrs, and 1700 – 2200 hrs;
   b. Off-peak Period: 0000 – 0400 hrs.

4. Base load of 1400 MW is noticed during April – September and 900 MW during October – March.

5. While the average power purchase cost at base load @ 1400 MW April – September and @ 900 MW during October – March is almost the same based on the Merit Order Despatch (MOD) principles, the power purchase cost increases by ~ 150% to meet the peak load during April – September and~ 30% to meet the peak load during October - March.

Accordingly, Tata Power-DDL submits the following proposal to the Hon'ble Commission for approval on applicability of the Time of Day (ToD) Tariff from 01.04.2022 onwards:

Months	Peak Period	Surcharge on Energy Charges	Off-Peak Period	Rebate on Energy Charges
April – September	0000 – 0100 hrs. 1300 – 1700 hrs. 2100 – 2400 hrs.	50%	0300 – 0900 hrs.	20%
October - March	0600 – 1200 hrs. 1700 – 2200 hrs.	20%	0000 – 0400 hrs.	20%

5. Green Power Tariff for consumers with less than 1 MW sanctioned load and Non-Open Access consumers

Ministry of Power, GoI had issued guidelines dated 22.03.2021 regarding exiting from conventional plants which are more than 25 years old. As Renewable Tariffs have reduced considerably over a period of time, further tie ups would reduce the Power Purchase costs and ultimately would reduce the end consumer Retail Tariffs. There are schools, institutions, hospitals and other large consumers who may be having sustainability goals; they will also get benefit by opting for such green tariff and meet sustainability goals.

Tata Power-DDL seeks to enhance the Renewable Energy consumption amongst the consumer base of Tata Power-DDL on voluntary basis. Tata Power-DDL also wishes to encourage procurement of Renewable Power amongst our consumers through supply of 100% Renewable Power on payment of Green Power Tariff in the form of surcharge which will be in addition to applicable Retail Tariff as approved by the Hon'ble Commission from time to time. Mechanism proposed as above would boost Renewable Power tie ups and exit from conventional sources of energy. Green Power Tariffs would not have negative impact on the existing Retail Tariffs but would operate as cost plus model in the form of surcharge over existing Retail Tariffs and would be totally voluntary in nature.

Consumers have opted for Renewable power under open access but such a prerogative is available only to consumers with 1 MW of sanctioned load and above. Green Power Tariff being voluntary in nature will give choice to consumers who have not opted for open access or are having sanctioned load of less than 1 MW to opt for Renewable power. The extra charges for procurement of Renewable Power being charged from specific customers would not increase the cost to be borne by other consumers. Tata Power-DDL would be buying power at economical rates leading to reduction of power purchase costs and Tariffs.

Even the Electricity Act, 2003 mandates promotion of Renewable Energy by the Appropriate Commission as given below in the following Sections of the Act:

"Section 61. (Tariff regulations):

The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely:-

.....

(h) the promotion of co-generation and generation of electricity from renewable sources of energy;

....."

***"Section 86. (Functions of State Commission):** --- (1) The State Commission shall discharge the following functions, namely: -*

.....

(e) promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;"

.....

Also worth noting is that the National Tariff Policy, 2016 in its objectives, lists the promotion of generation of Electricity through Renewable Sources and the relevant extract is reproduced below:

"4.0 OBJECTIVES OF THE POLICY

The objectives of this tariff policy are to:

.....

(e) Promote generation of electricity from Renewable sources;

....."

Green Power Tariff is proposed to be calculated as difference of conventional Energy Charge Rate (ECR) and Renewable Tariff for existing tie ups from which power is scheduled in FY 2021-22 in line with methodology of Karnataka Electricity Regulatory Commission and Maharashtra Electricity Regulatory Commission.

The weighted average Tariff of Renewable Power in our licensed area is Rs. 3.62/unit while for Energy Charge Rate (ECR) of Conventional power is Rs. 2.88/unit. This indicates that the Green Power Tariffs are around Rs. 0.75/unit higher as compared to Energy Charge Rate (ECR) of conventional power.

The Hon'ble Commission is requested to allow Green Power Tariff on voluntary basis at premium of difference of conventional and Green Power for our consumers and also allow Tata Power-DDL to account this power in its RPO obligation and to carry forward the excess to next year.

A detailed petition, Petition No. 32/2021, has already been filed by Tata Power-DDL. The Hon'ble Commission may specify Green Power Tariff as part of this tariff proceedings and may dispose off the petition already filed.

6. Additional Incentive Options

Hon'ble Commission has notified incentives on the following parameters in 2017 through Tariff Regulations and Business Plan Regulations:

- Distribution Loss;
- Collection Efficiency;
- Sale of Surplus Power.
- Incentive Sharing Mechanism for Re-Financing of Loan

Incentives have motivated DISCOMs to reduce distribution losses to less than 8%. Collection efficiency has reached 100% and rate of sale of surplus power has been increasing. These incentives have made DISCOMs achieve and exceed the targets and move in the right direction at a faster pace which in turn helps in optimization of Annual Revenue Requirement.

As DISCOMs have reached to almost optimized values for above notified incentives, we request the Hon'ble Commission that few new parameters for incentives/penalties be notified for areas which can help in improving reliability, customer satisfaction and optimization of ARR. Hence, we propose following new parameters for incentives:

S. No.	Parameter on which Incentive proposed	Incentive proposed	Rationale for this proposal / Remarks
1	**Availability of Network**	Network Availability can be computed in accordance with the following formula: Network Availability = (1-(SAIDI / 8760)) x 100 • The target Network Availability shall be 98%. • For every 0.10% over-achievement in Network Availability, rate of return on equity shall be increased by 0.10%, subject to ceiling of additional rate of Return on Equity of 1.00%. The System Average Interruption Duration Index (SAIDI) shall be calculated in accordance with the definition specified in Delhi Electricity Regulatory Commission (Supply Code and	Network availability is of utmost priority as it ensures reliability of supply to consumers. Though 100% network availability is impossible due planned maintenance at some time or the other, there are some controllable factors which can be looked into to avoid interruptions and designing the system so as to factor in the outages and provide alternatives for continuity of supply. Such efforts to maintain continuity of supply at all times above a certain limit of say 98%, needs efforts which can overcome challenges. Incentivising such efforts will help motivate the company to perform still better and ensure consumer delight.

S. No.	Parameter on which Incentive proposed	Incentive proposed	Rationale for this proposal / Remarks
		Performance Standards) Regulations, 2017: ***System Average Interruption Duration Index (SAIDI)*** *which means the average duration of sustained interruptions per consumer occurring during the reporting period, determined by dividing the sum of all sustained consumer interruptions durations, in minutes, by the total number of consumers.*	
2	Performance Assurance Compliance % for Power Supply Failures as defined in Supply Code as follows: 1. Power Supply Failure – Target 95% 2. Scheduled Outage (shall not exceed twelve hours in a day and in each such event, the Licensee has to ensure that the supply is restored by 6:00PM) – Target 95%	• The target compliance % shall be 98%. • For every 0.20% over-achievement in performance assurance %, rate of return shall be increased by 0.20%, subject to ceiling of additional rate of Return on Equity of 2%.	The compliances listed here are key ones which need to be ensured. But if they are compiled in a far better way, it will ensure greater consumer satisfaction. Work done expeditiously definitely gives immense satisfaction to the consumer and enhances the way a consumer perceives the working of Distribution licensee. Incentive in the form of enhanced RoE based on performance can be provided if same is accomplished in a better way. Higher the compliance, higher is the satisfaction of the consumer and some incentive provided to distribution Licensee also helps maintain this tempo.

