

ARR for FY 2021-22

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

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- (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 2021-22

To estimate the energy sales for next year, the Petitioner usually considers previous year's available growth trends and further assumes the underlying factors which drives the demand for electricity that are expected to follow the same growth trend in future year also.

But FY 20-21 is a different year and is under global crisis where the entire world including India is under the grip of the deadly disease COVID- 19. The Central & State Government in order to contain the spread of novel corona virus had issued several precautionary measures and advisories most important being social distancing and lockdown in phase manner.

To contain and arrest the spread, transmission of the disease various Notifications, Guidelines, orders, directions were issued by the Ministry of Home Affairs (Government of India), GNCTD, SEBI, Ministry of Finance (Government of India), Ministry of Civil Aviation, Ministry of Power and various Authorities.

COVID-19 has not only affected normal human life but also caused slowdown in various sectors of the economy. This year has to be treated as an extraordinary year due to variation in demand and supply of electricity. The lockdown due to COVID-19 has severely affected the demand of power in FY 20-21, thus it would not be appropriate to consider energy sales of FY 20-21 to aptly projection sales for next year.

Therefore to estimate the energy sales for next year i.e. FY 21-22 the Petitioner has considered FY 19-20 as base year for projections instead of FY 20-21 and applied growth factor on FY 19-20. Therefore, demand forecast is based on the assumption that the past consumption growth trend will continue in the future also excluding FY 20-21.

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 19-20.

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 21-22 (in MUs)
Domestic	10
Non Domestic	22
Industrial	1.4
Total	33.4

5. Impact of movement of consumers under Open Access has also been factored for future years. In FY 21-22, projection of reduction in consumption (in MU) and Load (in MW) due to open Access is given below:

Category	FY 21-22 (in MUs)
DMRC	68
Industrial	24
Non Domestic	2
Total	94

6. Impact of COVID-19 pandemic on energy sales of Non Domestic Consumers & Industrial Consumers also considered.

Previous year trends are given below:

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

In the last 5 years, 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 20

Sl. No.	Category	FY15 Sales (MU)	FY16 Sales (MU)	FY17 Sales (MU)	FY18 Sales (MU)	FY19 Sales (MU)	FY20 Sales (MU)	FY21 Sales (MU) Estimated
1	Domestic	3,313	3,404	3,770	3,947	4,068	4,321	4,419
2	Non Domestic	1,343	1,404	1,463	1,528	1,541	1,552	1,078
3	Industrial	2,279	2,349	2,313	2,432	2,539	2,497	1,893
4	Agriculture & Mushroom Cultivation	13	13	13	13	14	15	16
5	Street Lighting	144	148	148	154	116	580	428
6	Delhi Jal Board	219	229	239	243	238		
7	Railway	46	46	48	51	4		
8	DMRC	140	149	149	155	257		
9	Own Consumption	17	18	18	19	12		
10	Advertisement & Hoarding	2	1	1	1	0	0	1
11	Others**	100	92	98	94	79	108	91
	Total	7,616	7,854	8,261	8,638	8867	9,086	7,934

* 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, Theft & Misuse and Own consumptions

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%

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 5.46%, (i.e. 5 year CAGR) to estimate the energy sales for domestic consumers.

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 2021-22

Sl. No.	Category	FY 20 Sales (MU)	Growth (%)	FY 21 Sales (MU)
A	Domestic			
I	Domestic - Others than CGHS	4297.91	5.46%	4,528.37
	Adjusted due to			
	Metering of Roof top solar			10
	Open Access			-
	Net Consumption – Domestic			4,518
II	Single delivery point for CGHS/Hospital	23.18		24.45
	Total Domestic	4321		4,543

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 a large impact on sales of Hotels, Shopping Malls, Multiplexes, Educational Institute, Restaurants, Pubs, Banquet Halls, etc. as they are not running at their full capacity and some are even closed. These Commercial consumers will be effected until vaccination for COVID-19 pandemic is available and will take time to resume at their 100% normal capacity.

Considering the same, the projections for next year is envisaged considering a negative growth rate of 10% to estimate the energy sales for Non-domestic consumers.

The Petitioner has though 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 2020-21

Sl. No.	Category	FY 20 Sales (MU)	Growth (%)	FY 22 Sales (MU)
A	Non-Domestic			
I	Non -Domestic below 3 kVA	1,552	-10%	1397
II	Non -Domestic above 3 kVA			-
	Less: Open Access			2
	Less- Adjustment for Net Metering			22
	Net Consumption			1,373



Industrial

The consumption of energy by Industrial consumers constitutes approx. 1/3rd 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 COVID-19 pandemic and available trends of CAGR, in units, consumer and load growth the Petitioner has not considered any growth to estimate the energy sales for Industrial consumers.

The Petitioner has though 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 21-22

Sl. No.	Category	FY 20 Sales (MU)	Growth (%)	FY 22 Sales (MU)
A	Industrial			
I	Industrial	2,496.57	0%	2492.57
	Less: Open Access			24
	Less- Adjustment for Net Metering			1.4
	Net Consumption			2467.17

Agriculture and Mushroom Cultivation

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

The Petitioner based on the actual sales 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 21-22

Sl. No.	Category	FY 20	Growth (%)	FY 22
		Sales (MU)		Sales (MU)
Agriculture & Mushroom				
I	Agriculture & Mushroom	15.03	2.86%	15.46

Public Utilities

The consumption of energy towards public utilities constitutes approx. 7% 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 2021-22

Sl. No.	Category	FY 20	Growth (%)	FY 22
		Sales (MU)		Sales (MU)
Public Utilities				
I	Public utilities	579.90	0.31%	580.46
	Less- Open Access			68
	Net Consumption			512.46

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 2021-22

Sl. No.	Category	FY 22 Sales (MU)
I	Billed Sale	9029.45
II	Own consumption @ 0.25%	0.25%
III	Own consumption MU	22.57

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 negative growth of 10% to project the energy sales for Adv. & Hoardings.

