Annexure - 8

BEFORE

WEST BENGAL ELECTRICITY REGULATORY COMMISSION, KOLKATA

PERSPECTIVE PLAN FOR MYT PETITION

FOR THE EIGHTH CONTROL PERIOD (FY 2023-24 TO FY 2025-26)

INDIA POWER
Adding Power To Life

India Power Corporation Limited (IPCL)

Corp Off: Plot No. X-1, 2 & 3, Block-EP, Sector-V, Salt Lake City, Kolkata-700091

TARIFF APPLICATION OF
IPCL FOR THE MYT CONTROL PERIOD – FY 2020-21TO FY FY2022-23
UNDER SECTION 64(3)(a) READ WITH SECTION
62(1) AND SECTION 62(3) OF THE
ELECTRICITY ACT, 2003

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INDIA POWER CORPORATION LIMITED
Sector-V
Salt Lake City
Kolkata-700 091
Plot No.-X1-2&3, Block-EP

1. INTRODUCTION

1.1 Introduction

1) India Power Corporation Limited [hereinafter referred to as **IPCL** (formerly known as DPSC Limited) or, "**Petitioner**"] is a distribution licensee in the State of West Bengal for supply of electricity in Asansol-Raniganj belt of the State since the year 1919. The erstwhile DPSC Limited was a licensee under the provisions of the Indian Electricity Act, 1910 (since repealed) and has become a deemed licensee in terms of the first proviso to section 14 of the Act, with effect from 10.06.2003 i.e. the date of coming into force of the Act. The licensed area of IPCL stretches over 798 Sq. Km in the Asansol-Raniganj belt. This year, IPCL has completed 100 years of its existence providing reliable and quality power supply with lowest T&D Loss level to critical users such as coal mines, hospitals, railways, industries, public utilities, LT Consumers and so on in its licensed area.

2) DPSC Ltd. was a licensee under the provisions of the Indian Electricity Act, 1910 (since repealed) and with the enactment of Electricity Act, 2003, became a deemed licensee in terms of the first proviso to section 14 of the Act, with effect from 10.06.2003 i.e. the date of coming into force of the Act with an obligation to supply all the consumers within its license area at appropriate voltage levels.

3) Pursuant to a Scheme of amalgamation sanctioned by the Hon'ble High Court of Calcutta on April 17, 2013 India Power Corporation Limited has been amalgamated with DPSC Limited (DPSCL) and thereafter the new entity was also renamed as India Power Corporation Limited (hereinafter shall be referred to as IPCL).

4) Post amalgamation, the Petitioner continue to record the divisional accounts separately for (a) the distribution business of IPCL in Asansol-Raniganj belt in the name of DPSC Distribution Business Division identifying its name with DPSC brand name which has been associated with long standing reputation of consistent, reliable and quality power in the distribution area and (b) wind power businesses which are located outside the State of West Bengal. Each of the expenses is identifiable against its business segment which is audited and certified by the Statutory Auditor of the Company.

5) IPCL pervaded by a unique culture has developed a corporate policy comprising three 'D's – Discipline, Dedication and Devotion. Over the decades, this culture has permeated to all levels of the organization.

2. SWOT Analysis

2.1 Introduction

1) The SWOT analysis of IPCL aims at assessing the company's performance in vital areas of the power distribution business. Also analyzing the business environment, potential competition and the issues and challenges that the company faces in a dynamic environment that is evolving continuously. The business environment has been analysed vis-à-vis the sector reforms, the policy and regulatory framework as per EA, 2003 and the WBERC regulations.

2) It is necessary to understand the inherent competitive advantage of the company as well as the risk surrounding the business environment both internal and external. The aim of SWOT analysis is to identify the key internal and external factors that are important to achieve the objective of the company. The SWOT Analysis is used to assess the internal and external environment in which the company operates and competes.

3) This section provides the analysis of the strength, weakness, opportunities and threats as perceived by IPCL, which is summarized in the following diagram:

Figure 1: SWOT analysis of IPCL

Strength	**Weakness**
▪ Strong Group brand value and financial position ▪ Low Distribution losses ▪ Experienced manpower & technical expertise ▪ Major share of sales to HT consumers ▪ Large license area with potential for future growth	▪ Ageing distribution infrastructure ▪ Limited spread of LT network ▪ High Power Procurement cost ▪ Limited sources of power purchase due to single point of connectivity with STU grid
Threats	**Opportunity**
▪ Economic Growth ▪ Policy & Regulatory Risk ▪ Power Trading & Open access ▪ Coal shortages and environmental issues ▪ Power Sourcing & Cost ▪ Demand Drivers for Electricity ▪ Competition	▪ New business opportunities in the power sector ▪ Competitive bidding for power procurement ▪ Capital Investment planning ▪ Smart Grid Implementation ▪ Consumer Service management ▪ Human Resources Management