S. No.	Parameter on which Incentive proposed	Incentive proposed	Rationale for this proposal / Remarks
3	Adjustment in units billed on account of delay in meter reading, raising of long duration provisional bills etc.	• Incentive on limiting the adjusted units to against the cap of 1% of the total units billed. **Incentive = A^ % * ABR * Unit Billed** ^A = 1 - Adjustment in units billed in percentage	Some portion of units that was earlier not being billed, is being billed now and this will reduce the adjustment and will reflect in Billing Efficiency. As per Current Regulations, adjustment are capped at 1% and any additional adjustment will be recovered from Tata Power-DDL. Therefore any benefit due to lower adjustment should be shared with Tata Power-DDL.
4	Electricity which could not be served due to any reason what-so-ever, shall not exceed 1% of the total energy supplied in any particular month.	• Incentive on limiting the adjusted units to against the cap of 1% of the total units billed. **Incentive = A^ % * APC * Unit Billed** ^A = 1 - Electricity not served in percentage; APC = Average Power Purchase Cost;	Some portion of electricity that was not being served earlier, is being served now and this will reduce the loss and will reflect in the Dist. Loss Reduction incentive. That portion should be treated separately.
5	RPO Compliance in any Financial Year	Incentive @ INR 0.25 per kWh for RE procured above the minimum RPO target specified by Appropriate Regulatory Commission	Such incentive mechanism will facilitate faster absorption of RE by the distribution utilities.

S. No.	Parameter on which Incentive proposed	Incentive proposed	Rationale for this proposal / Remarks
6	Incentive for installing modern technologies in substations like • Adoption of ADMS • Adoption of Robust cyber security control • Adoption of Smart grid technologies • Adoption of 100% smart metering for energy audit • Adoption of Energy storage system	Hon'ble Commission may allow creation of fund for Research and Development by allowing 1 paise/unit of sales to be used with prior approval of Hon'ble Commission. OR 1 paise/unit of sales as Incentive for implementation of latest technology calculated for the year of implementation.	• DISCOMs may be given an incentive for adoption of these modern technologies • Adoption of these technologies would result in better quality supply to customers
7	Incentive for introducing Demand Management for DISCOM consumers. Demand Management means reducing or shifting demand for electricity, as an alternative to providing supply to meet that demand. May be achieved through: **One time measures with lifelong impact**: • Energy Efficiency projects **Multiple measures with temporary impact** • Demand Response	Incentive based on: 1. **Avoided Fixed Cost of Power Purchase** of DISCOM in Rs./KW reduction: **Peak demand reduction Incentive = Avoided Fixed Cost of Power Purchase per MW * Peak Demand Reduced in MW.** 2. **Avoided cost of network:** Reduction in CAPEX involved in	Incentive be provided as it will help in : • Capex investment reduced and the RoCE forgone • Saving of Fixed Cost of Any New PPA • Reduction in Retail Tariff • Reduced capex investment leading to reduction in interest on loan and Return on Equity payment by Consumers. • Reliability and customer satisfaction • Avoided carbon emissions • Energy Saved • Enhancement of Reliability • Reduction of unserved energy

S. No.	Parameter on which Incentive proposed	Incentive proposed	Rationale for this proposal / Remarks
		Distribution due to peak reduction: **Incentive for CAPEX reduction = Average Per MW N/W Capex Cost as per Discom Yearly Capitalisation * Peak Demand Reduction in MW** This component be shared with consumers on 50:50 basis.	• Enhancement of customer satisfaction

7. EV Charging Stations Tariff should have Fixed charges while Energy Charges of both Public Utility and EV Charging Stations should be equal to ACoS

The National Tariff Policy remains the overarching guidance for the SERCs to fix Tariffs, according to which, consumer tariffs should be brought within +- 20% of ACoS (relevant clause 8.3.2 reproduced below). In the context of India's cross-subsidy tariff regime, this essentially means that the subsidized consumers should not be charged less than 80% of ACoS.

> *"For achieving the objective that the tariff progressively reflects the cost of supply of electricity, the Appropriate Commission would notify a roadmap such that tariffs are brought within ±20% of the average cost of supply. The road map would also have intermediate milestones, based on the approach of a gradual reduction in cross subsidy."*

Ministry of Power had issued guidelines for charging infrastructure of electric vehicles which require the State Commissions to decide the tariff of EV public charging stations as per Tariff policy i.e on cost of supply basis.

We would like to highlight the following points in this regard.

A. EV charging category is a subsidized category as of now and its tariffs are less than the cost of supply.
B. It is well known that fuel prices are at a record high and consumers are making their ends meet with great difficulty and in these circumstances if they are to additionally bear the cross subsidy for those who are using Electric Vehicles, it amounts to double burden on the common man since he has to pay for his fossil fuel based mode of transport and also subsidize those who use EV.
C. SERC in each state is responsible for determining Tariff for different consumer categories. The energy and demand charges for EV charging, which are two parts of the Tariff, are found to vary across states.

State	ACoS (Rs.)	Energy Charges (Rs.)	Fixed Charges (Rs./KW or KVA)
Andhra Pradesh	6.37	6.7	0
Meghalaya	5.94	LT-9.7, HT-9.9	LT-120, HT-230
Odisha	5.25	LT-6.2	LT-200

D. The Tariff issued by Hon'ble Commission has only Energy charges and no fixed charges are levied.

Further, DISCOMs need to establish and maintain infrastructure and network corresponding to the Sanctioned / connected load of the Consumers to ensure uninterrupted power supply irrespective of the fact whether such load demand is actually used or not but the DISCOM is required to have such infrastructure in place. Hence the fixed charges need to be charged at least corresponding to the sanctioned load and not below it.

Moreover, subsidies are given by Governments to those who have been identified by them to be requiring financial support. In the Power Sector, Governments have been giving subsidies

in Electricity Tariffs particularly for Domestic and Agriculture Categories. This way the cost of electricity is kept within the reach of the poor.

The Provision of Subsidy by State Government in EA 2003 is reproduced below:

> ***Section 65. (Provision of subsidy by State Government):***
>
> *If the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the State Commission under section 62, the State Government shall, notwithstanding any direction which may be given under section 108, pay, in advance and in such manner as may be specified, the amount to compensate the person affected by the grant of subsidy in the manner the State Commission may direct, as a condition for the licence or any other person concerned to implement the subsidy provided for by the State Government:*

> *Provided that no such direction of the State Government shall be operative if the payment is not made in accordance with the provisions contained in this section and the tariff fixed by State Commission shall be applicable from the date of issue of orders by the Commission in this regard.*

Cross-Subsidizing the entities that are Government Owned in reality is giving subsidy to the Government and to the Government owned utilities like Delhi Jal Board, Railway Traction, Delhi Metro Rail Corporation and Public Lighting which are considered under the category of Public Utilities.

Accordingly, we would request the Hon'ble Commission to keep the Tariffs for Public Utility and EV Charging Stations at the average cost of supply and thus ask Government to pay any subsidy required directly to Public Utilities.

In addition to the above, we also request the Hon'ble Commission to introduce fixed charges for EV charging Stations to allow for recovery of infrastructure costs as per the prevalent practice in other states.

