ARR for FY 2022-23

As per Regulation 3 of *Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017*, the Commission has notified Business Plan Regulations, 2019, which contains the following parameter applicable for a Control Period (FY 2020-21 to FY 2022-23):

(1) Rate of Return on Equity

(2) Margin for rate of interest on Loan

(3) Operation and Maintenance Expenses

(4) Capital Investment Plan

(5) Mechanism for sharing of incentive-disincentive mechanism

(6) Allocation of overhead expenses incurred on account of Administrative Expenditure out of Operation and Maintenance Expenses for creation of Capital Asset

....

(9) Distribution Norms:

(a) Distribution Loss Target

(b) Collection Efficiency Target

(c) Targets for Solar and Non Solar RPO

(d) Contingency limit for Sale through Deviation Settlement Mechanism (Unscheduled Interchange) transactions

(e) The ratio of various ARR components for segregation of ARR into Retail Supply and Wheeling Business.

Based on the above norms, the Petitioner submits its Aggregate Revenue Requirement for FY 2021-22.

Projected Energy Sales & Billed Revenue for FY 2022-23

Central Electricity Authority (CEA) has assessed the power supply scenario for India as below forming part of Ministry of Power Website:

	Energy			Peak		
Year	Requirement	Availability	Surplus (+) / Deficit (-)	Requirement	Availability	Surplus (+) / Deficit (-)
	MU	MU	%	MW	MW	MW
2017-18	12,13,326	12,04,697	-0.7	1,64,066	1,60,752	-2.0
2018-19	12,74,595	12,67,526	-0.6	1,77,022	1,75,528	-0.8
2019-20	12,91,010	12,84,444	-0.5	1,83,804	1,82,533	-0.7
2020-21	12,75,574	12,70,663	-0.4	1,90,198	1,89,395	-0.4

As evident from the table above, the actual energy requirement / consumption during FY 2020-21, the first wave impact of COVID-19 pandemic, was almost similar to the actual energy requirement / consumption during FY 2018-19 when there was no impact of COVID-19 pandemic. The onset of FY 21-22 also resulted in alarming high proportion of COVID-19 cases during April 21 and May 21 in the country resulting in various State Governments announcing partial/complete lockdown in their respective States to contain the spread of COVID-19 pandemic in India. Thereafter, the lockdown was extended in phases with gradual relaxations. This has impacted the economic activity in the country with consequent effect on demand for electricity as well. Hence, TPDDL expect that the actual energy requirement consumption during FY 21-22 to remain the same as was applicable for FY 20-21 thereby necessitating the need to consider the impact of first and second wave COVID-19 pandemic on the sales and power purchase during FY 22-23 while finalizing the Tariff for FY 22-23.

To estimate the energy sales for next year i.e. FY 22-23, the Petitioner has considered F Y20-21 as base year for available growth trends and further assumed that the underlying factors which drive the demand for electricity are expected to follow the same growth trend.

Therefore, demand forecast is based on the conservative approach looking to the past two year's consumption trend.

The assumptions considered for forecasting category wise sales are discussed below:

1. The category wise and year wise Compounded Annual Growth Rate (CAGR) has been calculated for the past sales pattern.
2. For those categories where CAGR/ past growth trends are not showing any particular type of movement then the demand has been forecasted based on consumption pattern of FY 20-21.
3. Impact of Demand Side Management due to replacement of existing electrical equipment's with the star rated equipment's have been considered while forecasting the sales.
4. Impact of Net Metering due to Solar Energy generated by the different categories of consumers has also been factored while forecasting the energy sales. Prospective plans of generation under Net metering is given below.

Category	FY 22-23 (in MUs)
Domestic	6
Non Domestic	2
Industrial	1
Total	**9**

5. Impact of movement of consumers under Open Access has also been factored for future years. FY 22-23 projection of reduction in consumption (in MU) due to open Access is given below:

Category	FY 22-23 (in MUs)
Industrial	6
Non Domestic	2
Total	**8**

6. Impact of COVID-19 pandemic on various consumers categories.

Previous year trends are given below:

Year on Year Category wise billed Sale from FY 2014-15 onwards is given below

From FY15 to FY20, there has been an annual growth of 3.59% in billed units (i.e. from the level of 7,616 MUs to 9,086 Mus.)

Table 5.1: Category wise summary of units sold from FY 15 to FY 21

Sl. No.	Category	FY15 Sales (MU)	FY16 Sales (MU)	FY17 Sales (MU)	FY18 Sales (MU)	FY19 Sales (MU)	FY20 Sales (MU)	FY21 Sales (MU)	FY22 Sales (MU) Estimated
1	Domestic	3,313	3,404	3,770	3,947	4,068	4,321	4,474	4,537
2	Non Domestic	1,343	1,404	1,463	1,528	1,541	1,552	1,182	1,207
3	Industrial	2,279	2,349	2,313	2,432	2,539	2,497	2,080	2,058
4	Agriculture & Mushroom Cultivation	13	13	13	13	14	15	17	18
5	Public Utilities	549	573	584	603	615	580	440	449
6	Own Consumption	17	18	18	19	12	13	13	22
7	Advertisement & Hoarding	2	1	1	1	0	0	0	0
8	Others**	100	92	98	94	79	108	103	119
	Total	**7,616**	**7,854**	**8,261**	**8,638**	**8,867**	**9,086**	**8,310**	**8,410**

** As per Form 2.1a for respective years, all subcategory are merged into one main category, hence figures at some places are not matched with information provided in table B1.2 (iii).*

*** Others includes Staff, Temporary, and Theft & Misuse.*

Table 5.2: CAGR of Units Billed based on Main Category wise consumption

Sl. No.	Category	CAGR for 5 years	CAGR for 4 years	CAGR for 3 years	CAGR for 2 years	CAGR for 1 years
1	Domestic	5.46%	6.14%	4.65%	4.64%	6.22%
2	Non Domestic	2.94%	2.55%	1.99%	0.79%	0.74%
3	Industrial	1.84%	1.53%	2.58%	1.31%	-1.65%
4	Agriculture & Mushroom Cultivation	3.07%	2.86%	5.73%	7.11%	8.44%
5	Public Utilities	1.11%	0.31%	-0.25%	-1.97%	-5.67%
	Total	3.59%	3.71%	3.22%	2.56%	2.46%

FY20-21 being an exceptional year due to global pandemic, CAGR is computed considering FY19-20 as base year. In view of the COVID impact in FY20-21 and its variation & unpredictable impact in FY21-22, FY20-21 is taken as base year for available growth trends and sales forecast of FY22-23.

Domestic

The consumption of energy by domestic consumers constitutes substantial part of total sales of the Petitioner.

Based on the actual sales of 4321 MU for FY 2019-20, the Petitioner has computed the given below CAGR over a period of one year to five years.

CAGR for 5 years	CAGR for 4 years	CAGR for 3 years	CAGR for 2 years	CAGR for 1 year
5.46%	6.14%	4.65%	4.64%	6.22%

Considering the available trends of CAGR, the Petitioner has considered a growth rate of 6.14%, (i.e. 4 year CAGR) to estimate the energy sales for domestic consumers considering FY20-21 as base year.

Further impact due to energy generated under roof top solar has been adjusted in the domestic consumption as per above assumptions.