3. SALES- DEMAND HISTORICAL TREND & PROJECTION

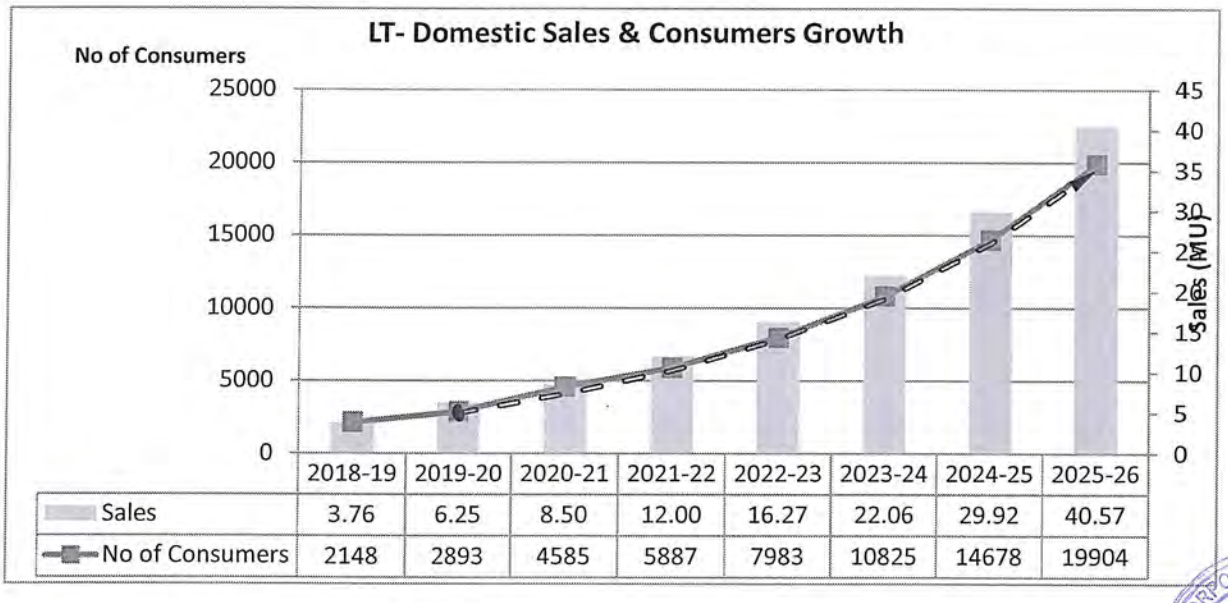
A. Consumer and Sales Growth Historical and Projection

The petitioner in a parallel license operational area has experienced different types of challenges in the area of increasing consumer base and sales achievement due to restriction in license condition till 2013-14 regarding LT consumers addition. However, in the past 5 years the petitioner has achieved significant sales growth in LT consumers segment and also managed to add HT consumers in 33KV and 132 kV voltage level in addition to existing strong base of 11 kV consumers.

The petitioner has also observed decline in Sales growth on account of COVID-19 pandemic for the FY 2020-21 & FY 2021-22. The charts below highlight the achievement in sales and consumer growth with projection for future ensuing years.

1) LT Domestic Sales

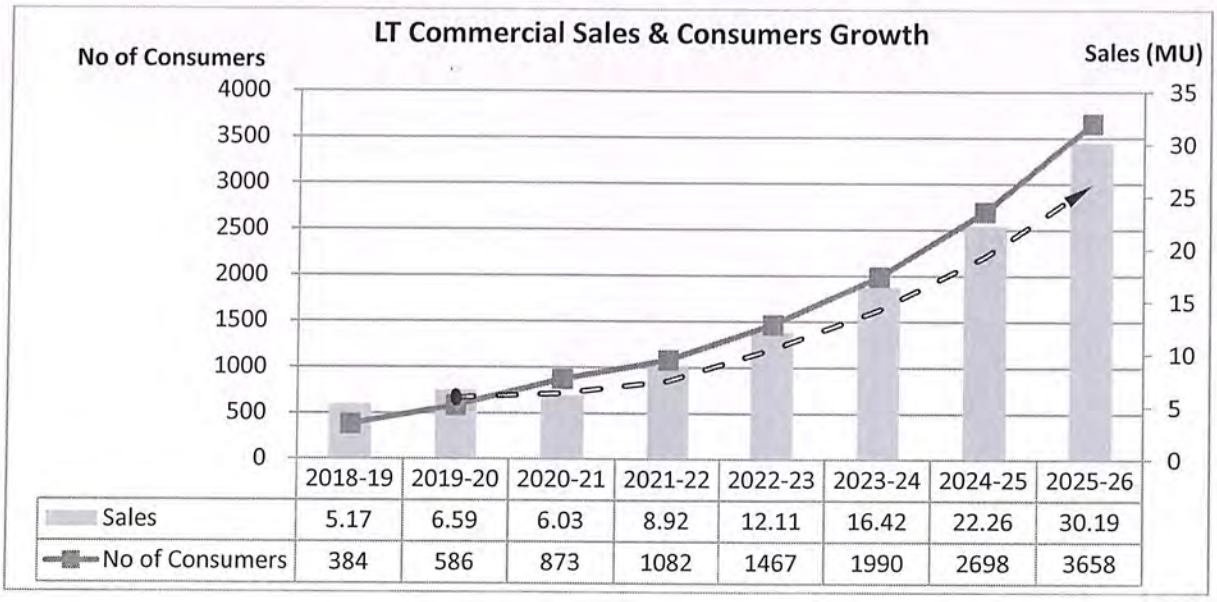
LT domestic sales has grown from 3.76 MU in 2018-19 up to 12 MU in 2021-22 and projected to reach at 40.57 MU by 2025-26 due to focused LT expansion rollout plan of the petitioner during the control period and beyond years. Number of consumers also expected to grow exponentially from 2148 numbers in 2018-19 up to 19904 numbers by 2025-26.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Sales	3.76	6.25	8.50	12.00	16.27	22.06	29.92	40.57
No of Consumers	2148	2893	4585	5887	7983	10825	14678	19904