8. For Domestic Category fixed charges should be levied on billing demand and surcharge on excess load.

For all categories other than domestic, fixed charges are levied based on billing demand. Further, a surcharge of 30% is levied on the fixed charges corresponding to excess load beyond sanctioned load / contract demand during such billing cycle. The sanctioned load is enhanced based on the highest of an average of Maximum Demand readings recorded as per billing cycle covering any four consecutive calendar months in the preceding financial year and not immediately on exceeding the sanctioned load. Hence, the charges on enhanced load are collected only after the completion of the relevant financial year of usage which is delay in recovery of cost according to load used by the domestic consumer which is not the case for other categories.

For Domestic consumers, there is no timely updation by the consumer of enhanced load being used by them since there is no surcharge levied on excess load. This leads to excessive use of electricity which has a definitive impact on the electricity network. DISCOMs have to arrange for network augmentation since network has to be in conformity with load being supplied. Such excessive load at times leads to burning of meter and enhances consumer indiscipline.

Fixed charges for Domestic consumers if levied on billing demand will help recover costs according the actual usage of the consumer. Also, the surcharge on excess load will help ensure discipline amongst Domestic consumers.

In the interest of consumer and financial viability of the power sector, the tariff should be cost-reflective i.e. the Tariff should be determined to recover the entire ARR requirement to avoid any creation/ accumulation of regulatory asset in a year as the funding of the regulatory asset also results in carrying cost burden on the consumers.

Hence, we request the Hon'ble Commission to allow levy of fixed charges for domestic category on billing demand and allow levy of surcharges as applicable to other categories.

9. Reduction of Pension Trust Surcharge and shifting of the liability beyond 3.8% to GoNCTD.

In the current Retail Tariff structure for electricity consumers, 7% is levied towards funding of pension trust liability and same is collected from the customers by the DISOCMs and given to Pension Trust for further disbursal.

(A) Under funding of Initial Corpus

The initial contribution made by the Govt. of NCT of Delhi amounting to Rs. 1,329 crores based on the actuarial valuation report provided by SBI Caps on 1st July 2002 did not take into account the following major components:

I. Medical reimbursement and other expenses like LTA etc.
II. Future Pay Commission impact and
III. Data for the employees retired during 31st Mar 2000 to 30th June 2002 i.e. a period of 27 months.

Actuary valuation Report dated 1st April 2007 of Mr. M. L. Sodhi has mentioned underfunding of initial corpus to the extent of Rs. 1,253 crores even without considering medical reimbursement etc. and was based on assumption which did not consider the impact of forthcoming pay commissions.

(B) Management of Pension Trust

The Hon'ble Commission has already shown reservation on management of Pension Trust Fund. This can be further understood with the following facts:

I. There is no period actuarial valuation done despite mandated in the Trust Deed Rules, recommendation of Auditors and orders of Hon'ble High Court. Currently, we are in the dark about the determination of pension liability. On this issue, Pension Trust Auditors in their Audit Report for FY 2012-13 has made serious adverse comments.

II. The Hon'ble Commission in their advice dated 11th Sep 2012 has asked for forensic audit and compliance status be submitted every quarter to the Govt. of NCT of Delhi and Commission but the same has not been complied so far.

(C) Guarantee of GoNCTD to meet any short fall

I. Hon'ble Delhi High Court, vide its Judgment dated 16th Sep 2002 in Writ Petition bearing W.P. (C) No. 1864/2002 titles as *Ashok Kumar v. Government of NCT of Delhi & Anr.* has recorded that the GoNCTD had guaranteed to meet any shortfall in corpus of the Pension Trust at any stage. However, repeatedly, GoNCTD has not stepped up to meet its burden to provide the said funding.

II. In the Tripartite party agreement, it is clearly mentioned that all past liability because of terminal benefits of DVB employees shall be funded by GoNCTD.

III. Chapter 8 of Information Memorandum published by GoNCTD on 22nd Nov 2001 clearly referring that past liabilities and past losses of DVB are not to be passed on the successor entities.

(D) Monetary Contribution by Tata Power Delhi Distribution Limited.

As part of interim and adhoc arrangement, one mechanism was developed and requirement of fund for pension trust was billed into the transmission charges collected by DTL from Tata Power-DDL which was Rs. 700.74 Crores from FY 2011-12 to FY 2016-17 which includes the payment done in the last two financial years only on humanitarian grounds though there was stay granted by Hon'ble APTEL in favor of Tata Power-DDL.

From FY 2017-18 onwards different mechanisms were developed by Hon'ble Commission by levying Pension Trust Surcharge on electricity consumers beginning from 3.7% (effective from 1st Sep 2017) which was increased to 3.8% w.e.f 1st Apr 2018 and now the same is levied @ 7% since 1st Oct 2021.

The above contribution is in addition to the monthly amount paid by Tata Power-DDL to Pension Trust towards Pension Contribution and Leave Salary Contribution.

(E) Impact of 7th Pay Commission

The current request made by GoNCTD to Hon'ble Commission for seeking funds for FY 2021-22 is a whooping amount of Rs. 2426 Crores (Rs. 1046 Crores for routine pension liabilities and Rs. 1380 Crores towards 7th Pay Commission benefits to be recovered in three annual installments). This substantial increase caused unwarranted burden on the consumers of Delhi and resulted in increase of Pension Trust Surcharge form 5 to 7%.

In view of the above facts, we hereby propose that the rate of Pension Trust Surcharge should be restricted to 3.8% only and any additional requirement of funds by Pension Trust should be fulfilled by GoNCTD. By doing so, not only consumer shall be unburdened but also there would be compliance of court order and fulfillment of commitments given by GoNCTD at the time of privatization of DVB.

If same is not done then there would always be increase in Pension Trust Surcharge in almost every Tariff Order as experienced in past which tantamount to be injustice with the consumer as they are being burdened with the inefficiencies and mismanagement existing in the operation of Pension Trust as highlighted above.

10. Levy of Surcharge on all residential connections under temporary supply

In recent tariff orders issued by the Hon'ble Commission, surcharge on residential connection under temporary supply category has been removed in line with residential co-operative group housing connections. While the applicability of the same for residential co-operative group housing connections is understandable, however including "other" residential connections in this category may be avoided due to following reasons:

a) Apparently now, there is no motivation for residential consumers to switch from temporary to permanent connection as he is availing temporary connection at the same tariff.

b) Also it will create a lot of safety concerns, since, there is no standardization of cables used by consumers. Also, there is chance of theft by tapping the service cable used by consumer.

c) Further, there is a scope of misuse of existing permanent connection as consumer will not ask for temporary connection for construction of additional floor/units by consumer as there is no fear of any penalty etc. on account of misuse. *(being on same tariff)*

d) Temporary connection cannot be denied as per supply code, and there is possibility that consumer will use the same and will not go for permanent connection which is provided subject to feasibility.

e) Already domestic consumer is subsidized and excluding surcharge from long term temporary connection is like providing them double benefit.

f) Also, Tata Power-DDL procures long term power based on the demand of the existing consumers and not for the temporary connections (based on load demanded), for which Tata Power-DDL has to make temporary arrangement in terms of procuring additional power on short term basis, which is at much higher rates as compared to long term power being procured on a regular basis.