Based on above the projected consumption for domestic consumers is computed as below:

Table 5.3: Projected billed energy for FY 2022-23

Sl. No.	Category	FY 21 Sales (MU)	Growth (%)	FY 23 Sales (MU)
A	Domestic			
I	Domestic - Others than CGHS	4452.07	6.14%	4,725.50
	Adjusted due to			
	Metering of Roof top solar			6
	Impact of DSM due to replacement of existing electrical equipment's with the star rated equipment's			4
	Open Access			-
	Net Consumption – Domestic			**4,715.50**
II	Single delivery point for CGHS/Hospital	21.78		23.12
	Total Domestic	**4473.85**		**4,738.62**

Non-Domestic

The consumption of energy by non-domestic consumers constitutes reasonable share of total sales of the Petitioner. Based on the actual sales of 1552 MU for FY 2019-20, the Petitioner has computed the given below CAGR over a period of one year to five years.

CAGR for 5 years	CAGR for 4 years	CAGR for 3 years	CAGR for 2 years	CAGR for 1 years
2.94%	2.55%	1.99%	0.79%	0.74%

Due to COVID-19 pandemic, in Commercial Consumer category, there is large impact on sales of Hotels, Shopping Malls, Multiplexes, Educational Institute, Restaurants, Pubs, Banquet Halls, etc. as they are still not running at their full-fledged capacity. These Commercial consumers will be effected until vaccination for COVID-19 pandemic is completed for all and will take time to resume at their 100% normal capacity.

Considering the available trends of CAGR, the Petitioner has considered a growth rate of 2.55%, (i.e. 4 year CAGR) to estimate the energy sales for Non-domestic consumers considering FY20-21 as base year.

The Petitioner has further considered the impact of Net Metering arrangement and Open Access for its consumption for Non- Domestic Consumers as per above assumptions.

Based on above projected consumption for non-domestic consumers is computed as below

Table 5.4: Projected billed energy for FY 2022-23

Sl. No.	Category	FY 21 Sales (MU)	Growth (%)	FY 23 Sales (MU)
A	Non-Domestic			
I	Non -Domestic below 3 kVA	1182.43	2.55%	1212.58
II	Non -Domestic above 3 kVA			
	Less: Open Access			2
	Less- Adjustment for Net Metering			2
	Net Consumption			**1,208.58**

Industrial

The consumption of energy by Industrial consumers constitutes approx. 1/4th part of total sales of the Petitioner. Based on the actual sales of 2497 MU for FY 2019-20, the Petitioner has computed the given below CAGR over a period of one year to five years.

CAGR for 5 years	CAGR for 4 years	CAGR for 3 years	CAGR for 2 years	CAGR for 1 years
1.84%	1.53%	2.58%	1.31%	-1.65%

Considering the available trends of CAGR, the Petitioner has considered a growth rate of 1.53%, (i.e. 4 year CAGR) to estimate the energy sales for Industrial consumers considering FY20-21 as base year.

The Petitioner has further considered the impact of Net Metering arrangement and Open Access for its consumption for Industrial Consumers as per above assumptions.

Based on above projected consumption for Industrial consumers is computed as below

Table 5.5: Projected billed energy for FY 22-23

Sl. No.	Category	FY 21 Sales (MU)	Growth (%)	FY 23 Sales (MU)
A	Industrial			
I	Industrial	2080.42	1.53%	2112.29
	Less: Impact of DSM due to replacement of existing electrical equipment's with the star rated equipment's			4
	Less: Open Access			6
	Less- Adjustment for Net Metering			1
	Net Consumption			**2,101.29**

Agriculture and Mushroom Cultivation

The consumption of energy by Agriculture & Mushroom cultivation consumers constitutes a very small portion of total sales of the Petitioner.

Based on the actual sales of 15 MU for FY 2019-20, the Petitioner has computed the given below CAGR over a period of one year to five years.

CAGR for 5 years	CAGR for 4 years	CAGR for 3 years	CAGR for 2 years	CAGR for 1 years
3.07%	2.86%	5.73%	7.11%	8.44%

The Petitioner has considered the CAGR of 4 Year i.e. 2.86% growth for projecting the agriculture & mushroom cultivation consumption.

Table 5.6: Projected billed energy for FY 22-23

Sl. No.	Category	FY 21 Sales (MU)	Growth (%)	FY 23 Sales (MU)
Agriculture & Mushroom				
I	Agriculture & Mushroom	16.79	2.86%	17.27

Public Utilities

The consumption of energy towards public utilities constitutes approx. 6% of total sales of the Petitioner.

Based on the actual sales of 580 MU for FY 2019-20 the Petitioner has computed the given below CAGR over a period of one year to five years.

CAGR for 5 years	CAGR for 4 years	CAGR for 3 years	CAGR for 2 years	CAGR for 1 years
1.11%	0.31%	-0.25%	-1.97%	-5.67%

Based on 4 year CAGR of 0.31% below projected energy is considered for sale

Table 5.7: Projected billed energy for FY 2022-23

Sl. No.	Category	FY 21 Sales (MU)	Growth (%)	FY 23 Sales (MU)
Public Utilities				
I	Public utilities (exclusive DMRC)	376.05	0.31%	377.22
	Public utilities-DMRC*	63.92		180.00
	Net Consumption	**439.97**		**557.22**

In FY20-21 Delhi Metro services were not functional for substantial part of the year due to COVID.

Own Consumption

The Hon'ble Commission in its Business Plan Regulations, 2019 has stated that normative Own consumption of DISCOM's shall be considered @ 0.25% of billed sales of the respective year. Based on the same the Petitioner is seeking Own consumption as computed below:

Table 5.8: Projected energy from FY 2022-23

Sl. No.	Category	FY 23 Sales (MU)
I	Billed Sale	8730.18
II	Own consumption @ 0.25%	0.25%
III	Own consumption MU	21.83

Adv. & Hoardings

The consumption of energy by Adv. & Hoardings consumers constitutes a very little portion of total sales of the Petitioner. The Petitioner has considered a growth of 2.55% just like Non Domestic to project the energy sales for Adv. & Hoardings.

Table 5.9: Projected energy for FY 2022-23

Sl. No.	Category	FY 21 Sales (MU)	Growth Rate	FY 23 Sales (MU)
I	Adv. & Hoardings	0.48	2.55%	0.50

E – Vehicle

Based on the initiatives taken by Government E-vehicle consumption of electricity is projected with a growth of 20% as below.

Table 5.10: Projected energy for FY 2022-23

Sl. No.	Category	FY 21	Growth	FY 23
		Sales (MU)	Rate	Sales (MU)
I	E vehicle	16.21	20%	**19.46**

Others (including Temporary Supply, Misuse and Theft)

The Petitioner has projected following sale for temporary, misuse, Theft and Staff category consumers.

Table 5.11: Projected energy for FY 2022-23

Sl. No.	Category	FY23 Sales (MU)
I	Others	**87.24**

Based on the above assumptions and explanations, the category wise estimated summary of billed sale (MU) for FY 22-23 is given below:

Table 5.12: Projected Sales (MU) for FY 2022-23

Sl. No	Category	FY 2022-23 Projections (Mus)
A	Domestic	4,738.62
	Domestic - Others than CGHS	4,715.50
	Single delivery point for CGHS/Hospital	23.12
B	Non –Domestic	1,208.58
C	Industrial	2,101.29
D	Agriculture	16.94
E	Mushroom Cultivation	0.33
F	Public Utilities	557.22
G	Adv. & Hoardings	0.50
H	E-Vehicle	19.46
I	Others* including Temporary Supply	87.24
J	Own consumption	21.83
	Total	**8,752.01**

**Others includes Staff, Theft & Misuse*

Estimated Consumers for next year

The Petitioner has projected approx. 19.07 lakhs consumers for FY 2022-23. Category wise breakup of Consumers is given below:

Table 5.13: Given below is the projected number of consumers for Next year

Sl. No.	Category	FY 2022-23
A	Domestic	1611168
B	Non –Domestic	237169
C	Industrial	30366
D	Agriculture	4279
E	Mushroom Cultivation	22
F	Public Utilities	6572
G	Adv. & Hoardings	234
H	Others- including E vehicle	18034
	Total	**19,07,844**

Estimated Consumer Load for next year

For the purpose of computing fixed charges, the Petitioner has projected load of 6297 MW for FY 2022-23. Category wise break up of consumers load is given below:

Table 5.14: Given below is the projected number of consumer's load for Next year

Sl. No.	Category	FY 2022-23
A	Domestic	3346
B	Non –Domestic	1268
C	Industrial	1360
D	Agriculture	31
E	Mushroom Cultivation	0
F	Public Utilities	215
G	Adv. & Hoardings	1
H	Others- including E vehicle	77
	Total	**6297**

Estimated Revenue at existing Tariff for next year

The Hon'ble Commission has followed two-part tariff principle for each consumer category (except CGHS colonies) consisting of fixed/ demand charges as well as energy charges.