2) LT Commercial Sales

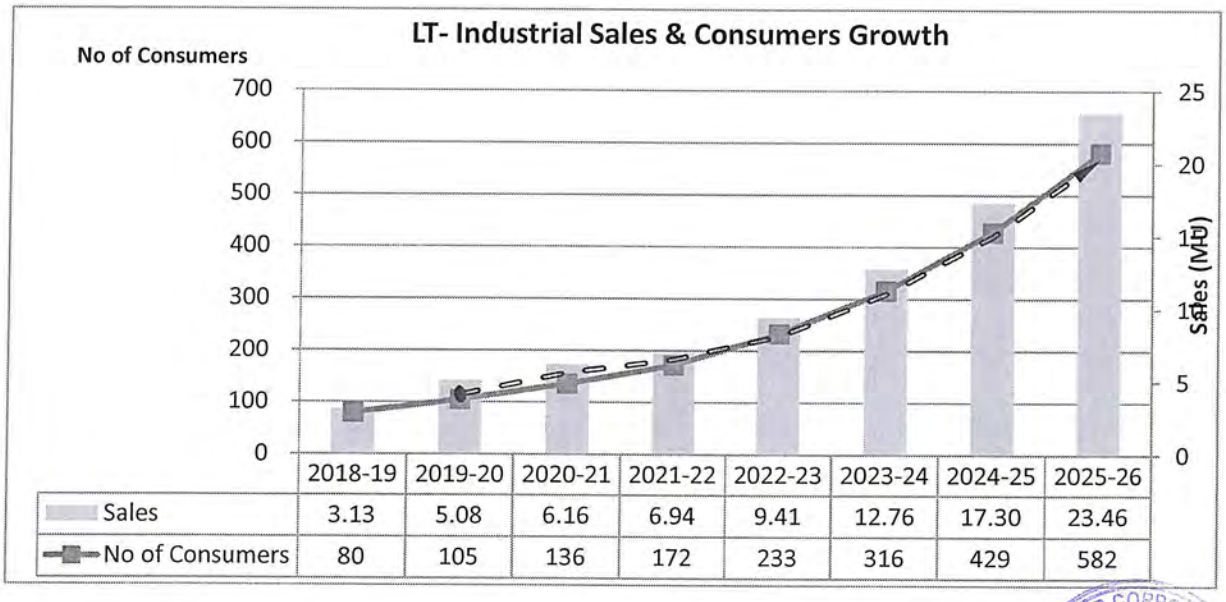
LT domestic sales has grown up from 5.17 MU in 2018-19 to 8.92 MU in 2021-22 and projected to reach at 30.19 MU by 2025-26 due to focused LT expansion rollout plan.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Sales	5.17	6.59	6.03	8.92	12.11	16.42	22.26	30.19
No of Consumers	384	586	873	1082	1467	1990	2698	3658

3) LT Industrial Sales

LT industrial sales has grown from 3.13 MU in 2018-19 to 6.94 MU in 2021-22 and projected to reach at 23.46 MU by 2025-26 as the petitioner expects some large LT consumers may switch to HT category, whereas small LT industrial units shall be added as new consumers with lower load demand.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Sales	3.13	5.08	6.16	6.94	9.41	12.76	17.30	23.46
No of Consumers	80	105	136	172	233	316	429	582

The LT sales and consumers addition plan are projected in line with the petitioner's propose LT network rollout plan for next five years.