We have come across levy of surcharge in Tariff Orders of different states where surcharge is 1.5 to 2 times of Energy Charge and Fixed Charge or atleast 10% extra on EC. Brief details are given below:

Dadra and Nagar Haveli-Tariff for Temporary Connection shall be Fixed/ Demand charges (if any) plus energy charges (for relevant slab, if any) under corresponding permanent supply category plus 50% of both.

Odisha- The tariff for the period of temporary connection shall be at the rate applicable to the relevant consumer category with the exception that Energy Charges shall be 10% higher in case of temporary connection compared to the regular connection.

Connections, temporary in nature, shall be provided as far as possible with pre-paid meters to avoid accumulation of arrears in the event of dismantling of the temporary connection etc.

Goa- Tariff shall be Fixed/ Demand charges (if any) plus energy charges (for relevant slab, if any) under corresponding permanent supply category plus 50% of both.

Haryana- .....the tariff and charges for 'temporary' supply shall be 1.2 times fixed charges and 1.5 time the energy charges of the relevant category for which 'temporary' supply has been sought. While releasing electricity supply on temporary basis the Discoms must mention the period for which temporary supply has been sought and given. In case the said period gets extended for whatever reasons the multiplication factor for both Fixed Charge and Energy Charge shall be 2 times.

Lakshwadeep- 1.5 times the rate applicable to the relevant category of consumers.

Puducherry- Tariff for Temporary Connection shall be Fixed/ Demand charges (if any) plus energy charges (for relevant slab, if any) under corresponding permanent supply category plus 50% of both.

Considering above points, we request the Hon'ble Commission to allow levy of surcharge on all residential connections under temporary supply category at 1.5 times of fixed and energy charges.

11. Revised methodology for LPSC

It has been observed that few consumers are taking undue benefit of change in the methodology for calculation of LPSC on daily basis as well as regulation of 15 days' notice period before disconnection. Some frequently defaulting consumers have made the habit of paying the bill after due date but well before completing the 15 days of notice period as a result of which Tata Power-DDL is neither able to disconnect consumer supply nor able to charge full month LPSC. This is seriously hampering our efforts for reducing AT&C losses and is affecting honest paying Consumers. Further, it is unnecessarily increasing DISCOM's operational expenditure for sending DN and Follow Up for payment. Therefore, the Petitioner requests the Hon'ble Commission to modify guidelines as follows at least for High End Consumer with Load > 10 KW as amount involved is very high:

a) The Consumers who default the payment twice or more in last six month should not be given the additional notice period of 15 Days in case consumer defaults bills and the bill itself should be treated as disconnection Notice.

b) The Consumers who default the payment twice or more in last six month, Full Month LPSC should be levied on consumer in case of default and the surcharge should be 2% per month or part thereof.

We have come across levy of higher Delayed payment surcharge in Tariff Orders of different states. Brief details are given below:

Daman & Diu- Delayed payment surcharge shall be applicable to all categories of consumers. Delayed payment surcharge of 2% per month or part thereof shall be levied on all arrears of bills. Such surcharge shall be rounded off to the nearest multiple of one rupee. Amount less than 50 paisa shall be ignored and amount of 50 paisa or more shall be rounded off to the next rupee. In case of permanent disconnection, delayed payment surcharge shall be charged only up to the month of permanent disconnection.

Dadra and Nagar Haveli - Delayed payment surcharge shall be applicable to all categories of consumers. Delayed payment surcharge of 2% per month or part thereof shall be levied on all arrears of bills. Such surcharge shall be rounded off to the nearest multiple of one rupee. Amount less than 50 paisa shall be ignored and amount of 50 paisa or more shall be rounded off to the next rupee. In case of permanent disconnection, delayed payment surcharge shall be charged only up to the month of permanent disconnection.

Manipur- If payment is not received within due date surcharge @ 2% at simple interest on the outstanding principal amount for each 30 days successive period or part thereof will be charged, until the amount is paid in full.

Andaman & Nicobar-Delayed payment surcharge shall be applicable to all categories of consumers. Delayed payment surcharge of 2% per month or part thereof shall be levied on all arrears of bills. Such surcharge shall be rounded off to the nearest multiple of one rupee. Amounts less than 50 paisa shall be ignored and amounts of 50 paisa or more shall be rounded off to the next rupee. In case of permanent disconnection, delayed payment surcharge shall be charged only upto the month of permanent disconnection.

The Petitioner requests the Hon'ble Commission to implement above guidelines at least for High End Consumer (>10KW), so that honest paying and small consumers are not affected due to malpractice of frequent defaulters.

12. Charging of leading power factor while billing (kVAh billing) to High End Consumers

The present billing scenario is based on lagging reactive power only. Since the reactive lagging as well as leading power both occupy the capacity of electricity network and reduce the useful capacity of system for generation and distribution, it is necessary and imperative to include the lead Reactive Power under billing process. At present, utilities overlook leading Power Factor (PF) values while billing the consumption. This tempts consumers to use capacitors indiscriminately for availing PF incentives but it does more harm than good to the installations of both the utilities and consumers.

Consumer equipment and installation are not provided with appropriate and adequate capacitor installations but mostly with use of fixed capacitors, bulk compensation on HT in fixed mode, use of substandard controllers having erratic and inconsistent performance, thereby leading to additional Reactive (lead) Power Charges, which is causing undesirable unwarranted burden on Tata Power-DDL. It is important to note that, more particularly, during winter season, there is hardly any reactive injection, and due to high capacitive injection by high end consumers, the voltage becomes very high and sometimes so much so that it becomes difficult to control the same.

The reactive compensation is effective when it is nearer to the load and the extra reactive compensation by industrial consumers cannot be used / compensated against extra reactive energy drawl by agricultural section. Current is higher at lagging or leading power factor as compared to unity power factor and hence losses are also higher. Under leading power factor, excessive over voltages may occur thus endangering the system stability. As a result, in both situations, system stability of Tata Power-DDL is hampered. Also, for serving the same load, a transformer of higher capacity is required due to increase in current due to lead power factor. In view of the above facts, it can be seen that injection of leading power factor in

excess is not always beneficial for the system. It is thus imperative that every section of consumer has to shoulder its responsibility to maintain the system power factor within permissible limits only to maintain Grid stability and full utilisation of Installed capacity of Distribution network. Absence of any punitive measures for overcompensation prompted the consumers to use capacitors indiscriminately, much in excess of their requirements. CEA mandates that power factor of the bulk consumer shall be within ± 0.95 and hence the lead power factor also has to be within prescribed limits and to maintain it, adequate reactive compensation is to be provided and its burden is also on the bulk consumer apart from the distribution licensee.

Maharashtra Electricity Regulatory Commission in its order dated 12th Sep 2018 in Case No. 195/2017 regarding **Mid-Term Review Petition of Maharashtra State Electricity Distribution Company Limited for Truing-up of Aggregate Revenue Requirement (ARR) of FY 2015-16 and FY 2016-17, Provisional Truing-up of ARR of FY 2017-18 and Revised Projections of ARR for FY 2018-19 and FY 2019-20** has kept the power factor penalties at the same rate for leading as well as for lagging power factor. **No state treats the leading power factor as unity and are not allowing incentive for leading factor.**

The most effective remedy to remove such anomaly is to introduce kVAh billing in lag as well lead mode i.e. kVARh consumption in the leading power factor mode has to be taken in account as consumption. Introduction of kVAh metering and tariffs in lead as well lag mode will also encourage the consumers to reduce their electricity bill by ensuring that they do not draw reactive power and switch over to using efficient devices with proper power factor correctors or will install only appropriate capacitors at their premises.