1. The fixed/ demand charges are specified for different categories as a fixed amount per month or as a fixed amount per kW of sanctioned load per month.
2. The energy charges, on the other hand, are always usage-based and are specified per unit of electricity consumed.

In order to reduce the cost of power purchase during peak hours the Hon'ble Commission has implemented TOD (Time of Day Tariff) wherein peak hour consumption is charged at higher rates which reflects the higher cost of power purchase during peak hours. At the same time, a rebate is being offered on consumption during off peak hours. This is also meant to incentivize consumers to shift a portion of their loads from peak time to off peak time. The Hon'ble Commission in its Tariff Order September, 2015 has reviewed the TOD time slots and restrict the applicability of TOD for the period May- September instead of whole year. As it is possible to ascertain distinct peak and off-peak periods during the winter season also in addition to the summer season, for which TOD mechanism has already been put in place by the Hon'ble Commission, the Petitioner has requested the Hon'ble Commission for review of TOD mechanism which forms part of this Petition.

It is further clarified that the Hon'ble Commission vide its Tariff Order dated July, 2012 has introduced Deficit Recovery Surcharge @ 8% on the aforesaid two part tariff. The aforesaid surcharge has been imposed for recovery of previous years accumulated Revenue Gap and carrying cost which otherwise has to be met through increase in two- part tariff.

Methodology for Computation of Fixed Charges for Domestic Consumers

a) For Domestic consumers with sanctioned load less than 5 kW, the revenue from fixed charges is calculated by multiplying the corresponding fixed charge with the number of month for respective consumers in that particular tariff slab.

b) For Domestic consumers with sanctioned load exceeding 5 kW, the revenue from fixed charges is calculated by multiplying the specified fixed charge with the connected load (in kW) of the category.

Methodology for Computation of Energy Charges for Domestic Consumers

For calculation of revenue from energy charges, the actual usage is multiplied by the applicable tariff category slab.

Methodology for Computation of Fixed Charges & Energy Charges for other than Domestic Consumers and Advertisement & Hording Consumers

For Non-Domestic, Industrial, public utilities billing is done either on kW or kVA basis, as specified in the last approved tariff schedule. Since projections for next 5 years are done only on kW basis for sanctioned load and on kWh basis for energy sales, wherever the tariff is specified in kVA/kVAh terms, the relevant kW/kWh projection is divided by the Power Factor in order to obtain the corresponding kVA/kVAh projection. Thereafter, revenue from demand charges is calculated by multiplying the demand charge of each tariff slab with the sanctioned load of that slab, while revenue from energy charges is calculated by multiplying the energy charges specified for each tariff slab with the energy consumption projected for that slab.

Based on the above factors i.e. energy billed, no. of consumers, consumer load, Tata Power-DDL has estimated revenue at existing retail supply Tariff for next year.

Category wise estimated Revenue Billed for respective year of control period is given below:

Table 5.15: Estimated Billed Revenue for FY 22-23 **(Rs Cr)**

Category	Fixed Charges	Energy Charges	TOD Tariff	Total Revenue	ABR Rs kWh	7% PT
Domestic	211.40	1925.46	0.00	2136.85	4.51	149.58
Non –Domestic	380.36	1024.59	5.43	1410.38	11.67	98.73
Industrial	407.97	1672.42	11.15	2091.54	9.95	146.41
Agriculture	4.69	2.54	0.00	7.23	4.27	0.51
Mushroom Cultivation	0.07	0.11	0.00	0.18	5.60	0.01
Public Utilities	64.40	373.42	0.12	437.94	7.86	30.66
Adv. & Hoardings	0.16	0.42	0.00	0.58	11.63	0.04
E Vehicle	0.00	8.76	0.04	8.79	4.52	0.62
Others	4.65	58.31	0.00	62.97	5.77	4.41
Total	**1074**	**5066**	**17**	**6156**	**7.03**	**430.95**
8% Deficit Revenue Surcharge				**493**		

Collection efficiency

The Hon'ble Commission has approved collection target of 99.50% for 4th MYT Control period vide Regulations 26(1) of Delhi Electricity Regulatory Commission Business Plan Regulation, 2019.

Relevant extract of the same is given below:

26. TARGET FOR COLLECTION EFFICIENCY

(1) The targets for Collection Efficiency for FY 2020-21 to FY 2022-23 of the Distribution Licensees shall be 99.50%.

Based on above, collection efficiency at 99.50% level is considered for FY 2022-23.

Table 5.16: Estimated Energy Collection **(Rs. Cr)**

Sl. No.	Particulars	Amount	Remark
A	Estimated Billing at Current Tariffs –without DRS, E tax & Pension Trust	6156.48	Table 2.15
B	Collection Efficiency	99.50%	
C	Estimated Collection	6125.69	(A*B)

Target for Distribution Loss Level

The Hon'ble Commission in its Business Plan Regulations, 2019 has approved distribution loss reduction targets as mentioned in table below in terms of Regulation 4(9)(a) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017:

Table 5.17: Distribution loss level for 4th MYT Control Period

Category	FY 2020-21	FY 2021-22	FY 2022-23
Approved Distribution Target Loss level	7.90%	7.80%	**7.70%**
Year on Year reduction in distribution loss level		0.10%	**0.10%**

Based on above table, distribution loss level of 7.70% for FY 2022-23 has been considered and corresponding energy requirement at TPDDL periphery comes to 9,335 MU for FY 2022-23.

Table 5.18: Estimated Energy Requirements for FY 22-23

Sl. No.	Particulars	UoM	Amount	Remark
A	Expected Sales	MU	8,752	Table 2.12
B	Distribution Loss	%	7.70%	Table 2.17
C	Energy Input (at TPDDL periphery)	MU	**9,482**	A/(1-B))
D	Distribution Loss	MU	730	(C-A)

Power Purchase Projections for FY 2022-23

Power purchase cost is the single largest component of ARR for a distribution company and hence the same is being submitted as part of MYT Regulations considering power from both existing as well as future renewable power stations.

Allocation of Power from Central and State Generating Stations

- Delhi has a firm allocated share in Central Sector Generating Stations (CSGS), State Generating Stations (SGS) and other stations. For the purpose of projecting the units, the latest allocation order has been considered.
- Further, allocation from various stations has been considered as per the Hon'ble Commission Tariff Order for FY 2021-22.
- It is further clarified that no power from unallocated quota has been considered for projection purposes.
- Banking Import from MSEDCL has been considered as per the contract i.e from June'22 to Sep'22 at Rs. 2.62/101%. (Rs. 2.62/- was the weighted average ECR for FY 2020-21).