Table 5.9: Projected energy for FY 2021-22

Sl. No.	Category	FY 20	Growth	FY 22
		Sales	Rate	Sales (MU)
		(MU)		
I	Adv. & Hoardings	0.38	-10%	0.34

E – Vehicle

Based on the initiatives taken by Government on E-vehicle and E-bus station expected to commission by November' 2021, consumption of energy sales in this category is projected as below:

Table 5.10: Projected energy for FY 2021-22

Sl. No.	Category	FY 20	FY 22
		Sales (MU)	Sales (MU)
I	E vehicle	18.25	18.25
II	Additional requirement due to E- Buses/E- Car		11.23
III	Total		29.48

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 2021-22

Sl. No.	Category	FY22 Sales (MU)
I	Others	89.39

Based on the above assumptions and explanations, the category wise estimated summary of billed sale (MU) for FY 21-22 is given below:

Table 5.12: Projected Sales (MU) for FY 2021-22

Sl. No	Category	FY 2021-22 Projections
A	Domestic	4542.82
	Domestic - Others than CGHS	4518.37
	Single delivery point for CGHS/Hospital	24.45
B	Non -Domestic	1373.07
C	Industrial	2467.17
D	Agriculture	15.34
E	Mushroom Cultivation	0.12
F	Public Utilities	512.46
G	Adv. & Hoardings	0.34
H	E-Vehicle	29.48
I	Others* including Temporary Supply	89.39
J	Own consumption	22.57
	Total	9052.78

*Others includes Staff, Own Consumption, Theft & Misuse

Estimated Consumers for next year

The Petitioner has projected approx. 18.54 lacs consumers for FY 2021-22. Category wise breakup of Consumers is given below:

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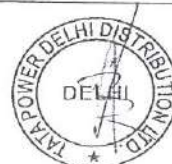


Table 5.13: Given below is the projected number of consumers for Next year

Sl. No.	Category	FY 2021-22
A	Domestic	1560428
B	Non –Domestic	231808
C	Industrial	30347
D	Agriculture	4350
E	Mushroom Cultivation	13
F	Public Utilities	6258
G	Adv. & Hoardings	243
H	Others- including E vehicle	20889
	Total	1854336

Estimated Consumer Load for next year

For the purpose of computing fixed charges, the Petitioner has projected load of 6048 MW for FY 2021-22. 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 2021-22
A	Domestic	3183
B	Non –Domestic	1247
C	Industrial	1323
D	Agriculture	31
E	Mushroom Cultivation	0
F	Public Utilities	192
G	Adv. & Hoardings	1
H	Others- including E vehicle	72
	Total	6049

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.

It is further clarified that the Hon'ble Commission vide its Tariff Order dated July, 2012 has introduced 8% Deficit recovery surcharge which is directly linked with 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. The Hon'ble Commission has instead of increase in basic two part tariff introduced additional surcharge directly linked to the fixed charges/ demand charges and energy charges.

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, the Petitioner 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 21-22

(Rs Cr)

Category	Fixed Charges	Energy Charges	TOD Tariff	Total Revenue	ABR Rs kWh	5% PT
Domestic	201.97	1781.79	0.00	1983.76	4.37	99.19
Non -Domestic	373.99	1174.12	6.35	1554.46	11.32	77.72
Industrial	396.78	1966.52	13.11	2376.41	9.63	118.82
Agriculture	4.63	2.30	0.00	6.93	4.51	0.35
Mushroom Cultivation	0.04	0.04	0.00	0.08	6.69	0.00
Public Utilities	57.67	347.38	0.29	405.34	7.91	20.27
Adv. & Hoardings	0.16	0.30	0.00	0.45	13.18	0.02
E Vehicle	0.00	13.27	0.03	13.30	4.51	0.67
Others	7.59	60.38	0.04	68.02	6.07	3.40
Total	1042.84	5346.10	19.81	6408.75	7.08	320.44
8.50% PPAC allowed by DERC in order dt. 13.11.20				278.33		
8% Deficit Revenue Surcharge				512.7		

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 2020-21.

Table 5.16: Estimated Energy Collection

Sl. No.	Particulars	(Rs. Cr)	
		Amount	Remark
A	Estimated Billing at Current Tariffs –without DRS, E tax & Pension Trust	6687.08	Table 5.15
B	Collection Efficiency	99.50%	
C	Estimated Collection	6,653.64	(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 7.80% for FY 2021-22 has been considered and corresponding energy requirement at TPDDL periphery comes to 9,818.63 MU for FY 2021-22.

Table 5.18: Estimated Energy Requirements for FY 21-22

Sl. No.	Particulars	UoM	Amount	Remark
A	Expected Sales	MU	9,052.78	Table 2.12
B	Distribution Loss	%	7.80%	Table 2.17
C	Energy Input (at TPDDL periphery)	MU	9,818.63	$((A/(1-B))*100)$
D	Distribution Loss	MU	765.85	(C-A)

Power Purchase Projections for FY 2021-22

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 2020-21.
- It is further clarified that no power from unallocated quota has been considered for projection purposes.
- Banking/ Bilateral transactions are not considered, all the short term purchase and sale transactions are considered at exchange only.