Therefore, to ensure better quality and reliable supply of power for the consumers, it is proposed to charge even the leading power factor cases on kVAh basis so that the injection by high end consumers (More than 30 KVA) is as per their actual requirement and proper voltage is maintained for all the consumers. It will not only be helpful and beneficial for Tata Power-DDL but also for the concerned consumers.

The Petitioner requests the Hon'ble Commission to incorporate appropriate and necessary modification/changes/additions in the ensuing Tariff Order.

13. Surcharge on Excess drawal

Fixed charges as part of tariff is levied so as to be able to cover the fixed expenses / costs of DISCOMs. DISCOMs need to establish and maintain infrastructure and network corresponding to the Sanctioned / connected load of the Consumers to ensure uninterrupted power supply irrespective of the fact whether such load demand is actually used or not but the DISCOM is required to have such infrastructure in place.

In case of excess drawal by a consumer as compared to the sanctioned/connected load, the DISCOM needs to arrange the unplanned power and buy it at the available Tariff. DISCOMs need to pay more for such power and hence such consumers should also be penalized. The present levy of surcharge of 30% on the fixed charges corresponding to excess load in kW/kVA for such billing cycle is insufficient. The network usage increases as well as the energy consumption also. Hence, there is a need to penalize them on two counts viz. excess demand as well as energy consumption.

The following guidelines of States and UTs in this regard are worth considering:

Daman & Diu- The billing in case of HT/EHT shall be on the maximum demand recorded during the month or 85% of contracted demand, whichever is higher. If in any month, the recorded maximum demand of the consumer exceeds its contracted demand, that portion of the demand in excess of the contracted demand shall be billed at double the normal rate. Similarly, energy consumption corresponding to excess demand shall also be billed at double the normal rate. The definition of the maximum demand would be in accordance with the provisions of the JERC Supply Code Regulation. If such over-drawal is more than 20% of the contract demand, then the connections shall be disconnected immediately.

Dadra and Nagar Haveli -The billing in case of HT/EHT shall be on the maximum demand recorded during the month or 85% of contracted demand, whichever is higher. If in any month, the recorded maximum demand of the consumer exceeds its contracted demand, that portion of the demand in excess of the contracted demand shall be billed at double the normal

rate. Similarly, energy consumption corresponding to excess demand shall also be billed at double the normal rate. The definition of the maximum demand would be in accordance with the provisions of the JERC Supply Code Regulations. If such over-drawal is more than 20% of the contract demand, then the connections shall be disconnected immediately.

Goa- The billing shall be on the maximum demand recorded during the month or 85% of contracted demand whichever is higher. If in any month, the recorded maximum demand of the consumer exceeds its contracted demand, that portion of the demand in excess of the contracted demand shall be billed at double the normal rate. Similarly, energy consumption corresponding to excess demand shall also be billed at double the normal energy rate. The definition of the maximum demand would be in accordance with the provisions of the Supply Code Regulations notified by JERC. If such over-drawal is more than 20% of the contracted demand then the connection shall be disconnected immediately.

Lakshwadeep- The billing in case of HT shall be on the maximum demand recorded during the month or 75% of contracted demand, whichever is higher. If in any month, the recorded maximum demand of the consumer exceeds its contracted demand, that portion of the demand in excess of the contracted demand shall be billed at double the normal rate. Similarly, energy consumption corresponding to excess demand shall also be billed at double the normal rate. The definition of the maximum demand would be in accordance with the provisions of the JERC Supply Code Regulations, 2018. If such overdrawl is more than 20% of the contract demand then the connections shall be disconnected after due notice to the consumers.

Puducherry- The billing in case of HT/EHT shall be on the maximum demand recorded during the month or 85% of contracted demand, whichever is higher. If in any month, the recorded maximum demand of the consumer exceeds its contracted demand, that portion of the demand in excess of the contracted demand shall be billed at double the normal rate. Similarly, energy consumption corresponding to excess demand shall also be billed at double the normal rate. The definition of the maximum demand would be in accordance with the provisions of the Supply Code Regulations notified by JERC. If such over-drawal is more than 20% of the contract demand, then the connections shall be disconnected immediately.

Andaman & Nicobar- The billing in case of HT/EHT shall be on the maximum demand recorded during the month or 85% of the contracted demand, whichever is higher. If in any month, the recorded maximum demand of the consumer exceeds its contracted demand, that portion of the demand in excess of the contracted demand shall be billed at double the normal rate. Similarly, energy consumption corresponding to excess demand shall also be billed at double the normal rate. The definition of the maximum demand would be in accordance with the provisions of the Supply Code Regulations, 2018 notified by JERC. If such over-drawl is more than 20% of the contract demand then the connection shall be disconnected immediately.

Himachal Pradesh- In the event, the actual Maximum Demand (in kVA) recorded on the energy meter during any consecutive 30 minute block period, exceeds the Contract Demand (in kVA), the consumer shall be charged 'Contract Demand Violation Charges' (CDVC) (in Rs/ kVA) at a rate which shall be three (3) times the rate of the demand charges (DC) (referred to in para '**L**') to the extent the violation has occurred in excess of the Contract Demand.

We request the Hon'ble Commission to allow levy of rates for excess drawal as per the guidelines of UTs that if in any month, the MDI exceeds its contracted demand, the excess of the sanctioned load/ contracted demand and corresponding energy consumption shall be billed at double the normal rate and if such over-drawal is more than 20% of the contract demand, then the connections shall be disconnected immediately.

14. CERC defined APPC for compensation/payment for excess generation for prosumers

Under the Net-metering arrangement it is expected that the consumer will install Rooftop PV for self-consumption only. Surplus, if any, would not be a planned one which can be purchased by the DISCOM. Analysis of Tariff Orders of various other states also support this thought. SERCs have defined the rate at which the surplus power from Net-Metering is purchased by DISCOMs to be lower than the average power purchase cost. It is procured at APPC which is the cost of procuring the power from only the conventional sources of energy for the respective DISCOM. In this regard, rates of few such states are listed below:

a. Goa-Rs. 2.87/unit
b. Chandigarh- Rs. 3.48/unit
c. Puducherry- Rs. 3.89/unit

A case in point is that of Gujarat which is elaborated below:

Vide 2nd Amendment to GERC (Net Metering Rooftop Solar PV Grid Interactive Systems) Regulations, 2016, in the year 2020 GERC decided to replace the APPC rate to the compensation mechanism for surplus energy at the fixed rate. It felt that solar rooftop are set up primarily for self-consumption and therefore it should not be compared with solar or other generating plants set up exclusively for sale of electricity to the distribution licensee. Accordingly, the procurement rate for surplus energy injected into the licensee's grid from such plants after self-consumption should be treated differently.

Earlier looking to the overall supply- demand scenario and cost of generation from Rooftop Solar PV systems, GERC decided to keep APPC rate as procurement rate for surplus energy from such systems. However, in view of the reduction in the cost of generation as well as resultant tariff rates under competitive bidding mechanism, it felt the requirement to revisit the procurement rate by distribution licensees.

State Government also notified various policies for facilitations and promotion of Rooftop Solar PV system by Residential and MSME (Manufacturing) Enterprises.