Energy Availability from the Central Sector, State Sector and Other Generating Stations and cost assumptions:

The Energy available in MU's for the purpose of projections has been computed as below:

(i) No energy is considered to be scheduled from Rithala in view of DERC directive.

(ii) The generation expected from Own TPDDL- Solar installed capacity and roof top solar has been considered at 15% CuF.

(iii) To estimate the energy (MU) which would be scheduled from the long term sources; stations like Hydro, Nuclear, Renewable & Delhi Genco stations have been considered as must run stations. All other plants have been considered to be running at minimum technical limit (MTL) and further, it has been assumed that the plants having ECR less than the estimated sale rate at exchange shall be scheduled to the maximum allocation for maximizing the sale rate of surplus power.

(iv) Interstate STOA Charges have been considered as 5 Paise for the short term purchase.

(v) The ECR's have been considered as per following :

a. Thermal stations: As per Latest ECR of August'21
b. Hydro Stations: Apr to July:- As per FY 21-22 & From Aug to Mar:-As per FY 20-21.
c. Nuclear Stations: as per Latest ECR of August'21
d. Renewable Stations: As per their defined tariffs

(vi) PGCIL Transmission charges have been considered as per the recent change in methodology hence approx Rs. 55 cr. has been considered for each month

(vii) New Plant additions considered in FY 2022-23 are:

a. Cosmos Hydro - Full share of 19.8 MW as per minimum energy mentioned in PPA.
b. SDMC - Full share of 7.5 MW a t 85% CuF @ Rs. 4.3/-.
c. SECI Solar 200 MW added for full year as per minimum energy mentioned in PPA.

(viii) Others

a. FGD has been considered in plants (Dadri 1, Dadri 2, Aravali Jhjajar, CLP JHajjar) in line with MoEF&CC notification dated 31st March 2021 regarding the FGD and categorised the power plants in A, B & C on certain parameters. Accordingly category A plants have been considered for 3 months only.

b. Arrear of Rs. 520 crore have been considered on account of true-up petition 2014-19 & tariff petition 2019-24 filed by the generator at CERC. The total estimated arrears with carrying cost being Rs. 650 Crores, Hon'ble DERC having allowed Rs. 128.55 crores in FY 2021-22 tariff order, the balance Rs. 520 crores have been considered in FY 2022-23.

c. Compensation charges of Rs. 32 Cr. have been kept to the extent of the Aravali Jhajjar backed down from Apr to June & Oct to Mar.

Based on above assumption, power purchase & its cost from various state generating stations for next year is given below:

<u>Power Procurement cost of the above State Generating Plant (Rs Cr.)</u>

To compute the power procurement cost for next year, the following assumptions are considered:

(i) Increase in Actual Fixed Cost or Fixed Cost is considered as per petitioned values have been used and for others Current Billed AFC's have been used

(ii) Variable cost for FY 22-23 for each generating station, considered as per above assumptions

Table 5.19: Projected Power Purchase From State Generating Stations for FY 2022 23

Sl. No.	Stations	Petitioner Share	Fixed Charge	Variable Charge	Total Charge
		(MU)	(Rs Cr)	(Rs Cr)	(Rs Cr)
A	State Generating Stations				
I	Pragati	335	25	268	294
II	Pragati III	876	285	267	552
III	GT	96	4	21	25
	Total SGS	**1308**	**314**	**557**	**871**

Central Sector Generating Stations

(i) Thermal Plants: The estimates for energy availability from coal based plants are based on the normative month wise availability (PAFM) of the stations.

(ii) Energy from Nuclear Stations: Energy from nuclear stations (NAPS and RAPS) is taken as per actual energy scheduled during previous years.

(iii) Hydro Plant: The energy estimation is based on the actual energy received from these plants in previous years.

(iv) To estimate the energy (MU) which would be scheduled from the CSGS, it has been assumed that the plants having ECR less than the estimated sale rate at exchange shall be scheduled to 85% of allocation.

(v) Scheduling from these Central Generating Stations Plants have been factored @ 85%, but if variable rates of any station found higher than the sale rate at exchange for that particular month scheduling is restricted to 55%. (Minimum Technical Limit)

(vi) No New Thermal capacity addition has been considered.

Based on above assumption, power purchase MU & its cost from Central State Generating stations for next year is projected as below:

Table 5.20: Projected Power Purchase from Central Generating Stations

Sl. No.	Source	Petitioner Share (MU)	Fixed Charge (Rs Cr)	Variable Charge (Rs Cr)	Total Charge (Rs Cr)
	Central State Generating Stations				
	NTPC				
I	ANTA	8.8	6.9	3.4	10.4
II	Auriya GPS	17.2	10.2	8.3	18.4
III	Dadri GPS	43.7	11.7	21.6	33.2
IV	Rihand STPS-I	210.7	17.7	30.5	48.2
V	Rihand STPS-II	271.3	19.0	39.2	58.2
VI	Unchahaar-I TPS	49.9	5.4	16.7	22.1
VII	Unchahaar-II TPS	97.7	9.8	33.0	42.7
VIII	Unchahaar-III TPS	60.3	8.1	20.2	28.3
IX	Dadri (Th)	74.5	7.2	23.4	30.6
X	Dadri (Th) II	70.6	10.1	21.3	31.3
XI	Kahalgaon-I TPS	106.0	11.1	28.5	39.6
XII	Kahalgaon-II TPS	338.8	36.7	86.4	123.1
XIII	Aravali	706.3	695.7	255.2	950.9
XIV	Farakka	47.5	3.9	14.9	18.8
XV	Singrauli STPS	319.1	20.9	50.4	71.3
	Total	**2,422**	**874**	**653**	**1,527**
	NHPC				
I	Bairasul	13.50	1.00	1.02	2
II	Tanakpur	12.36	2.80	2.04	5
III	Chamera-I	46.62	4.95	5.32	10
IV	Chamera-II	42.55	5.51	4.28	10
V	Chamera-III	35.61	9.44	7.01	16
VI	URI	96.6	8.8	7.9	17
VII	URI II	62.8	13.9	11.8	26
VIII	Dhauliganga	41.7	6.7	5.1	12
IX	Sewa II	3.2	1.1	0.9	2
X	Dulhasti	85.34	23.10	21.46	45
XI	Parbati III	22.7	11.5	3.5	15
	Total	**463**	**89**	**70**	**159**
	THDC				
I	Tehri HPP	55.97	11.17	11.79	23
II	Koteshwar HEP	28.75	5.72	6.89	13
	Total	**85**	**17**	**19**	**36**
	DVC				

I	DVC (CTPS 7&8)	618.17	97.67	168.27	266
II	DVC (MTPS 6)	206.06	29.07	62.83	92
	Total	**824**	**127**	**231**	**358**
	NPCIL				
I	NAPS	98.0	-	29.1	29
II	RAPS	117.0	-	43.7	44
	Total	**215**	**-**	**73**	**73**
	SJVNL				
I	Naptha Jhakri	195.2	25.5	22.2	48
	Total	**195**	**25**	**22**	**48**
	Others				
I	Tala	27.5	-	5.9	6
II	Sasan, MP	404.8	6.4	46.5	53
III	CLP Jhajjar	448.5	82.4	161.1	244
IV	MPL	2,094.1	317.9	562.9	881
	Total	**2,975**	**407**	**777**	**1,183**
	Total CSGS	**7,179**	**1,539**	**1,844**	**3,383**

Renewable Power Purchase Obligation

The Hon'ble Commission has notified the Delhi Electricity Regulatory Commission (Renewable Purchase Obligation & Renewable Energy Certificate Framework Implementation) Regulations, 2012 with effect from October, 2012.