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 escalated by 3.9% based on the 5 year CAGR of the actual weighted average ECR from all the plants. ECR of Renewable plants have not been escalated.
- (vi) PGCIL Transmission charges have been extrapolated as per the MW allocation during the year and charges have been escalated by 10% based on the CAGR of past 5 years.
- (vii) New Plant additions considered in FY 2021-22 are:
- Cosmos Hydro - 19.8 MW at Rs. 4.44/- at 45% Cuf from October'21
 - SDMC 8 MW added from 19 Aug-2021 at 75% Cuf @ Rs. 5.5/-
 - SECI Solar 200 MW added from 05-June 21 at 24% Cuf @ Rs. 2.68/-
- (viii) Plants discontinued in FY 2021-22 is:
- IPGCL GTPS is not considered as the PPA is expiring on 31st March 2021.

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

Power Procurement cost of the above State Generating Plant (Rs Cr.)

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

- Increase in Actual Fixed Cost or Fixed Cost is considered based on currently available information/tariff orders.
- Based on the actual variable cost for FY 19-20 for each generating station, the variable rate is escalated @ of 3.90% and considered for the purpose of projections.

Table 5.19: Projected Power Purchase From State Generating Stations for FY 2021-22

Sl. No.	Stations	Petitioner Share	Fixed Charge	Variable Charge	Total Charge
		(MU)	(Rs Cr)	(Rs Cr)	(Rs Cr)
A	State Generating Stations				
I	Pragati	296	25	170	195
II	Pragati III	797	285	295	580
	Total SGS	1093	310	466	776

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	Fixed Charge	Variable Charge	Total Charge
		(MU)	(Rs Cr)	(Rs Cr)	(Rs Cr)
	Central State Generating Stations				
	NTPC				
I	ANTA	3	6	1	8
II	Auriya GPS	12	13	5	18
III	Dadri GPS	40	13	16	29
IV	Rihand STPS-I	211	18	30	47
V	Rihand STPS-II	271	21	38	59
VI	Unchahaar-I TPS	6	5	2	7
VII	Unchahaar-II TPS	63	11	23	34
VIII	Unchahaar-III TPS	39	7	14	21
IX	Dadri (Th)	48	7	18	26
X	Dadri (Th) II	46	10	20	29
XI	Kahalgaon-I TPS	106	14	25	38
XII	Kahalgaon-II TPS	339	37	75	112
XIII	Aravali	1523	700	584	1,284
XIV	Farakka	48	4	12	17
XV	Singrauli STPS	319	23	46	69
	Total	3,074	890	908	1,798
	NHPC				
I	Bairasul	9	2	1	2
II	Tanakpur	18	3	3	6
III	Chamera-I	64	4	8	11
IV	Chamera-II	50	6	5	11
V	Chamera-III	41	7	8	16

VI	URI	112	6	10	16
VII	URI II	71	8	13	22
VIII	Dhauliganga	57	5	8	13
IX	Sewa II	26	5	6	11
X	Dulhasti	75	14	20	34
XI	Parbati III	27	9	4	13
	Total	549	70	87	157
	THDC				
I	Tehri HPP	58	10	14	23
II	Koteshwar HEP	36	9	8	17
	Total	94	18	22	40
	DVC				
I	DVC (CTPS 7&8)	618	121	147	268
II	DVC (MTPS 6)	206	36	66	102
	Total	824	158	213	370
	NPCIL				
I	NAPS	112	-	35	35
II	RAPS	128	-	52	52
	Total	240	-	87	87
	SJVNL				
I	Naptha Jhakri	208	21	26	47

	Total	208	21	26	47
	Others				
I	Tala	24	-	5	5
II	Sasan, MP	399	6	48	54
III	CLP Jhajjar	474	82	179	261
IV	MPL	2,094	355	583	938
	Total	2,991	443	815	1,258
	Total CSGS	7,980	1,600	2,158	3,759

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 21-22:

Table 5.22: RPO Compliance for FY 21-22

Sl. No.	Particulars	UoM	FY 21-22	
			Solar	Non Solar
A	Projected Energy sale for FY 2020-21	MU	8,177.42	
B	RPO target-Solar & Non Solar	%	8.75%	10.25%
C	RPO target -Solar & Non Solar	MU	715.52	838.19
D	RPO Compliance through	MU	840.47	481.95
	Purchase from TPDDL Solar	MU	2	
	Purchase from SECI Solar	MU	42	
	Purchase from SECI Solar 1	MU	346	
	Sunedison	MU	378	
	Net Metering- at Gross	MU	72.27	
	Purchase from Small Hydro	MU		99
	Purchase from DMSWL	MU		35
	SECI Wind 1	MU		175
	Purchase from TOWMCL	MU		50
	Cosmos Hydro	MU		39
	Taranda Hydro	MU		51
	SDMC @100%	MU		32
E	(Excess)/ Shortfall= (C-D)	MU	(124.95)	356.24
F	Inter head adjustment which can be done	MU		(125.73)
	Available inter-head quantum	MU		(124.95)
G	Requirement to be met through purchase of REC			231.29
H	Net Shortfall			231.29
I	REC rate + 12% GST	Rs/kWh		1.15
J	Cost for REC purchase	Rs Cr		26.60
	Total REC			26.60



Power Procurement through NET Metering

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 21-22
Capacity in MW	55
Energy in MU	72.3