Energy and Petrochemicals Department requested GERC to approve the rate of Rs. 2.25 per kWh for purchase of surplus energy under SURYA Scheme. Average tariff of Rs. 2.65 per kWh was discovered through competitive bidding process undertaken by GUVNL for purchase of solar power on committed capacity basis. Further, the Government also provided subsidy support under the SURYA Scheme. In view of the above, it was considered reasonable and prudent to allow tariff rate of Rs. 2.25 (85% of tariff of Rs. 2.65) per kWh so as to maintain equity between the project set up

exclusive for sale to Distribution Licensee on firm capacity basis and the Rooftop projects selling/ injecting only surplus power on infirmed capacity basis.

State Government for MSME Manufacturing Enterprise considered the rate of Rs. 1.75 per kWh for purchase of surplus energy from such consumers.

In view of the difference in revenue realization rates of Residential/ Government Consumers and Other Consumers and impact on revenue of Distribution Licensee due to installations of Rooftop Solar PV system by such consumers, GERC found it reasonable to fix the surplus injection compensation (SIC) rate for Residential/ Government Consumers at Rs. 2.25 per kWh and Rs. 1.75 per kWh for other consumers not covered under REC. Further, the surplus injection compensation rates for REC projects were fixed at Rs. 1.50 (85% of Rs. 1.75) per kWh.

It was required to promote and facilitate installations of Rooftop Solar PV system mainly for self-consumption, hence it is proposed to keep the tariff / compensation rate for surplus energy exported by such systems to grid at such a level that there should not be adverse impact of the same on other electricity consumers.

The solar power projects set up for captive use/ third party sale and solar rooftop are set up primarily for self-consumption and have infirm nature of generation of electricity from such systems and therefore these should not be compared with solar or other generating plants set up exclusively for sale of electricity to the DISCOM which supply power on firm basis. Accordingly, the procurement rate for surplus energy injected into the licensee's grid from such plants after self-consumption should be treated differently. Delhi Government has also notified various policies for facilitations and promotion of Rooftop Solar PV system.

The Average Power Purchase Cost allowed by Hon'ble Commission in Delhi is landed cost of power purchase at DISCOM's periphery. Other states allow the APPC as defined by CERC.

CERC defines Average Power Purchase Cost (APPC) as "Pooled Cost of Purchase" which is the weighted average pooled price at which the distribution licensee has purchased the electricity

including cost of self generation, if any, in the previous year from all the energy suppliers long-term and short-term, but excluding those based on renewable energy sources, as the case may be."

APPC at the National level has been worked out by CERC as Rs. 3.85/kWh which shall be applicable during FY 2021-22 or until further orders, based on the tariff orders issued by the SERCs/JERCs for FY 2020-21. CERC has noted that for Delhi it is Rs. 4.11/unit. In Delhi, the Hon'ble Commission has directed the surplus power from Net-Metering to be purchased at Rs. 5.55/unit in Tariff Order FY 2021-22.

Hence, we request the Hon'ble Commission to reduce the Tariff for procurement of surplus energy from Rooftop PV projects by keeping the rate at APPC as defined by CERC.

15. Mandatory e-bill for load above 5 kW

DISCOMs send paper electricity bills to lakhs of consumers every month which is not only wastage of paper but also for resources; this means thousands of trees are cut every year just to send electricity bills to consumers.

In this era of internet, this wastage can be saved by usage of email and whatsapp. A soft copy of the bill can be sent to the consumer on whatsapp or on their email. These e-Bills will also help in providing additional features to consumers.

Features that can be configured in the e-Bill are:

a) Billing Details
b) Service Request
c) Important Information Request like - Know Your Tariff and Total Energy Charges
d) Know Your Meter – video explaining the meter
e) Consumer Profile - Display Email & Contact Number of Consumer
f) Billing Analysis – Last 6 months details of Billed Amount
g) Payment History and Consumption Pattern

h) Payment Centers & Schemes/ Offers Section

This can be made mandatory for those connections having sanctioned load of above 5 KW. These consumers, one can hope, to definitively have internet connectivity. This initiative will have the following benefits:

a) Environment Friendly
b) Easy Access
c) Saves Time
d) Less Documentation

Thus, the Hon'ble Commission is requested to make e-bill mandatory for consumers with sanctioned load above 5 KW.

16. Concessions and benefits only to the honest consumers

The Hon'ble Commission has been making efforts to provide lower tariff to consumers and has also made provisions for some benefits to some categories of consumers. It also needs to ensure that dishonest consumers are not allowed to take benefit of these concessions and only the honest avail them. Those who are defaulting their bill payments or avoiding to pay it on time or pay only when the connection is to be disconnected should not be given these benefits. Defaulters be dissuaded from taking the benefit. Also some consumers engage in theft of electricity, the burden of which is passed on to other consumers.

Therefore all such consumer should not get the following benefits if they engage in Payment Default or Theft of Electricity:

a) Domestic Consumers – Such Consumers should be charged on Average cost of supply (ACoS) for any energy consumption
b) No TOD or Other Rebate should be provided
c) No Subsidy Benefit if Consumer is Domestic
d) No Security Interest should be provided

e) LPSC to be charged on monthly basis

This will help in reducing the ARR of DISCOMs and also the burden of honest paying consumers.

17. Levy of penalty on Harmonics and installation of PQ meters by HT/EHT consumers

Power Quality is an area of growing concern for end users as well as utilities due to their financial impact and health of equipments. The characteristics of loads and the requirements of electrical systems have been changing continuously. With the increasing penetration of renewables, the proliferation of electric vehicles and charging facilities and the rise of decentralized generation, the stress on the transmission and distribution grid has increased manifold. Presently, the awareness for power quality parameters and its impact on the network as well as load is very low. There is severe lack of data afflicting both utility as well as consumers.

The presence of harmonic distortion is highly detrimental to the health of electrical network. Current harmonics in the system are invariably produced by nonlinear loads of the consumers such as speed drives, LEDs, SMPS, arc furnaces, welding loads, data processing equipment of the consumers and causes power pollution. Further, Harmonic causes increased system losses, interference with communication lines, errors while indicating electrical parameters, probability to produce resonant conditions, etc. The main sources of harmonic distortion will ultimately be end-user loads only. The harmonic currents passing through the impedance of the system cause a voltage drop for each harmonic. Thus, harmonic current distortion leads to voltage distortion. When several power users share a common power line, the voltage distortion produced by harmonic current injection of one user can affect the other users. Thus, it is important to limit the harmonic distortion that a facility might produce not only for the benefit of that facility but also for the benefit of the other consumers on the electrical network at the point of common coupling.

Bulk consumers of electricity have higher capability to inject current harmonics in the network by virtue of large nonlinear loads. The Forum of Regulators has specified such group of customers as "Designated customers" based on their potential to inject harmonics in the electrical network. They include commercial buildings (Healthcare, Hotels, Airports, malls etc.), IT/ITES and Banking, Finance & Service Industries (BFSI) grid connected distributed generating resource and Electric Vehicle Charging infrastructure etc.

The end users and utilities share responsibility for limiting harmonic current injections and voltage distortion at the point of common coupling. Since there are two parties involved in limiting harmonic distortions, the evaluation of harmonic distortion is divided into two parts: measurements of the currents being injected by the load and calculations of the frequency response of the system impedance. Measurements should be taken continuously over a sufficient period of time so that time variations and statistical characteristics of the harmonic distortion can be accurately represented. Sporadic measurements should be avoided since they do not represent harmonic characteristics accurately given that harmonics are a continuous phenomenon. Also, short duration temporary Power Quality Monitoring System cannot detect events such as voltage sags, interruptions and transients, which are among the main Power Quality issues.