Further the Hon'ble Commission in its Business Plan Regulation's 2019 for 4th MYT Control Period has notified the following RPO trajectory for DISCOM:

Table 5.21: Targets for Renewable Power Purchase Obligation

Sr. No.	Distribution Licensees	FY 2020-21	FY 2021-22	FY 2022-23
A	Solar Target	7.25%	8.75%	**10.50%**
B	Non Solar Target	10.25%	10.25%	**10.50%**
C	Total	17.50%	19.00%	**21.00%**

Based on above targets following RPO/REC cost has been considered for FY 22-23:

Table 5.22: RPO Compliance for FY 22-23

Sl. No.	Particulars	UoM	FY 22-23	
			Solar	Non Solar
A	Projected Energy sale for FY 2022-23	MU	7,981.61	
B	RPO target–Solar & Non Solar	%	10.50%	10.50%
C	RPO target –Solar & Non Solar	MU	838.07	838.07
D	RPO Compliance through	MU	824.74	538.03
	Purchase from TPDDL Solar	MU	2	
	Purchase from SECI 20 MW	MU	41	
	Purchase from SECI 100 MW	MU	0	
	Purchase from SECI 200 MW		404	
	Sunedison	MU	312	
	Net Metering- at Gross	MU	65.70	
	Purchase from Small Hydro	MU		94
	Purchase from DMSWL	MU		39
	SECI Wind 1	MU		177
	Purchase from TOWMCL	MU		49
	Cosmos Hydro	MU		78
	Taranda Hydro	MU		46
	SDMC @100%	MU		56
E	(Excess)/ Shortfall= (C-D)	MU	13.33	300.04
F	Inter head adjustment which can be done	MU		-
	Available inter head quantum	MU		-
G	Requirement to be met through purchase of REC			313.37
H	Net Shortfall		313.37	
I	REC rate + 12% GST	Rs/kWh		1.15
J	Cost for REC purchase	Rs Cr		36.04
K	HPO requirement	MU		27.94
L	Cost for HEC purchase	Rs Cr		15.36
	Total REC			51.40

<u>Power Procurement through NET Metering</u>

TPDDL would further like to submit that, TPDDL has already undertaken an assessment of roof top potential in its area and accordingly, the following is estimated:

Solar Capacity	Target / Milestone FY 22-23
Capacity in MW	50
Energy in MU	65.70

MU due to Net Metering Capacity addition has been calculated after assuming a CuF of 15%

Additionally the Petitioner would like to submit that with DMRC and other Open Access consumers pursuing open access from Renewable sources; the same would also add up to meeting of the RPO requirements of the Petitioner considering Discoms and Open access consumers as Obligated Entities. This shall reduce the RPO requirements to be met by the Petitioner on a stand-alone basis substantially as cumulative RPO met of obligated entities like the Petitioner and future expected open access consumers having substantial load like DMRC and other Open Access consumers shall add up the RPO mandates of the Hon'ble Commission.

Table 5.23: Power Purchase from solar and non-solar generating stations

Sl. No.	Stations	Petitioner Share (MU)	Total Charge (Rs Cr)
A	Solar		
	Purchase from TPDDL Solar	2	2
	Purchase from SECI 20 MW	41	23
	Purchase from SECI 100 MW	-	-
	Purchase from SECI 200 MW	404	108
	Sunedison	312	124
	Net Metering	56.70	31.19
	Sub-Total	816	287
B	Non Solar		
	SECI Wind 1	177	45
	TOWMCL	49	28
	Small Hydro	94	38
	DMSWL	39	27
	Cosmos Hydro	78	35
	Taranda Hydro	46	20
	SDMC @100%	56	24
	Sub-Total	538	217
	Total	1,354	504

Short Term Purchase

Total short term purchase for FY 22-23 has been considered as below:

Table 5.24: Projected Units purchase

Other Sources	Projection FY 22-23		
	MUs	(Rs Cr)	Av. Rate
Power Purchase from Other Sources			
Inter-State Bilateral Purchase	999	320	3.20
Intra-State Power Purchase			
Other Purchases Total			

Short Term Sale

Surplus unit: Based on the energy required at TPDDL periphery and Gross Power Purchased schedule to TPDDL, the surplus power available for sale is determined which shall be sold and the sale proceeds shall entirely go towards reducing the net power purchase cost charged to consumers.

Given below is the surplus power available for sale in FY 21-22:

Table 5.25: Short Term Power Sale

Source	Amount
Sale of Surplus Power – MU	-981.16
Revenue from Sale of Surplus Power	-294.35
Per unit Rate- Rs/kWh	3.00

Transmission Losses

Transmission losses have been considered @ 3.50% for PGCIL & DTL as a whole.

Given below is the year on year projected transmission losses for FY 22-23:

Table 5.26: Transmission Losses for FY 22-23

Source	Mus
Inter-State Transmission	
Intra-State Transmission (DTL)	
Total Transmission Losses	**(376.31)**

Transmission Charges: year on year transmission charges including increase in transmission charges on account of new transmission lines/network required for enhanced renewable capacity which will get socialized amongst the transmission beneficiaries:

Table 5.27: Transmission Charges (Rs Cr.) for FY 22-23

Source	Amount
PGCIL Charges	650.00
DTL & SLDC Charges	390.22
Other Transmission charges, LDC charges. STOA Charges	7.43
Total (excluding Pension Trust)	**1,047.65**

**STOA charges of Rs. 0.05/unit has been factored as a part of transmission cost*

Additional Impact due to CERC Tariff Regulations, 2019 on FGD

Flue-gas desulfurization (FGD) cost has been considered in the year as mentioned in the CPCB sheet. The same has been considered as a separate row item under FGD expense.

Table 5.28: Additional Impact due to CERC Tariff Regulations, 2019 on FGD

Source	2022-23	
	Fixed	**Variable**
NTPC Jhajjar	37.07	1.56
CLP Jhajhar	7.10	1.01
Dadri NCTPS(Th)	0.14	0.55
Dadri (Th.) Stage II	0.53	0.10
Sub total	44.83	3.22
Total		48.05

Normative Rebate

CERC in its Tariff Regulations (2019-24) has reduced rate of normative rebate from the existing rate of 2% to 1.50%. However, the Hon'ble Commission has kept the normative rebate at 2% p.m. Therefore, normative rebate for the purpose of Power Purchase cost is computed in table below:

Table 5.29: Computation of Normative Rebate

Gencos	%	Amount (in Rs Cr)
State Generating Stations		
Pragati	2.00%	5.87
Pragati III	1.50%	8.28
GT	2.00%	0.51
Central Generating Stations		
NTPC	1.50%	22.91
NHPC	1.50%	2.39
NPCIL	2.50%	1.82
Others	1.50%	24.36
Transmission		
DTL & SLDC	2.00%	7.80
PGCIL	1.50%	9.75
Total		**83.69**

Energy balance for FY 22-23 is as follow:

Based on all above submission, Energy balance for FY 22-23 is given below:

Table 5.30: Energy Balance Summary and Power Purchase Cost for FY 22-23

Sl. No.	Particulars	Energy MU	Amount Rs Cr	Rate Rs/unit
A	Power from CSGS	7,179.34	3,383.21	4.71
B	Power from SGS	1,307.74	870.84	6.66
C	Short Term Power Purchase	998.76	319.71	3.20
D	RPO obligation to be met through purchase from renewable sources	1,353.76	504.09	3.72
E	RPO obligation to be met through purchase of REC		51.40	
F	FGD		48.05	
G	Arrears/Compensation		551.96	
	TOTAL Purchase	**10,839.60**	**5,729.25**	**5.29**
H	Transmission losses (Intra state & Interstate)	-376.31		
I	Transmission charges		1,047.65	
	Total Purchase with Tx	**10,463.29**	**6,776.90**	6.48
J	Less: Short Term surplus power sale	-981.16	-294.35	3.00
K	Less: Normative Rebate		- 83.69	
	Net Power Purchase Cost	**9,482.13**	**6,398.87**	6.75

Operation & Maintenance Expenses for FY 2022-23

The Hon'ble Commission in its Business Plan Regulations, 2019 has notified norms for operation and maintenance expenses in terms of Regulation 4(3).