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	Total Charge
		(MU)	(Rs Cr)
A	Solar		
	TPDDL Solar	2	2
	SECI Solar	42	23
	SECI Solar2	346	93
	Sunedison	378	150
	Net Metering	39	21
	Sub-Total	807	289
B	Non Solar		
	SECI Wind 1	175	44
	TOWMCL	50	32



Small Hydro	99	40
DMSWL	35	25
Cosmos Hydro	39	17
Taranda Hydro	51	22
SDMC @100%	32	18
Sub-Total	482	198
Total	1,289	488

Short Term Purchase

Total short term purchase for FY 21-22 has been considered as below:

Table 5.24: Projected Units purchase

Other Sources	Projection FY 21-22		
	MUs	(Rs Cr)	Av. Rate
Power Purchase from Other Sources			
Inter-State Bilateral Purchase	76	30	4.00
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	-255.48
Revenue from Sale of Surplus Power	-76.64
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 21-22:

Table 5.26: Transmission Losses for FY 21-22

Source	Mus
Inter-State Transmission	(363.97)
Intra-State Transmission (DTL)	
Total Transmission Losses	

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 21-22

Source	Amount
PGCIL Charges	701.34
DTL & SLDC Charges	287.74
Other Transmission charges, LDC charges, STOA Charges	1.47
Total (excluding Pension Trust)	990.54

*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 FGD cost has been factored in the year as mentioned in the CPCB sheet. Increase in Variable Cost on account of FGD has already been factored in normal energy charges and Fixed charges has been considered separately as a part of Power Purchase Cost for FY 2020-21.

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

Source	2021-22	
	Fixed	Variable
NTPC Jhajjar	100.63	30.16
CLP Jhajhar	5.50	4.26
Dadri NCTPS(Th)	0.47	1.45
Dadri (Th.) Stage II	1.32	0.77
Maithon Long Term	18.67	18.85
Singrauli STPS	3.17	1.52
Rihand STPS-I	1.07	1.12
Rihand STPS-II	0.86	2.64
Sasan	2.65	2.79
Sub total	134.34	63.56
Total		197.90

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%	3.91
Pragati III	1.50%	8.70
Central Generating Stations		
NTPC	1.50%	26.98
NHPC	1.50%	2.35
NPCIL	2.50%	2.17
Others	1.50%	25.75
Transmission		
DTL & SLDC	2.00%	5.75
PGCIL	1.50%	10.52
Total		86.13



Energy balance for FY 21-22 is as follow:

Based on all above submission, Energy balance for FY 21-22 is given below:

Table 5.30: Energy Balance Summary and Power Purchase Cost for FY 21-22

Sl. No.	Particulars	Energy MU	Amt	Rate Rs/unit
			Rs Cr	
A	Power from CSGS	7,980.00	3,758.59	4.71
B	Power from SGS	1,093.19	775.57	7.09
C	Short Term Power Purchase	75.86	30.34	4.00
D	RPO obligation to be met through purchase from renewable sources	1,289.02	487.92	3.79
E	RPO obligation to be met through purchase of REC		26.60	
F	FGD		197.90	
G	Arrears/Compensation		60.00	
	TOTAL Purchase	10,438.08	5,336.92	5.11
H	Transmission losses (Intra state & Interstate)	-363.97		
I	Transmission charges		990.54	
	Total Purchase with Tx	10,074.11	6,327.46	6.28
J	Less: Short Term surplus power sale	-255.48	-76.64	3.00
K	Less: Normative Rebate		-86.13	
	Net Power Purchase Cost	9,818.63	6,164.64	6.28

Operation & Maintenance Expenses for FY 2021-22

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 2021-22, the Petitioner is seeking O&M Expenses for FY 2021-22 as given in table below:

Table 5.31: Approved O&M Expenses for FY 2021-22

(Rs Cr)

Particulars	*Capacity as on	O&M Expenses Per Unit		O&M Expenses
	Average of FY 21-22			(Rs. Crore)
66 kV Line (kms)	1,106.08	Rs. Lakh/Ckt. Km	3.197	35.36
33 kV Line (kms)		Rs. Lakh/Ckt. Km		
11 kV Line (kms)	7,125.36	Rs. Lakh/Ckt. Km	0.971	69.19
LT Lines system (kms.)	7,550.86	Rs. Lakh/Ckt. Km	7.62	575.38
66/11 kV Grid sub-station (MVA)	5,135.96	Rs. Lakh/MVA	0.991	50.90
33/11 kV Grid sub-station (MVA)		Rs. Lakh/MVA		
11/0.4 kV DT (MVA)	6,257.50	Rs. Lakh/MVA	1.546	96.74
Total (excluding impact of any statutory pay revision)				827.56

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 tried 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 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 15 Cr. on adhoc basis in the ARR for FY 2021-22. The said amount shall be tried up based on prudence check of actual legal expenses.

Table 5.31(a): Projected Normative O&M Expenses for FY 2021-22 (Rs Cr)

Particulars	O&M Expenses	Remarks
Normative O&M Expenses for FY 2021-21	827.56	Table 5.31
7 th Pay Commission Impact	50.00	
Legal Expenses	15.00	
Total O&M Expenses	892.56	



Capitalization for FY 2021-22

The Hon'ble Commission in its Business Plan Regulations, 2019 has approved capitalization of Rs 443 Cr. for FY 2021-22 (excluding Rs. 50 Cr towards Capital Deposit). However the Petitioner would like to propose revised capitalization for FY 2021-22 as following:

Table 5.32: Revised Capitalization for FY 2021-22 (Rs Cr)

Particulars	Amount
Capitalization	288.08
Smart Meter	87.24
Total Capitalization without deposit work	375.32