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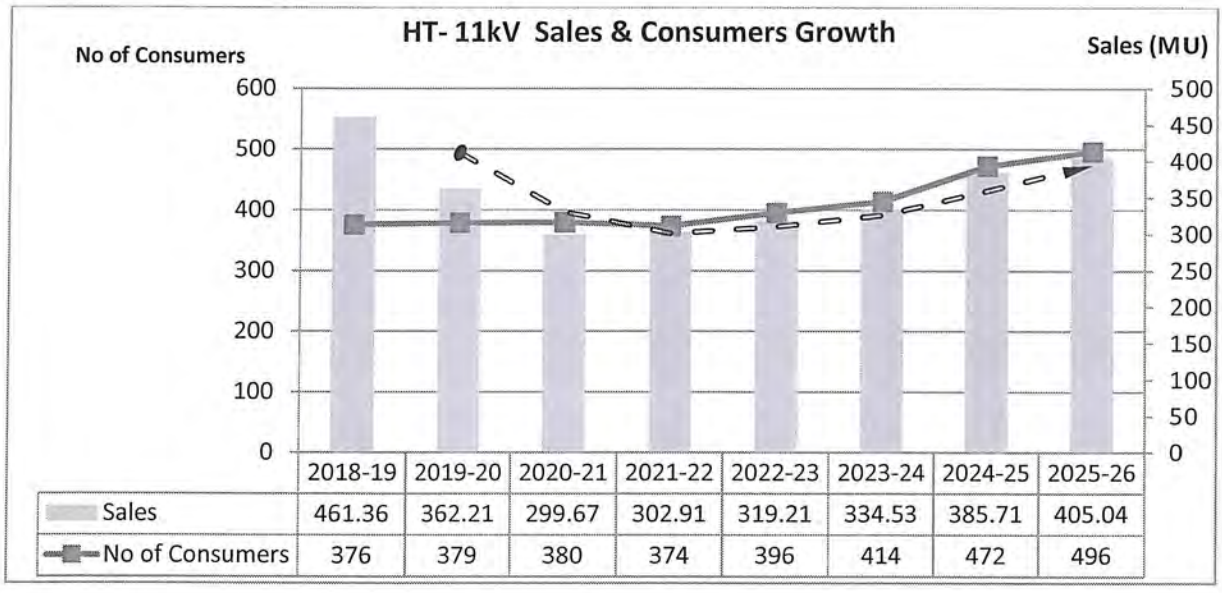
4) HT- 11kV Industry Sales

The petitioner had a strong HT consumer's base historically due to presence of ECL consumers. However, most of the ECL consumers have migrated to other parallel licensee due to some benefits which ECL envisaged suitable for their business. The petitioner through its marketing efforts trying to enhance the sales in 11kV voltage level due to presence of many industries in the license area.

However, the Sales growth in Industrial segment during FY 2020-21 & 2021-22 has greatly affected due to COVID-19 pandemic scenario.

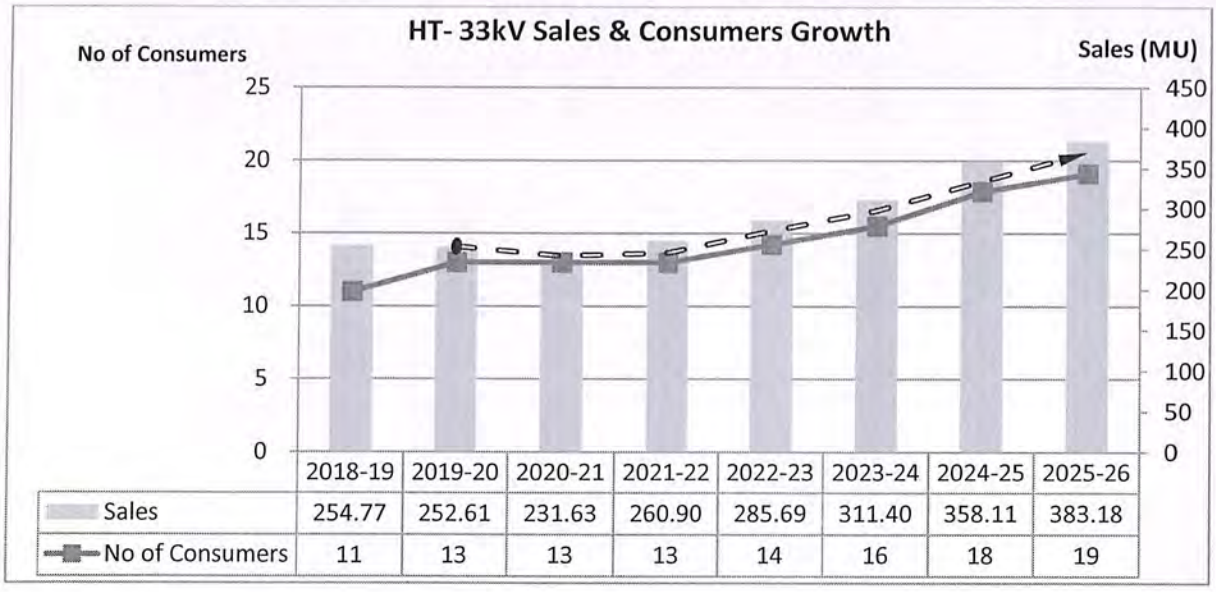
The petitioner's 11kV sales has declined from 461 MU in 2018-19 to 303 MU in 2021-22 and projected to reach to 405 MU by 2025-26 due to expected industrial consumers' addition under 11kV voltage level.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Sales	461.36	362.21	299.67	302.91	319.21	334.53	385.71	405.04
No of Consumers	376	379	380	374	396	414	472	496