Based on the estimated average network capacity for FY 2022-23, the Petitioner is seeking O&M Expenses for FY 2022-23 as given in table below:

Table 5.31: Approved O&M Expenses for FY 2022-23 **(Rs Cr)**

Particulars	***Capacity as on Average of FY 22-23**	**O&M Expenses Per Unit**		**O&M Expenses**
66 kV Line (kms)	1,201.00	Rs. Lakh/Ckt. Km	3.32	39.87
33 kV Line (kms)		Rs. Lakh/Ckt. Km		
11 kV Line (kms)	7,414.61	Rs. Lakh/Ckt. Km	1.008	74.74
LT Lines system (kms.)	7,780.20	Rs. Lakh/Ckt. Km	7.912	615.57
66/11 kV Grid sub-station (MVA)	5,247.25	Rs. Lakh/MVA	1.029	53.99
33/11 kV Grid sub-station (MVA)		Rs. Lakh/MVA		
11/0.4 kV DT (MVA)	6,389.41	Rs. Lakh/MVA	1.605	102.55
Total (excluding impact of any statutory pay revision)				886.73
Add- Legal Expenses	**Expenses subject to true up on actual basis**			3.00
Add- Other Legal Expenses	**Expenses subject to true up on actual basis**			7.00
Add- Professional Expenses	**Expenses subject to true up on actual basis**			4.00
Add- On Account of 7th Pay commission	**Expenses subject to true up on actual basis**			50.00
Total amount sought towards O&M Expenses				950.73

It is further mentioned that the average capacity considered for computation of O&M expenses are subject to change based on actual capitalization.

Any statutory levies arising due to Government of India's Notification or Change in law but not factored in base year expenses shall be claimed separately over and above normative allowed expenses.

7th Pay Commission Impact

In addition to above, the Hon'ble Commission in its Business Plan Regulations has clearly specified that change in O&M expenses due to statutory requirement like 7th Pay Commission impact will be trued up on actual basis. In order to comply with the recommendations of Wage Revision Committee for disbursement of Interim Relief w.e.f. 01.01.2016 and for payment of other allowance w.e.f. 01-07-2017, which has been approved by the Govt. of NCT of Delhi, Department of Power vide their Order No. F.11(62)/2015/Power/Pt-I/2116 dated 26-07-2017. For the same, the Petitioner is seeking Rs 50 Cr on provisional basis over and above normative O&M expenses.

It is requested to the Hon'ble Commission to consider Land licensee fee and property tax on actual basis, as these are statutory levies/liability and uncontrollable in the hands of the Petitioner.

Legal & Professional Expenses

The Hon'ble Commission in its "Statement of Reason on Business Plan Regulations 2019" has provided the treatment of Legal Expenses in its Explanatory Memorandum as follows:

"(6) The Distribution Licensee may claim the legal expenses separately, subject to prudence check at the time of true up on submission of documentary evidence:

Provided that the legal expenses on account of cases filed against the Orders or Regulations of the Commission before any Court and the legal claims (compensation/penalty) paid to the consumer, if any, shall not be allowed."

With respect to above, the Petitioner would like to mention that legal expenses incurred by the Petitioner shall be allowed without any distinction. Non allowance of some legal expenses amounts to curtailment of Statutory Right of the Petitioner to challenge the decisions of the Commission and is against the principle of natural justice as well the same is against Article 14 of the Constitution of India. The distribution business is a regulated business under the aegis of this Commission. The majority of issues in Distribution Business will arise out of orders/ directions issued by the Commission. In all such case, the Petitioner has right to challenge the same before the Hon'ble Appellate Tribunal for Electricity and Hon'ble Supreme Court thereafter. The final Judgment passed at the Appellate stage will be binding on both the DISCOM as well as the Hon'ble Commission. Therefore, all legal expenses without any distinction should be allowed as an expense in the ARR.

The Petitioner request to the Hon'ble Commission to allow Rs 14 Cr. on adhoc basis in the ARR for FY 2022-23. The said amount shall be trued up based on prudence check of actual legal expenses.

Table 5.31(a): Projected Normative O&M Expenses for FY 2022-23 **(Rs Cr)**

Particulars	O&M Expenses	Remarks
Normative O&M Expenses for FY 2022-23	886.73	Table 5.31
7th Pay Commission Impact	50.00	
Legal Expenses	3.00	
Other Legal Expenses	7.00	
Professional Expenses	4.00	
Total O&M Expenses	**950.73**	

Capitalization for FY 2022-23

The Hon'ble Commission in its Business Plan Regulations, 2019 has approved capitalization of Rs 456 Cr. for FY 2022-23 (excluding Rs. 50 Cr towards Capital Deposit). However the Petitioner would like to propose revised capitalization for FY 2022-23 as following:

Table 5.32: Approved Capitalization for FY 2022-23

Particulars	Rs. Crore
Capitalization	280
Smart Meter	50
Total Capitalization without deposit work*	330

**excluding Employee expenses capitalised*

It is worth to mention that deposit work is already treated as a part of capitalization, thus, gross capitalization for FY 2022-23 is considered as given below:

Table 5.33: Capitalization considering Deposit work for FY 2022-23

Particulars	Amount Rs. Cr
Capitalization without deposit work	280
Smart Meter	50
Deposit Work	50
Total*	**380**

**excluding Employee expenses capitalised*

Considering the capitalization of Rs. 380 Cr, gross block of fixed assets for FY 2022-23 works out as follows:

Table 5.34: Capitalization of Fixed Assets **(Rs Cr)**

Sl. No.	Particulars	Amount	Remark
A	Opening Balance for FY 21-22	6,456.30	
B	Projected Additions for FY 21-22	300.26	
C	Opening balance for FY 22-23	6,756.56	(A+B)
D	Addition during the year	380	Table 5.33
E	Deletion during the year*		
F	Closing Balance	7,136.56	(C+D)
G	Average Balance of Fixed Assets	6,946.56	((C+F)/2)

**No deletion has been considered*

Contributions, Grants, subsidies towards cost of Capital Assets

The contribution towards cost of capital assets is transferred to sources of funds in the balance sheet when the assets for which such contribution is received are capitalized. It is estimated that Rs 50 Cr will be capitalized towards consumer contribution for FY 22-23 and thereafter.

Table 5.35: Estimated Consumer Contribution capitalized (Rs Cr)

Sl. No.	Consumer Contribution/Grant	Amount	Remarks
A	Opening Balance for FY 21-22	928.92	
B	Projected Additions for FY 21-22	40.00	
C	Opening balance for FY 22-23	968.92	(A+B)
D	Capitalized during the year	50	
E	Closing Balance	1018.92	(C+D)
F	Average Cumulative Capitalized Consumer Cont.	993.92	(C+E)/2

Depreciation and Provision of Depreciation

The Hon'ble Commission in its 4th MYT Regulation's has followed same methodology for allowance of Depreciation as in 3rd MYT Regulations. Based on the said regulations the Petitioner has changed depreciation rate in its books of account. Thus, for the purpose of computation of Deprecation for FY 2022-23, the Petitioner has considered Deprecation rate of 4.99% equivalent to the rate considered for True up of FY 20-21.