It is worth to mention that deposit work is already treated as a part of capitalization, thus, gross capitalization for FY 2021-22 is considered as given below:

Table 5.33: Capitalization considering Deposit work for FY 2021-22 (Rs Cr)

Particulars	Amount
Capitalization without deposit work	288.08
Smart Meter	87.24
Deposit Work	50
Total	425.32

Considering the capitalization of Rs. 425.32 Cr, gross block of fixed assets for FY 2021-22 works out as follows:



Table 5.34: Capitalization of Fixed Assets

(Rs Cr)

Sl. No.	Particulars	Amount	Remark
A	Opening Balance for FY 20-21	5,919.92	Table 3.45
B	Projected Additions for FY 20-21	314.45	
C	Opening balance for FY 21-22	6,234.37	(A+B)
D	Addition during the year	425.32	Table 5.33
E	Deletion during the year*		
F	Closing Balance	6,659.69	(C+D)
G	Average Balance of Fixed Assets	6,447.03	((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 21-22 and thereafter.

Table 5.35: Estimated Consumer Contribution capitalized

(Rs Cr)

Sl. No.	Consumer Contribution/Grant	Amount	Remarks
A	Opening Balance for FY 20-21	900.94	Table 3.46
B	Projected Additions for FY 20-21	32.50	As per Tariff Order Para 4.142 for FY 20-21
C	Opening balance for FY 20-21	933.44	(A+B)
D	Capitalized during the year	50	
E	Closing Balance	983.44	(C+D)
F	Average Cumulative Capitalized Consumer Cont.	958.44	(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 Depreciation for FY 2021-22, the Petitioner has considered Depreciation rate of 5.04% equivalent to the rate considered for True up of FY 19-20.

Table 5.36: Revised Depreciation for FY 2021-22

			(Rs. Cr)
Sl. No.	Particulars	Amount	Remark
A	Opening GFA	6,234.37	Table 5.34
B	Net Additions to Asset during the year	425.32	Table 5.33
C	Closing GFA	6,659.69	
D	Average GFA	6,447.03	
E	Less: Average Consumer Contribution	958.44	Table 5.35
F	Average GFA net of CC	5,488.59	
G	Average rate of depreciation	5.04%	Table 3.47 of True Up
H	Depreciation for the year	276.40	
I	Opening Depreciation	2,080.72	Table 3.49 of True Up
J	Closing Depreciation	2,357.12	
K	Average Depreciation	2,218.92	

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:

with you



(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		Remark
		FY 21-22		
A	Annual revenues requirement	8,338.01		Table 5.44
B	Receivables equivalent to 2 months ARR		1,389.67	A/12*2
C	Power Purchase expenses	6,164.68		Table 5.30
D	Add: 1/12th of power purchase expenses		513.72	C/12
E	Total working capital		875.94	B-D
F	Opening working capital		460.09	Table 3.50 of True Up
G	Change in working capital		415.86	(E-F)

Means of Finance for Capitalization for FY 2021-22

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: Means of Financing (Rs Cr)

Sl. No.	Particulars	Amount	Remarks
A	Capitalization	425.32	Table 5.36
B	Less- Consumer Contribution Capitalized during the year	50.00	Table 5.35
C	Funding Requirement	375.32	
D	Through- Debt @ 70%	262.72	
E	Through Equity @ 30%	112.60	

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 depreciation thereon, estimated consumer contribution and estimated working capital requirement as computed above, computation of Regulated Rate Base for FY 2021-22 is given below:

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

Sl. No.	Particulars	Amount	Remarks
A	Opening Balance of OCFA	6,234.37	Table 5.34
B	Opening Balance of Accumulated Depreciation	2,080.72	Table 5.36
C	Opening Balance of Accumulated Consumer Contribution	933.44	Table 5.35
D	Opening balance of working capital	460.09	Table 5.37
E	RRB – Opening	3,680.29	
F	Capitalization during the year	425.32	Table 5.36
G	Depreciation for the year (Including AAD)	276.40	Table 5.36

H	Consumer Contribution, Grants,	50.00	Table 5.38
I	Change in Working Capital	415.86	Table 5.37
J	ΔAB (Change in Regulated Base)	465.31	
K	RRB – Closing	3,363.35	
L	RRB(i)	4,145.61	

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 2021-22.

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 2021-22.

Table 5.40: Weighted Average Cost of Capital (WACC) sought for FY 2021-22

Sl. No.	Particulars	Amount	Remark
A	Equity	1,615.12	
B	Debt- Capex	1,654.54	
	Debt- working capital	875.94	
C	Return on Equity	16%	
D	Income Tax Rate	16.83%*	
E	Grossed up Return on Equity	19.24%	
F	Rate of Interest	8.04%	
G	Weighted Average Cost of Capital	12.40%	

* It is requested to the Hon'ble Commission to consider actual applicable income tax rate at the time of approving ARR for FY 21-22, as forsake of convenience the Petitioner has considered effective rate of FY 19-20.

Considering the above computed WACC of 12.40% the Petitioner has computed ROCE for FY 21-22 as follows:

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

Sl. No.	Particulars	Amount	Reference
A	RRB (I)	4,145.61	Table 5.39
B	WACC	12.40%	Table 5.40
C	Return on Capital Employed	514.25	(A*B)

Non-Tariff Income

The Petitioner has kept Non-tariff income for FY 2021-22 at the same level i.e. Rs 85.36 Cr , as offered for truing up for FY 2019-20 , in line with the methodology followed by the Hon'ble Commission in past.