5) HT – 33 kV Industry Sales

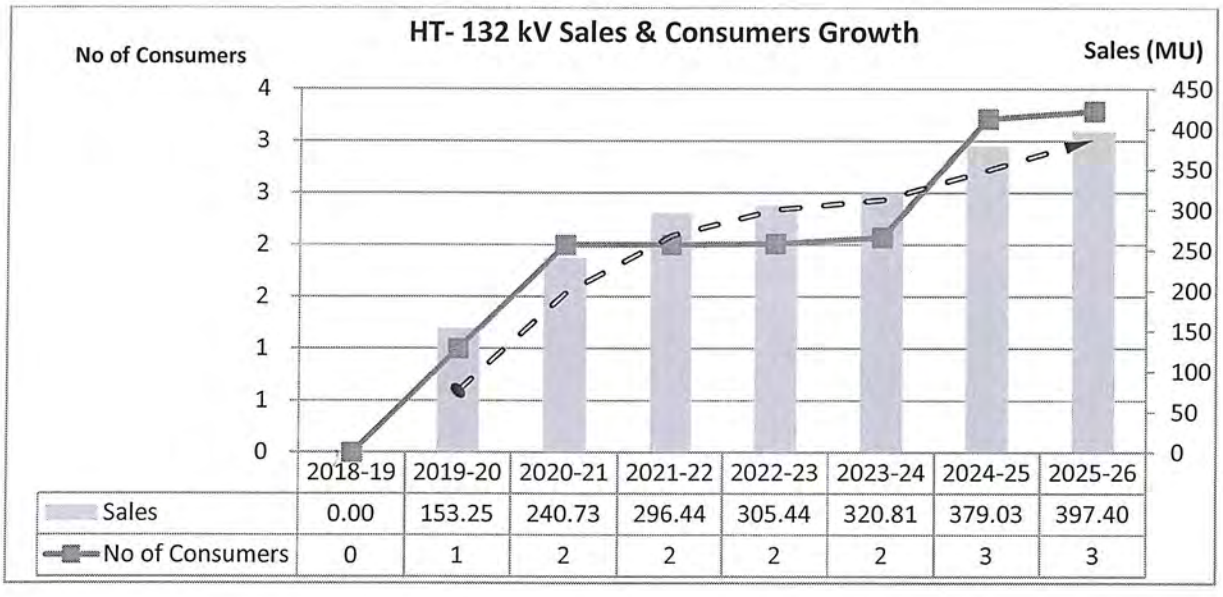
The petitioner has connected some of the 33kV industrial consumers during the past 5 years to enhance the total sales and minimizing the revenue loss due to ECL consumers migration in 11kV voltage level. The petitioner's propose capex plan in the 8th MYT control period has been planned with an aim to connect more such 33kV consumers with higher load demand.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Sales	254.77	252.61	231.63	260.90	285.69	311.40	358.11	383.18
No of Consumers	11	13	13	13	14	16	18	19

6) HT – 132 kV Industry Sales

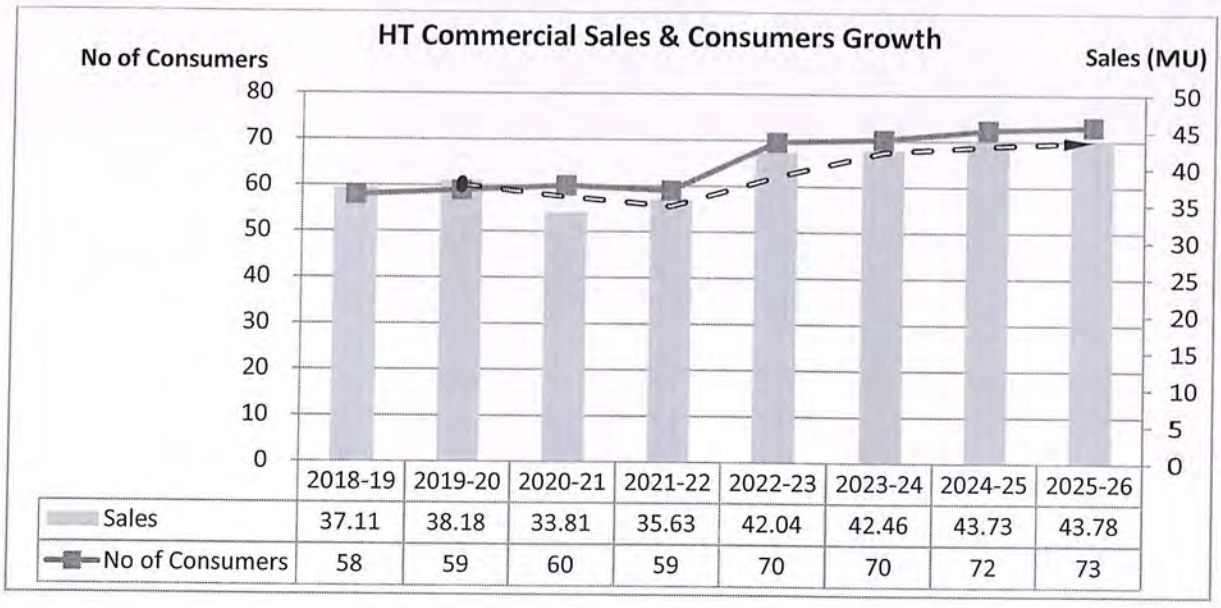
The petitioner has connected one consumer under 132kV industry category in the year 2019-20 and projected to add another 1-2 additional consumers through the existing infrastructure and proposed capital expenditure in license area during the control period. 132 kV Traction sales shown under others category sales.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Sales	0.00	153.25	240.73	296.44	305.44	320.81	379.03	397.40
No of Consumers	0	1	2	2	2	2	3	3