Table 5.36: Revised Depreciation for FY 2022-23 (Rs. Crore)

Sl. No.	Particulars	Amount	Remark/Ref
A	Opening GFA	6,756.56	Table 5.34
B	Net Additions to Asset during the year	380.00	Table 5.33
C	Closing GFA	7,136.56	
D	Average GFA	6,946.56	
E	Less: Average Consumer Contribution	993.92	Table 5.35
F	Average GFA net of CC	5,952.63	
G	Average rate of depreciation	4.99%	Table 3.47 of True Up
H	Depreciation for the year	296.81	
I	Opening Depreciation	2,320.77	Table 3.49 of True Up
J	Closing Depreciation	2,618.01	
K	Average Depreciation	2,469.60	

Working Capital Requirement

The Petitioner has computed working capital requirement as per Regulation 84 (4) Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017. The relevant extract of the Regulation is as follows:

"84. The Commission shall calculate the Working Capital requirement for:

(4) Distribution Licensee as follows:

(i) Working capital for wheeling business of electricity shall consist of ARR for two months of Wheeling Charges.

(ii) Working Capital for Retail Supply business of electricity shall consist of:

(a) ARR for two months for retail supply business of electricity;

(b) Less: Net Power Purchase costs for one month;

(c) Less: Transmission charges for one month:"

Based on the above formula computation of working capital is given below:

Table 5.37: Computation of Change in Working Capital **(Rs Cr)**

Sl. No.	Particulars	Amount FY 22-23		Remark
A	Annual revenues requirement	8,785.36		Table 5.44
B	Receivables equivalent to 2 months ARR		1,464.23	A/12*2
C	Power Purchase expenses	6,398.87		Table 5.30
D	Add: 1/12th of power purchase expenses		533.24	C/12
E	Total working capital		930.78	B-D
F	Opening working capital		865.82	Table 3.50 of True Up
G	Change in working capital		65.17	(E-F)

Means of Finance for Capitalization for FY 2022-23

The Petitioner has submitted that Regulation 63 of the Tariff Regulations, 2017, provided that for determination of Tariff, the debt-equity ratio for any project or scheme under commercial operation shall be considered as 70:30.

Table 5.38: Computation of Change in Working Capital (Rs Cr)

Sl. No.	Particulars	Amount	Remarks
A	Capitalization	380.00	Table 5.36
B	Less- Consumer Contribution Capitalized during the year	50.00	Table 5.35
C	Funding Requirement	330.00	
D	Through- Debt @ 70%	231.00	
E	Through Equity @ 30%	99.00	

Regulated Rate Base

Regulations 65 to 71 of the Tariff Regulations, 2018 deals with the methodology for determination of Regulated Rate Base (RRB), Weighted Average Cost of Capital (WACC) and computation of Return on Capital Employed (ROCE).

Regulation 66 of the Tariff Regulations 2017 provided that *"The Regulated Rate Base (RRB) shall be used to calculate the total capital employed which shall include the Original Cost of Fixed Assets (OCFA) and Working Capital. Capital work in progress (CWIP) shall not form part of the RRB. Accumulated Depreciation, Consumer Contribution, Capital Subsidies / Grants shall be deducted in arriving at the RRB."*

Based on the approved capitalization and corresponding deprecation thereon, estimated consumer contribution and estimated working capital requirement as computed above, computation of Regulated Rate Base for FY 2022-23 is given below:

Table 5.39: Computation of Regulated Rate Base (Rs Cr)

Sl. No.	Particulars	Amount	Remarks
A	Opening Balance of OCFA	6,756.56	Table 5.34
B	Opening Balance of Accumulated Depreciation	2,320.88	Table 5.36
C	Opening Balance of Accumulated Consumer Contribution	968.92	Table 5.35
D	Opening balance of working capital	865.82	Table 5.37
E	**RRB – Opening**	4,332.57	
F	Capitalization during the year	380.00	Table 5.36
G	Depreciation for the year (Including AAD)	296.81	Table 5.36
H	Consumer Contribution, Grants,	50.00	Table 5.38
I	Change in Working Capital	65.17	Table 5.37
J	**ΔAB (Change in Regulated Base)**	81.76	
K	**RRB – Closing**	4,430.93	
L	**RRB(i)**	4,414.34	

Computation of WACC

The Hon'ble Commission in its Business Plan Regulations, 2019 has approved Rate of Return on Equity computed at base rate of 14% on post-tax basis for wheeling business and base rate of 2% on post-tax basis for retail business.

Further, Based on the 6 months actual cost of debt for capex loans @ 8.31% & working capital rate of interest of 7.54%, the weighted average rate of interest on loans (Capex & working capital) has been considered @ 8.04% for FY 2022-23.

Considering the above cost of debt and rate of return on equity, weighted average cost of capital has been computed by considering the average actual equity and average actual debt (net of repayment) for FY 2022-23.

Sl. No.	Particulars	Amount Rs Cr
A	Equity	1,731.49
B	Debt- Capex	1,751.86
	Debt- working capital	930.99
C	Return on Equity	16%
D	Income Tax Rate	16.43%
E	Grossed up Return on Equity	19.15%
F	Rate of Interest	8.00%
G	Weighted Average Cost of Capital	12.37%

** It is requested to the Hon'ble Commission to consider actual applicable income tax rate at the time of approving ARR for FY 22-23, as forsake of convenience the Petitioner has considered effective rate of FY 20-21.*

Considering the above computed WACC of 12.41% the Petitioner has computed ROCE for FY 22-23 as follows:

Table 5.41:Computation of Return on Capital Employed (Rs Cr)

Sl. No.	Particulars	Amount	Reference
A	RRB (i)	4,414.34	Table 5.39
B	WACC	12.37%	Table 5.40
C	Return on Capital Employed	546.13	(A*B)

Non-Tariff Income

The Petitioner has kept Non-tariff income for FY 2022-23 at the same level i.e. Rs 87.27 Cr , as offered for truing up for FY 2020-21 , in line with the methodology followed by the Honb'le Commission in past.

Sl. No.	Particulars	FY 2022-23
A	Non-Tariff Income/Interest on Security Deposit	87.27
B	Additional Open Access charges	
C	Total	

Computation of Carrying cost Rate

The Hon'ble Commission has approved Return on Equity in terms of Regulations 2(16) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for computation of weighted average rate of interest for funding of Regulatory Assets/ accumulated Revenue Gap through Debt and Equity shall be considered at 14% on pre-tax basis in its Business Plan Regulations, 2019.

Further, the rate of interest at 8.00% for FY 2022-23 for funding revenue gap has been considered.

Based on the above, the carrying cost rate for FY 2022-23 computed as follows.

Table 5.43: Computations of carrying cost

Sl. No.	Particulars	FY 2022-23

A	Rate of Return on Equity	14.00%
B	Rate of Interest on Loan	8.00%
C	Rate of Carrying Cost	9.80%

Computation of Aggregate Revenue Requirement

Based on the submission made above the total Aggregate Revenue Requirement for the FY 2022-23 comes to Rs. 8,785.36 Cr. Component wise breakup of the same is given below:

Table 5.44: Summary of Aggregate Revenue Requirement **(Rs Cr)**

Sl. No.	Particular	FY 2022-23	Remarks
		Amount	
A	Cost of Power Purchase	6,398.87	Table 5.30
B	O&M Expenses	950.73	Table 5.31
C	Depreciation	296.81	Table 5.36
D	Return on Capital Employed	546.13	Table 5.41
E	Carrying Cost	679.89	Table 5.46
F	Less: Non-Tariff Income/ Interest on consumer security deposit	87.27	Table 5.42
H	**Annual Revenue Requirement**	**8,785.15**	

Revised computation of Revenue (Gap)/surplus without carrying cost & DRS for FY 2021-22

Based on the above submission, the Petitioner has estimated Revenue Gap of Rs. 1,108.84 Cr for FY 2021-22.