Regulation 8 of DERC (Supply Code and Performance Standards) Regulations, 2017, also talks of penal charges on non-compliance which are to be notified by the Hon'ble Commission. This Regulation is reproduced below for ready reference:

> *"(5) Failure to comply with the permissible limits of Harmonics after inspection as in sub-regulation (3) above may attract penal charges, as may be notified by the Commission from time to time:"*

However, Hon'ble Commission has not notified any penal charges till date.

On the basis of above submission and current regulations, we request the Hon'ble Commission to:

i. Fix the penal charges at 20%-30% on Energy Charges of the respective consumer category Tariff in respect of those connected or seeking connectivity at 11 kV and above when they fail to provide adequate harmonic filtering equipment to avoid dumping of harmonics into DISCOM's network beyond the permissible limits as specified by CEA Regulations;

ii. Direct all the HT/EHT consumers to install Power Quality meters in accordance to Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Amendment Regulations, 2019 and also specify the periodicity for sharing the recorded data of PQ meters with the DISCOMs as stipulated in the Amended Regulations of CEA.

18. Penalty (ADSM – Additional Deviation Settlement Mechanism) on account of transmission line tripping

Under the Deviation Settlement Mechanism and Related Matters Regulations 2014, subsequent amendments thereof, effective from 17.02.2014, the Hon'ble CERC has assigned the responsibility of maintaining the grid discipline on the Buyers and Sellers only. It however needs to be noted that there are certain factors which are not under the control of the sellers/buyers but under the direct control of Transmission Utility and concerned Load Dispatch Centres. These mainly include tripping of transmission system and scheduling of power within time blocks as specified under IEGC regulations and subsequent amendments thereof. By their inherent nature, a tripping or fault cannot be predicted. Also as the fault has occurred in a system not maintained by the DISCOM/Buyer, the DISCOM/Buyer cannot take any action to reduce them by predictive or preventive maintenance. Therefore, any ADSM charges/penalty on account of the same should be made pass through in the ARR of the DISCOM and the DISCOM should not be held liable for any under-drawal on account of any unforeseen failure of a CTU or STU equipment, which resulted in such under-drawal and may be excluded from liability in case of such events. Alternatively the DSM penalty imposed upon DISCOMs on account of transmission line tripping be imposed upon the STU as DISCOMs have no direct control over issues related to transmission line/ equipment tripping. On similar lines if schedule

implementation is not done as per the mandate in IEGC by RLDC/ SLDC, DISCOM/buyer should not be made liable for the same. Discom should be asked to report monthly such cases for exclusion from the DSM bills raised by SLDC. Also the total sign change and ADSM amount charged by SLDC from individual Discoms should converge to the NRLDC amount and not more.

19. Behavioral Demand Response (BDR) Program

Demand Response (DR) is the reduction in a customer's electric load during periods of peak demand or high market prices. DR resources are increasingly becoming recognized as a cost effective way to achieve reliable peak demand reductions. DR has become a dynamic resource, providing price mitigation and ancillary services, in addition to improving system reliability.

Taking a step forward to check the customers acceptability and adaptability, Tata Power-DDL initiated Behavioral Demand Response (BDR) program to review the participation and its impact for balancing the demand and supply of electricity during the peak hours. Through this program customers were advised to reduce the electricity usage for a specified duration during which overall electricity demand is estimated to reach at the peak which further helps to avoid network overload and also defer CAPEX investment required for augmentation.

Tata Power-DDL conducted a DR program on pilot basis from July to Oct 2021 to observe the behavior of the consumer and to set the baseline for full scale BDR program rollout. The details are as follows

Scope

BDR program is the first of its kind of project initiated on a pilot basis with below specified scope

- DR potential survey, identification of customers to participate in Demand Response, educating consumers about the project and assist them to increase participation
- Monitoring and impact evaluation of the DR events
- Maximize gains from DR in the interest of customers
- Estimate the potential for residential smart meter customers in Delhi

- Establish technology effectiveness
- Manage grid stress situations

Customers Enrollment & Participation:

- **2044** number of customers provided the consent out of targeted **4417** number of customers
- Acknowledgment to enrolled customers through SMS & Emails
- Energy saving tips shared with enrolled customers through e-mailers
- Customised SMS/Emailer for prior intimation of event, gentle reminder were sent to the enrolled customers
- SMS & E-mailers with acknowledgment, appreciation & Guidance to enrolled customers on "how to reduce energy usage during DR event" were sent.
- Customised letters and Pamphlets posted to 2k customers for increasing participation and awareness about the event.

Summary of consumers participated is as follows:

District and Load Wise Details			
DISTRICT	**SL (> 10 KW)**	**SL (5-10 KW)**	**Grand Total**
Pitampura	344	825	1169
Keshav Puram	96	166	262
Model Town	126	125	251
Shalimar Bagh	46	155	201
Civil Lines	23	97	120
Rohini	2	39	41
Grand Total	**637**	**1407**	**2044**

Methodology for Assessing Participation

The customers who voluntarily enrolled themselves in the demand response event were requested to reduce their electricity usage for a specific time period on a specific day which is referred to as a demand response event.

For project implementation, the baseline methodology accepted for calculating the baseline was High 10 of 10.

Each event has three key measurement components

Baseline – The amount of energy the customer had consumed in the past 10 days.

Actual Use – The amount of energy the customer actually consumed during the event period.

Load Reduction - The mathematical difference between the baseline and the actual use.

Result of Pilot Program:

Tata Power-DDL successfully executed BDR event by dispatching 16 numbers of events (11 day and 5 night events). Out of the 2044 no. of enrolled customer, unique participation of **1,990 customers** was observed during the program. **7.69 MW** Load Shed during the program. Total incentive amount of the program is Rs. **39.65 Lakhs (excluding Lucky Draw)**

Benefits of BDR to Various Stakeholders

Benefits to consumers and DISCOMs is as follows:

Customers:

- Financial incentives for participating in the DR events.
- Reduced cost of power (in the long term) due to reduced cost of power to utility
- Improved supply reliability

Discoms:

- Low cost/fast to deploy mechanism to balance supply and demand
- Avoided costs for purchase of expensive power from wholesale market/short term contracts to meet supply deficit.
- Deferral of asset investment for infrastructure required only to meet peak demand
- Improved revenue due to avoidance of load shedding through better load management
- Increased integration of RE resources into the grid

Economic Value:

- Positive impact on cost of power to consumers as utilities rely less on purchasing expensive power
- Fast to deploy additional resource to help address power shortages
- Low cost to deploy mechanism to provide ancillary services

Proposal for implementation of BDR:

In order to reap full benefits of DR and make it a sustainable program in the long run, the Hon'ble Commission my provide incentive in line with its previous letter no F.3(426)/Tariff/DERC/2015-16/4982/3956 dated 9th February, 2016. Tata Power-DDL may be allowed to pay 20-40% of average Residential/Commercial/Industrial tariff to customers who choose to participate in this program. This will provide motivation to customers to participate in this sustainability based program.