7) HT – Commercial Sales

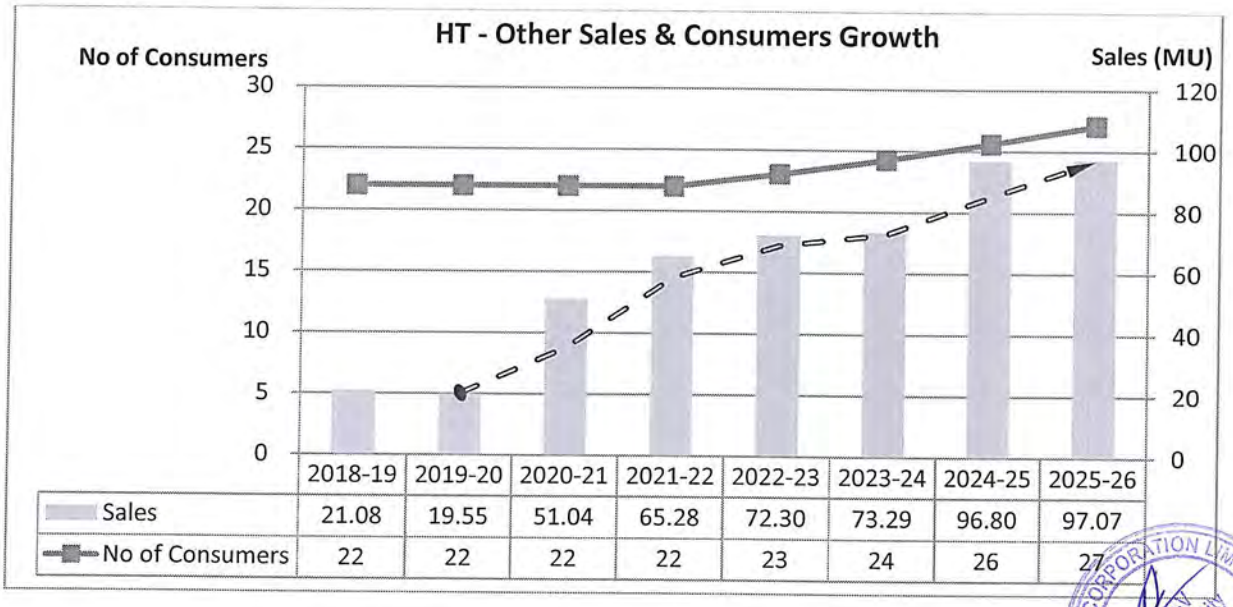
The petitioner's commercial consumer base has declined in the past five years due to migration to other parallel licensee. However, the petitioner is putting its marketing efforts to attract more commercial consumers to its HT consumer base during the control period.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Sales	37.11	38.18	33.81	35.63	42.04	42.46	43.73	43.78
No of Consumers	58	59	60	59	70	70	72	73

8) HT – Other Sales

The petitioner's other consumer base includes Public water works, public utility, cold storage, Domestic (HT), Co-operative Group Housing Society, Private Educational Institutions and one traction consumer at Pandabeswar area. The petitioner is putting its marketing efforts to attract more consumers to its HT consumer base during the control period primarily under public water works.



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Sales	21.08	19.55	51.04	65.28	72.30	73.29	96.80	97.07
No of Consumers	22	22	22	22	23	24	26	27

B. Basis for Consumer and Sales Growth Projection

1) The Licensee determined the load factors based on Historical actual billing of fixed/demand charges to calculate the average and maximum demand recorded for each type of consumer categories.

2) Average load factors from 2018-19 to 2021-22 has been considered the basis to

determine the future load (KVA) growth along with planned consumer addition with suitable assumption on load utilization.

3) The Petitioner has considered the Adjusted Trend Analysis Method for the purpose of accurate projection of sales. This method assumes the underlying factors which drive the demand for electricity and are expected to follow the same trend as in the past. However, this approach also discounts any outliers (relative to the trend) observed in the growth rates over the period of 5 years and excludes them while projecting energy sales for each year of the control period. Adopting such a method has enabled the Petitioner to further fine tune the projection by eliminating any abnormal pattern observed under any category. The estimation of energy consumption of prospective consumers has been worked out based on their applications/survey/mutual discussion and their likely energization schedule.