Table 5.42 Non-Tariff Income (Rs Cr)

Sl. No.	Particulars	FY 2021-22
A	Non-Tariff Income/Interest on Security Deposit	85.36
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 8.35% for FY 2021-22 for funding revenue gap has been considered.

Based on the above, the carrying cost rate for FY 2021-22 computed as follows.

with you



Table 5.43: Computations of carrying cost

Sl. No.	Particulars	FY 2021-22
A	Rate of Return on Equity	14.00%
B	Rate of Interest on Loan	8.35%
C	Rate of Carrying Cost	10.05%

Computation of Aggregate Revenue Requirement

Based on the submission made above the total Aggregate Revenue Requirement for the FY 2021-22 comes to Rs. 8,337.17 Cr. Component wise breakup of the same is given below:

Table 5.44: Summary of Aggregate Revenue Requirement

(Rs Cr)

Sl. No.	Particular	FY 2021-22	Remarks
		Amount	
A	Cost of Power Purchase	6,164.68	Table 5.30
B	O&M Expenses	892.56	Table 5.31
C	Depreciation	276.40	Table 5.36
D	Return on Capital Employed	514.25	Table 5.41
E	Carrying Cost	575.47	Table 5.46
F	Less: Non-Tariff Income/ Interest on consumer security deposit	85.36	Table 5.42
H	Annual Revenue Requirement	8,338.01	



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 2021-22	Remarks
		Estimated	
A	Aggregate Revenue Requirement for the year without carrying cost	7,762.54	Table 5.44
B	Revenue available for the year without DRS	6,653.64	Table 5.16
C	Revenue (Gap)/surplus for the year	(1,108.89)	(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. 3,810.05 Cr upto FY 2019-20 in true up for FY 2019-20. However for the purpose of computation of carrying cost for FY 2021-22 (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 12 Cr as computed by the Hon'ble Commission for FY 2020-21 and further adjusted the said revenue gap/surplus on account of following variations/ reasons.

with you



Computation of Additional Revenue Gap for FY 2020-21 is given below:

Table 5.46: Additional Revenue Gap for FY 20-21

Sl. No.	Particular	FY 20-21	Remarks
		Amount as approved * Rs Cr.	
	Total approved ARR for FY 2020-21	6,383.18	Table 5.9 of TO 2020-21
	Estimated Revenue available for FY 2020-21	6,395.00	
	Revenue (Gap)/Surplus*	12	
	Adjusted on account of		
	Power Purchase Cost (Note No 1)	(615.78)	Due to Arrears bills + REC impact etc.
	O&M Expenses (Note no 2)	(80.29)	Balance of normative O&M expenses not factored at the time of issuance of TO 2020-21
	Additional O&M expenses (Note No 3)	(20.25)	
	Additional Impact on ROCE	0	Kept at same level, as issue is challenged before APTEL
	Carrying Cost Impact (Note No 4)	(363)	
	Difference in Revenue Available	(297)	
	Revised Revenue Gap / surplus for the year [^]	(1364)	

* Approved in Tariff Order for FY 2020-21

[^] 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 2020-21 has projected gross power purchase cost/unit @ Rs. 5.42. {i.e. (Rs Cr – 4819.23+73.29)/9030 MUs}. Against the same, based on 7 months actual power purchase cost, it is estimated that for FY 2020-21, Gross Power

Purchase Cost/unit would be approx. @ Rs. 6.10/unit. Thus, resulting into increase in power purchase cost of the petitioner for FY 2020-21.

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

SI. No.	Particular	FY 20-21	Remarks
		Amount as approved * Rs Cr.	
A	Estimated Energy Input at Delhi Periphery (MU)	9030	Table 4.42 of TO 2020-21
B	Gross Power Purchase Cost/ units – Rs/kWh	5.42	
C	Revised Estimated Power Purchase Cost/unit – Rs /Kwh	6.10	
D	Additional Impact of increase in cost – Rs Cr	616	
E	Less- Additionally Recovery of increased power purchase cost through PPAC – Rs Cr.		
F	Estimated amount unrecovered for FY 2019-20 – Rs Cr	616	
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	511	
I	Energy available from Stations based in Delhi and associated cost	(27)	
J	Power Purchase Rebate (Billing Rebate)	0	
K	Transmission charges including STOA Charges	134	
L	Surplus Energy	(86)	
M	Impact of RE certificates	(42)	
N	Bill Discounting & FGD amount	78	
O	Due to difference between DERC VS Estimated actuals projection	46	
P	Total	616	



Note No 2: Normative O&M Expenses

The Hon'ble Commission in its Tariff Order for FY 2020-21 has provisionally allowed an amount of Rs 695.42 Cr against the total normative O&M allowance of Rs 775.71 Cr. (i.e. provisional basis 90% of Opening network capacity and 65% of capitalization for the year O&M expenses are considered). Relevant extract of the Tariff Order is given below:

"4.125 The Commission observed that the Petitioner has projected the network capacity on higher side. Further, because of the outbreak of COVID-19 pandemic, the network utilisation is expected to be reduced this year resulting in to lower O&M expenses. Further, the O&M Expenses are linked with the network capacity of the DISCOM. Accordingly, the Commission has considered 90% of the network capacity as on 31/03/2020 of the Petitioner and 65% of the claimed Capitalization for FY 2020-21 (discussed in detail in the relevant section) 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 80.29 Cr (i.e. Rs. 775.71 Cr- Rs. 695.42 Cr) is considered additionally.