20. Peer to Peer Trading

Blockchain is a new revolutionary technology based on distributed ledger for maintaining permanent and tamper proof records of transactional data and has drawn considerable interest from energy supply firms, National Governments and academic community. The most popular application in the electricity sector is Peer to Peer (P2P) trading of solar power amongst prosumers and consumers. A blockchain functions as a decentralized database that is managed by computers belonging to the participants in the blockchain network.

Tata Power - DDL in collaboration with a Blockchain Technology Partner, has conducted a pilot project to test the technical viability and value proposition of P2P energy trading at the identified sites of Tata Power - DDL as the DISCOM, and for prosumers and consumers within their network and develop a suitable business model for Blockchain enabled peer to peer (P2P) energy trading in Delhi. This was in a sandbox environment without any actual financial transaction or energy trade. Everything is virtual.

Tata Power-DDL's Grid Stations with Solar PVs and some real customers in our network were prosumers; Other Grid stations/ Office Buildings along with real customers were consumers

for this pilot project. There will be simulated trading to mirror the scenarios of real trading regimes

The Pilot helped in putting together recommendations to Delhi Electricity Regulatory Commission (DERC) to consider a bespoke network tariff and trading rules to promote the P2P trading of electricity from RTPV in Delhi.

Uttar Pradesh Power Corporation Limited (UPPCL) and Uttar Pradesh New & Renewable Energy Development Agency (UPNEDA) with support from Uttar Pradesh Electricity Regulatory Commission (UPERC) have conducted a pilot on similar lines in Lucknow.

Now, UPERC in its Tariff Order of FY21-22 has directed the Discoms to operationalize the P2P Solar Energy Trading in UP. The relevant clause is as below:

> 11.2.21. The Commission has noted that the Licensees have successfully completed a pilot implementation of peer to peer (P2P) trading of electricity in rooftop solar energy using Blockchain technology. The Commission directs the Licensees to take the pilot forward to its next phase for integrating it with the existing billing system (ERP)/ financial settlement etc. so that P2P rooftop solar energy may become operational for the prosumers and consumers of the State.
>
> 11.2.22. The Commission has approved the Smart Meter rollout plan for State Discoms of Uttar Pradesh vide Order dated 15.11.2018. Licensees had sought the date for

Page 556 of 627

P2P Trading Options

There are 3 main trading models that are utilised:

a) Fixed Price Model
b) Dynamic Price
c) Dynamic Price with Preferential Trading

All three models are described below:

a) Fixed Price Model

- P2P trading at a fixed price: This guarantees each user certainty over the price they will receive for their energy and that they will receive energy from P2P when it is available.
- If no energy is available in P2P network then the consumer's usage will be satisfied by the DISCOM.
- Similarly, if no buyer is available for the P2P then it will be sold back to the DISCOM.

b) Dynamic Price Model

- Here the prosumers and consumers will be able to set their own prices with floor as the Discom buy back rate and ceiling the rate Discom supplies energy to customer. Settlement will be carried out at the buyer's price of the matched buyer and seller prices
- It is up to the user how frequent he/she wants to alter the trade prices, same will be applicable from the next trading interval. In case of no alteration then trading will continue at the previously set rate.
- In a given interval, the net excess energy is first delivered to the consumer who is offering the highest price (Given that minimum price demanded by prosumer is satisfied), once his demand his fulfilled then the demand of consumer offering next highest price is met and so on.
- In case 2 or more people offer the same price then energy is split equally among those.

c) Dynamic with Preferential Trading

- The trading logic is built on the Dynamic P2P marketplace established in Scenario 2 by incorporating Preferential trading.
- This rule allows prosumers to choose a consumer and offer them a percentage of their excess energy at a specific price. This trade will be carried out before any other trading occurs, meaning that prosumers can choose their preferred off-taker.

- This can be configured as a preferential trade with the DISCOM first, before any P2P trading takes place.

- Prosumers can set the offer price to 0, which means they will effectively be offering their energy for free. This allows them to gift their exported energy to other users.

Pilot Approach and Process Flow

The pilot phase saw the implementation of the P2P trading platform in a demonstration context. The pilot was divided into 2 phases:

1) **Configuration and Deployment:** This involved setting up the infrastructure, customizing and integration of our system with our partner system (in a sandbox environment) and finalization of trading logics.
2) **Actual Pilot Run:** Monitoring and Evaluation of the Performance for 6 months.

Benefits of P2P Trading to DISCOMs

- RPO fulfilment for DISCOM
- Increased generation from RTPV reduces the quantity of electricity to be transmitted to local communities which in turn reduces the distribution losses; as well as defer capex investment
- Reduction in the procurement of excess rooftop solar energy from consumers by DISCOMs: By enabling RTPV energy to be traded directly between prosumers & consumers.
- New revenue streams for the utility: (a) Wheeling charges; (b) Billing and transaction fees. DISCOMs can levy wheeling charges and billing and transaction fees for the energy traded on the P2P trading platform within their distribution network
- Balancing local generation and demand
- Voltage & capacity constraint management: over-voltage & reverse power flow issues

Benefits of P2P Trading to Prosumers are given below:

- Increased earnings from his excess solar energy
- Faster payments: Settlement at month end compared to end of FY as in current scenario
- Increased earnings will motivate them to expand solar generation installations
- Satisfaction: Can set their own rate within a fixed window in case of Dynamic Trading Model.
- Ability to supply green energy to other buildings owned by them on priority at no cost (Except transaction/ wheeling charges) in case of Priority Trading Model

Proposal for implementation of P2P:

Hon'ble Commission is requested to bring in regulations to enable Peer to Peer Energy Trade in Delhi within the Discom on similar lines of regulations brought in UP by UPERC. Also, request Commission to notify charges to be applied by the DISCOM for Wheeling and Transaction from such prosumers. Further, energy traded from P2P platform should be accounted within the RPO obligation of the DISCOM.

21. Aadhar and Pan Card be made mandatory for Application of New Connection and Existing Customers

Whenever a consumer applies for new connection, DISCOM checks the dues on premises applied for. At times, dues of premises that are of similar address or of other portion are shown as pending/unpaid. This requires personal visit to DISCOM office with all ownership documents with back chain to clarify doubts and is time consuming.

In addition to above, PAN of registered consumer is required according to section 206AA of Income-tax Act 1961,

- to deduct TDS (Tax deduction at Source) u/s 194A, on payment of Interest on Security deposit / consumption deposit by the consumer,

- to charge TCS (Tax Collection at Source) u/s 206C(1)H on receipt of payment above 50 Lakhs from any consumer.
- to finalize the Tax rate applicable on such transactions for compliance check u/s 206AB and 206CCA.

Also, dues at premises are left as recovery is not possible always without establishing the liability on the defaulter who has left the premises. Such recovery suits also take time and sometimes do not give the desired result of dues recovery.

Further to take Aadhar and PAN details of all applicants for existing connection will help in smooth compliance on Tax deduction / Collection at source as per law as stated above and to pass on the benefit of Tax deduction / Collection at source from the registered consumer.

For overcoming such issues, the Hon'ble Commission needs to direct DISCOMs to take Aadhar and PAN details of all applicants when a new connection is applied for as the owner name and premises can be related to these details and unnecessary hardship to the applicant is avoided.

It will have the following benefits:

a) Recovery of dues
b) Litigation cases - Easily track the consumers
c) CIBIL linkages

In the interest of the consumers, the Hon'ble Commission is requested to provide these directions.