4. POWER PROCUREMENT PLAN

4.1 Sources of Power

- DVC radial supply has been considered based on technical dependency and comparative rate in merit order.
- DVC –schedule mode supply has been projected based on the quantum of power based on 16 MW Long term PPA with RTPS, currently under consideration before the Hon'ble Commission.
- Though no specific power quantum has been considered from WBSEDCL in the projection stage considering such radial supply at high cost, however for balancing the power portfolio owing to the substantial quantum of RE power, a certain quantum of power is envisaged from WBSEDCL for the ensuing years. Also, the Petitioner is working on the network integration between different load centres, till the time this is completed, power requirement from WBSEDCL at radial mode is required.
- Quantum of Power from WBGEDCL has been projected based on actual trend of quantum received in last financial year.
- SECI Hybrid RE (259 MU per annum) and RTC RE (701 MU per annum) have been considered equal to the minimum guaranteed quantity for respective years based on the Long Term PPAs. However, since RTC RE project is expected to be commissioned by later half of FY2023-24, the Petitioner has considered only 150 MU from RTC RE source in FY2023-24.
- Since, few of the critical high consumption consumers are directly connected at 132 KV level, the Petitioner has accordingly balanced out the sources of power through STU connected or radial feed and where-ever required some quantum to be

necessarily procured through LTOA sources /Bilateral/Exchange irrespective of cost as they cannot be fed through radial mode.

- Considering the anticipated sales and expected generation from DPS(New)-12 MW, the expected power purchase for the control period is highlighted in table below:

Table 1: Projected Power Purchase (MUs) for the Control Period

Sr. No.	Source of Power	Base Year	Control Period (Ensuing Year)		
		FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
		Estimated	Projected	Projected	Projected
1	DVC radial	250.00	250.00	150.00	150.00
2	DVC schedule	67.00	67.00	67.00	67.00
3	WBSEDCL	110.00	0.00	0.00	0.00
4	WBSGEDCL	0.35	0.35	0.35	0.35
5	SECI - Hybrid RE	259.00	259.00	259.00	259.00
6	SECI - RTC RE	0.00	150.00	701.00	701.00
7	Others (Bilateral/Exchange)	306.83	342.65	78.41	172.31
8	RE Balancing	0	25.9	25.9	25.9
	Total	**993.18**	**1069.00**	**1255.76**	**1349.66**

4.2 Distribution Loss

1) The tariff regulations provide for normative distribution loss of 5.25% as notified in year when HT sales was more than 99.8 % for each of the years of the control period. Historically, IPCL has been predominantly supplying to HT consumers, the distribution loss levels have been low due to the relatively lower presence of the LT network and predominantly supply over the HT network. However with the change in the license conditions and also to meet the requirements of the Electricity Act, 2003, IPCL has a Universal Service Obligation (USO) to supply power to any consumer applying for supply of electricity to IPCL.

2) Around 20000 – 22000 LT consumers are expected to be connected to the petitioner's distribution system with almost 60 MVA of LT load within the three years of this control period. Therefore, considering the load growth in the area specifically in the LT category, it may not be possible to maintain the T&D loss at that level. Considering all this, we have projected an increase in the Distribution Loss over the approved distribution loss for the year FY 2019-20.

3) The revised distribution loss levels projected for the control period is given below:

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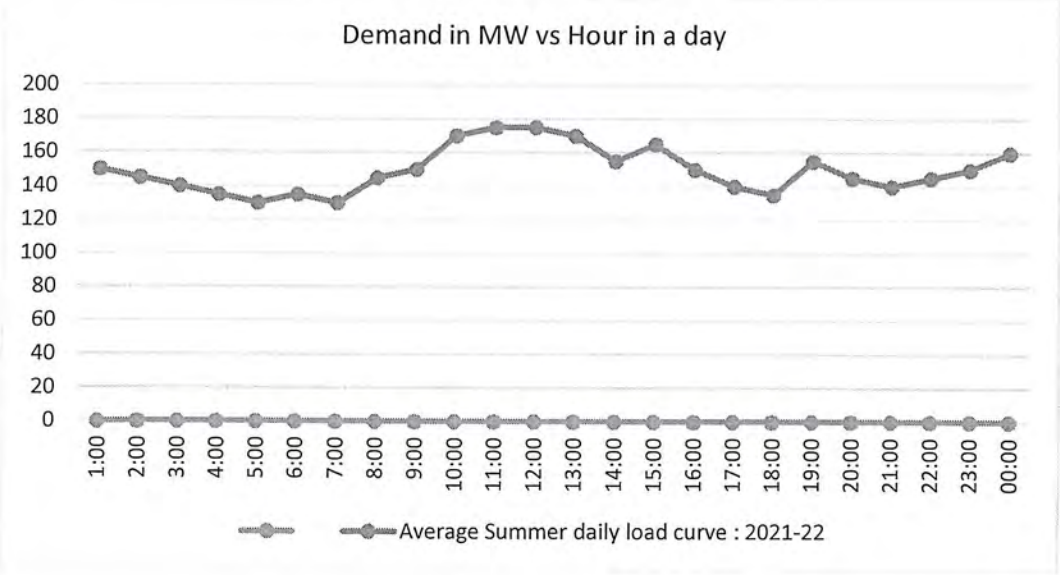
Table 2: Projected Distribution Loss Levels for the Control Period