Table 5.45 Computations of Revenue (Gap) for the year **(Rs. Cr)**

Sl. No.	Particular	FY 2022-23	Remarks
		Estimated	
A	Aggregate Revenue Requirement for the year without carrying cost	8,105.27	Table 5.44
B	Revenue available for the year without DRS	6,125.69	Table 5.16
C	Revenue (Gap)/surplus for the year	-1,979.57	(B-A)

Computation of Additional Revenue Gap for FY 2020-21 to compute the Opening Revenue Gap for FY 2021-22

The Petitioner has submitted provisionally computed closing revenue gap of Rs. 3,563.74 Cr upto FY 2020-21 in true up for FY 2020-21. However for the purpose of computation of carrying cost for FY 2022-23 (i.e. component of Aggregate Revenue Requirement), the opening revenue gap for FY 2021-22 is required to be computed.

Thus, for this purpose, the Petitioner considers the estimated revenue surplus of Rs 24.95 Cr as computed by the Hon'ble Commission for FY 2021-22 and further adjusted the said revenue gap/surplus on account of following variations/ reasons.

Computation of Additional Revenue Gap for FY 2021-22 is given below:

Particular	FY 20-21	Remarks
	Amount as approved * Rs Cr.	
Total approved ARR for FY 2021-22	7,045.38	Table 5.9 of TO 2021-22
Estimated Revenue available for FY 2021-22	7,070.33	
Revenue (Gap)/Surplus*	**24.95**	
Adjusted on account of		
Power Purchase Cost (Note No 1)	(1183.59)	Due to Arrears bills +
O&M Expenses (Note no 2)	(7.74)	Balance of normative O&M expenses not factored at the time of issuance of TO 2021-22
Additional O&M expenses (Note No 3)	(65.00)	
Carrying Cost Impact (Note No 4)	**(393.52)**	
Difference in Revenue Available	**(734.45)**	
Revised Revenue Gap / surplus for the year^	**(2384.29)**	

** Approved in Tariff Order for FY 2021-22*

^ Estimated Figures and subject to change at the time of True up

Note No 1: Power Purchase Cost

The Hon'ble Commission in its Tariff Order for FY 2021-22 has projected gross power purchase cost/unit @ Rs. 5.55. Against the same, estimated actual power purchase cost, it is estimated that for FY 2021-22, Gross Power Purchase Cost/unit would be approx. @ Rs. 6.74/unit. Thus, resulting into increase in power purchase cost of the petitioner for FY 2021-22.

Computation of additional impact on Revenue Gap due to increase in Power purchase cost is given in table below:

Table 5.47: Additional Revenue Gap due to Power Purchase

Sl. No.	Particular	FY 21-22 Amount as approved * Rs Cr.	Remarks
A	Estimated Energy Input at Delhi Periphery (MU)	9983.27	Table 4.22 of TO 2021-22
B	Gross Power Purchase Cost/ units – Rs/kWh	5.55	
C	**Revised Estimated Power Purchse Cost/unit – Rs /Kwh**	6.74	
D	**Additional Impact of increase in cost – Rs Cr**	1184	
E	Less- Additionally Recovery of increased power purchase cost through PPAC – Rs Cr.		
F	Estimated amount unrecovered for FY 2019-20 – Rs Cr	1184	
G	**Reason for Increase**		
H	Less Generation has been considered from ISGS stations and the same has been considered to be procured from short term purchase	625	
I	Energy available from Stations based in Delhi and associated cost	37	
J	Power Purchase Rebate (Billing Rebate)	92	
K	Transmission charges including STOA Charges	54	
L	Surplus Energy	-280	
M	True up arrears & ipgcl arrear impact	281	
N	Due to difference between DERC VS Estimated actauls projection	375	
O	Total	1184	

Tata Power Delhi Distribution Ltd.

Note No 2: Normative O&M Expenses

The Hon'ble Commission in its Tariff Order for FY 2021-22 has provisionally allowed an amount of Rs 820.26 Cr against the total normative O&M allowance of Rs 828.00 Cr. (i.e. provisional basis 100% of Opening network capacity and 80% of projected addition for FY 21-22 considered for determining provisional O&M expenses). Relevant extract of the Tariff Order is given below:

"4.132 The Commission has considered 100% of the network capacity as on 31/03/2020 and 80% of the projected addition for FY 2021-22 and has provisionally allowed O&M expenses of the Petitioner. The true-up of O&M expenses shall be as per actual network capacity."

Thus, for the purpose of computation of additional impact the said balance O&M expenses of Rs 7.74 Cr (i.e. Rs. 828.00 Cr- Rs. 820.26 Cr) is considered additionally.

Note No 3: Additional O&M expenses

The Petitioner is seeking an additional O&M expenses of Rs. 65.00 Cr over and above the normative O&M expenses. These expenses are related to 7th Pay Commission and legal & professional expenses. Thus, the petitioner now considered additional impact of Rs. 65.00 Cr. for FY 2021-22 towards O&M expenses to meet its liability.

Note No 4: Carrying Cost Impact

The Hon'ble Commission in its Tariff Order for FY 2021-22 has computed carrying cost of Rs 92.25 Cr. in Table no 4.67. However, against the same, the Petitioner has computed carrying cost of Rs 393.52 Cr. for FY 2021-22. Computation of the same is given below:

Table 5.48: Additional Carrying cost for FY 20-21

Sl. No.	Particular	FY 20-21 Amount as approved * Rs Cr.	Remarks
A	**Opening Revenue Gap as per true up Petition for FY 2020-21**	(3,563.74)	Table no 3.67
B	Addition for the year	(2,384.09)	As computed above
C	Closing Revenue Gap	(5,947.83)	(A+B)
D	Average Revenue Gap	(4,755.78)	(A+C)/2
E	Carrying cost @ 10.21%	(485.57)	
F	Less- already considered by the Hon'ble Commission	92.25	Tariff Order Sep'21
G	Additional impact	(393.32)	(E-F)

Computation of Closing Revenue Gap (on Provisional basis) along with Carrying Cost upto FY 2022-23

For the FY 2022-23, the Petitioner has estimated an amount of Rs 492.52 Cr towards 8% Deficit recovery surcharge and thereafter adjusted the said amount against the total of closing revenue gap for the year.

The summary of addition in opening Revenue Gap along with carrying cost (net of 8% Deficit Recovery Surcharge) is given below:

Table 5.49: Computations of Closing Revenue Gap **(Rs. Cr)**

Sl. No.	Particular	FY 2022-23	Remarks
		Estimated	
A	Opening Revenue Gap	(3,563.74)	
B	Add- Projected Revenue Gap for FY 21-22	(2,384.09)	
C	Opening Revenue Gap	(5,947.83)	(A+B)
D	Revenue (Gap)/Surplus for the year	(1,979.57)	Table 5.45
E	Closing Revenue (Gap)	(7,927.40)	(C+D)
F	Carrying Cost Rate	9.80%	Table 5.43
G	Carrying Cost	(679.89)	(C+E/2)*F
H	Recovery of carrying cost from 8% Deficit Revenue Recovery Surcharge	492.52	Table 5.15
I	Closing Revenue Gap (including carrying cost)	(8,114.77)	