Note No 3: Additional O&M expenses

The Petitioner is seeking an additional O&M expenses of Rs. 20.25 Cr over and above the normative O&M expenses. These expenses are due to impact to COVID-19 and legal expenses. Thus, the petitioner now considered additional impact of Rs. 20.25 Cr. for FY 2020-21 towards O&M expenses to meet its liability.

Note No 4: Carrying Cost Impact

The Hon'ble Commission in its Tariff Order for FY 2020-21 has computed carrying cost of Rs 96.63 Cr. in Table no 4.68, considering average revenue gap of Rs 943.58 Cr. However, against the same, the Petitioner has computed carrying cost of Rs 459.54 Cr. for FY 2020-21. Computation of the same is given below:

Table 5.48: Additional Carrying cost for FY 20-21

Sl. No.	Particular	FY 20-21	Remarks
		Amount as approved * Rs Cr.	
A	Opening Revenue Gap as per true up Petition for FY 2020-21	(3,810.05)	Table no 3.67
B	Addition for the year	(1,364.39)	As computed above
C	Closing Revenue Gap	(5,174.44)	(A+B)
D	Average Revenue Gap	(4,492.25)	(A+C)/2
E	Carrying cost @ 10.24%	(460.01)	
F	Less- already considered by the Hon'ble Commission	96.63	Tariff Order July'20
G	Additional impact	(363.38)	(E-F)



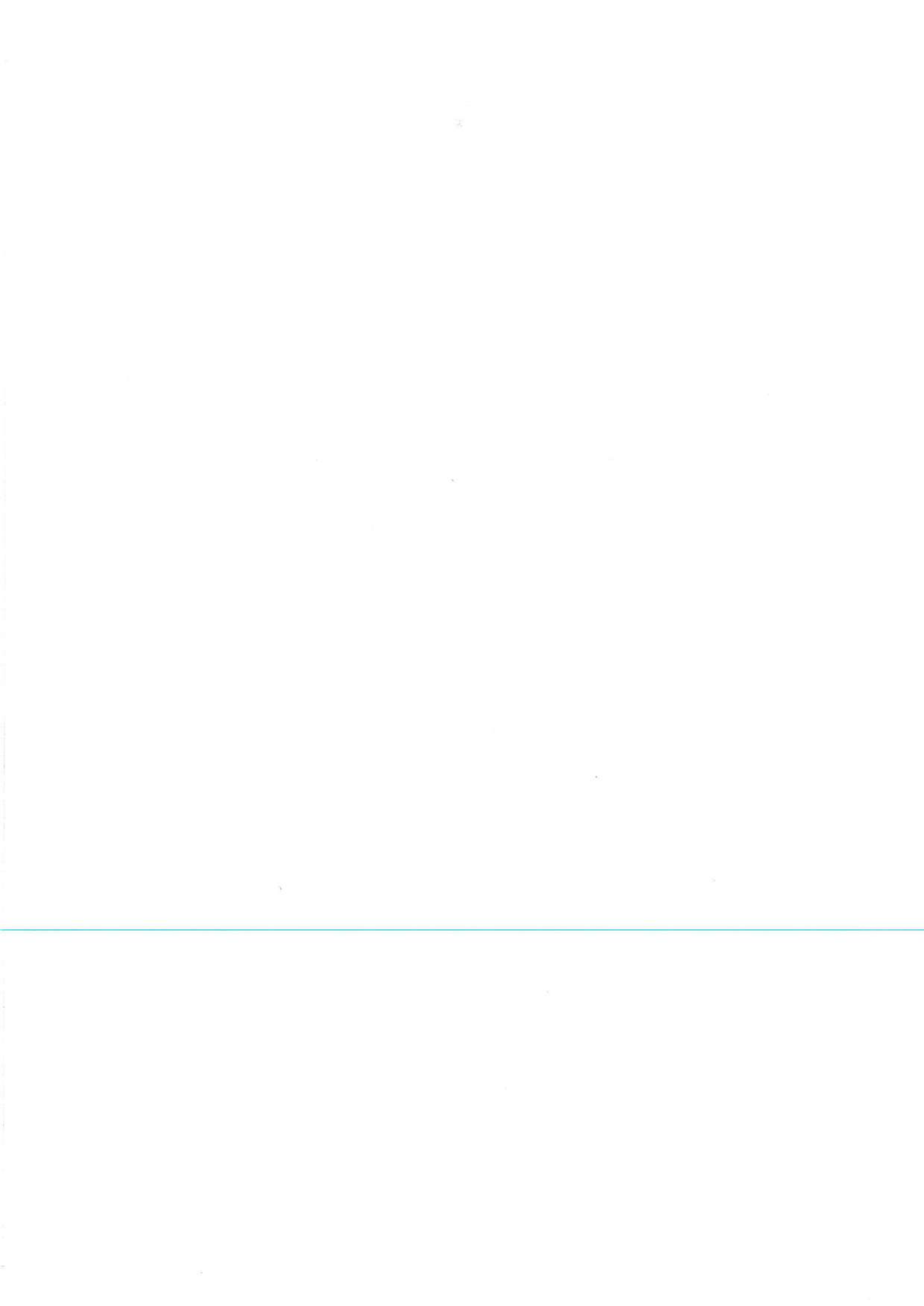
Computation of Closing Revenue Gap (on Provisional basis) along with Carrying Cost upto FY 2021-22

For the FY 2021-22, the Petitioner has estimated an amount of Rs 512.70 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 2021-22	Remarks
		Estimated	
A	Opening Revenue Gap	(3,810.05)	
	Add- Projected Revenue Gap for FY 20-21	(1,364.39)	
B	Opening Revenue Gap	(5,174.44)	(A+B)
C	Revenue (Gap)/Surplus for the year	(1,108.89)	Table 5.45
D	Closing Revenue (Gap)	(6,283.34)	(C+D)
E	Carrying Cost Rate	10.05%	Table 5.43
F	Carrying Cost	(575.47)	(C+E/2)*F
G	Recovery of carrying cost from 8% Deficit Revenue Recovery Surcharge	512.70	Table 5.15
H	Closing Revenue Gap (including carrying cost)	(6,346.11)	



COST OF SERVICE

The Petitioner has considered same approach for determining the cost of supply for different voltage levels as adopted by the Hon'ble Commission in its Tariff Orders.

The total ARR has been allocated in the Wheeling and Retail Supply business to different voltage levels and the same has been considered along with the energy sales to the respective voltage level to arrive at the per unit Wheeling charge and Retail Supply Charge for that voltage level.

ALLOCATION OF WHEELING ARR

The Petitioner has considered the gross energy sales (MU) for the FY 2021-22 and has allocated the same to different voltage levels in the proportion of energy sales (MU) to these voltages to total sales. The voltage wise estimated energy sales for FY 2020-21 is as shown in the following table:

Table 6.1: Estimated Energy Sales for FY 2021-22 (MU)

Particulars	MUs
Sales above 66 kV level	158.42
Sales at 33/66 kV level	76.04
Sales at 11 kV level	980.42
Sales at LT level	7,837.89
Total	9,052.78

The Petitioner has thereafter grossed up the energy sales (MU) at the specific voltage level with the respective distribution losses (%) at that level to arrive at the Energy Input (MU) for that level. The summary of the voltage wise distribution losses considered by the Commission are as follows:



Table 6.2: Estimated Distribution Loss for FY 2021-22 (%)

Particulars	%
Loss above 66 kV level	0.00%
Loss at 33/66 kV level	0.78%
Loss at 11 kV level	2.63%
Loss at LT level	8.61%
Average Loss	7.80%

The Petitioner would like to mention that the voltage wise distribution losses considered above are estimates and based on same the Energy Input (MU) for the respective voltage levels are shown as follows:

Table 6.3: Estimated Energy Input for FY 2021-22 (MU)

Particulars	MUs
Input for 66 kV level	158.42
Input for 33/66 kV level	76.64
Input for 11 kV level	1,006.90
Input for LT level	8,576.67
Total	9,818.63

Based on the ratio given in Business Plan Regulations, 2019 Wheeling ARR for FY 2021-22 is computed as below:

Wheeling Business		Ratio	Amount in Rs Cr.
	Particulars		
A	O&M Expenses	62%	553.39
B	Depreciation	77%	212.83
C	ROCE	72%	370.26
D	Carrying cost	14%	80.57
E	Non Tariff Income	40%	34.14
F	Total Wheeling ARR		1,182.90

The Wheeling ARR for the year has been apportioned in proportion of the energy input at different voltage levels. The wheeling cost allocated to different voltage levels is tabulated as follows:

Table 6.4: Wheeling cost for different voltages for FY 2021-22 (Rs. Cr)

Particulars	Amount
Above 66 kV level	19.07
At 33/66 kV level	9.23
At 11 kV level	121.23
At LT level	1033.27
Total	1182.90

Based on the energy sales at the respective voltage levels the Petitioner has determined Wheeling Charge per unit for different voltages for FY 2021-22 as follows:

Table 6.5: Wheeling Charges for FY 2021-22 (Rs/Unit)

Particulars	Rs-kWh Per unit
Above 66 kV level	1.20
At 33/66 kV level	1.21
At 11 kV level	1.24
At LT level	1.32
Average	1.31

ALLOCATION OF RETAIL SUPPLY ARR

Based on the ratio given in Business Plan Regulations, 2019 Wheeling ARR for FY 2021-22 is computed as below:

Retail Business		Ratio	Amount in Rs Cr.
	Expenditure		
A	Power Purchase Cost	100%	6,164.68
B	O&M Expenses	38%	339.17
C	Depreciation	23%	63.57
D	ROCE including Tax	28%	143.99
E	Carrying Cost	86%	494.90
F	NTI	60%	51.22
G	Total Retail Business ARR		7,155.11

The Petitioner has allocated the Retail Supply ARR in the ratio of energy input determined above for different voltage levels. The Petitioner has thereafter determined the Retail Supply charge for a particular voltage level by considering energy sales at that voltage level. The summary of Retail supply ARR Allocation to different voltage levels for FY 2021-22 is given as follows:

Table 6.6: Retail Supply cost for different voltages for FY 2021-22 (Rs. Cr)

Particulars	Amount
Above 66 kV level	115.45
At 33/66 kV level	55.85
At 11 kV level	733.75
At LT level	6,250.05
Total	7155.11

Based on the energy sales at the respective voltage levels, the Petitioner has determined retail supply charges per unit for different voltages for FY 2021-22 as follows:

Table 6.7: Retail Supply Charges at different voltages for FY 2021-22 (Rs/Unit)

Particulars	Rs-kWh/unit
Above 66 kV level	7.29
At 33/66 kV level	7.34
At 11 kV level	7.48
At LT level	7.97
Average	7.90

The cost of supply determined by the Commission for the different voltage levels is shown as follows:

Table 6.8: Tariff at different voltages for FY 2021-22 (Rs/Unit)

Particulars	Rs-kWh/unit
Above 66 kV level	8.49
At 33/66 kV level	8.56
At 11 kV level	8.72
At LT level	9.29
Average	9.21