Particulars	FY 2023-24	FY 2024-25	FY 2025-26
Distribution Loss	5.75%	6%	6.5%

5. AVERAGE PEAK DEMAND & SEASONAL LOAD VARIATION

The Petitioner's consumer base predominantly consists of HT Industries whereas under LT consumer segments the consumer demand is from primarily domestic and commercial categories. Since the geographical location of area of supply of the Licensee is in industrial region, the petitioner witnesses nearly similar load pattern throughout the year. However, Petitioner is observing increase in business share from LT segment. The following charts depicts average daily load curve based on power drawl pattern in summer, monsoon and winter season in FY 2021-22.



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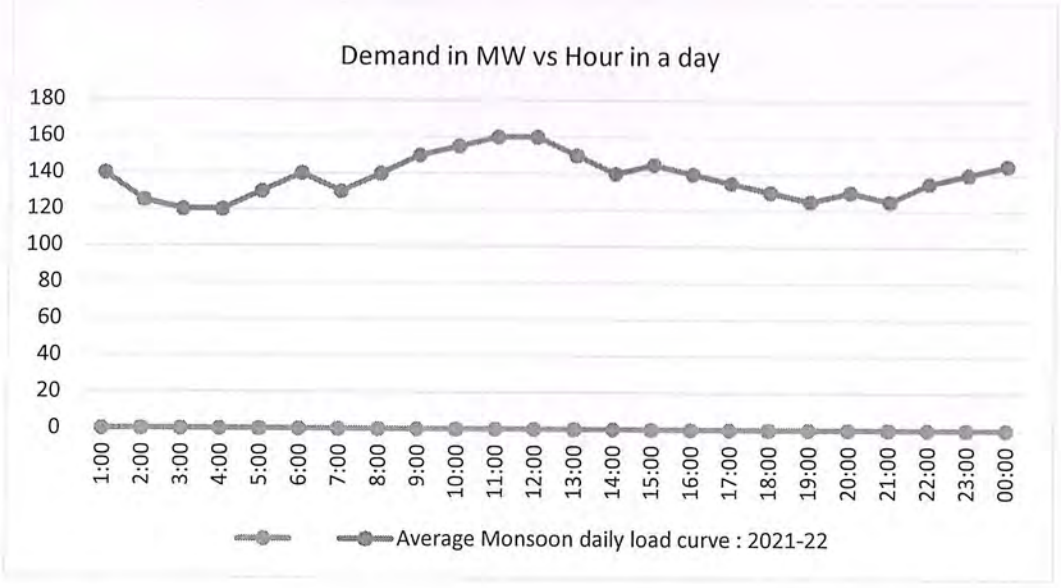

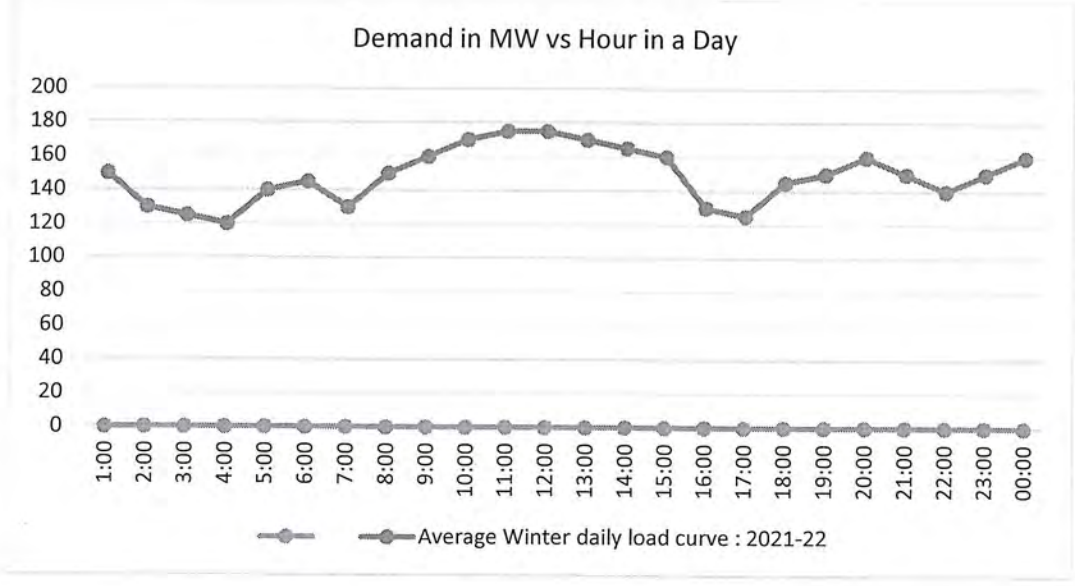

The petitioner has projected the future power procurement based on the sales demand projection. However, for the purpose of the seasonal variation, the petitioner has considered the historical load drawl pattern of 2021-22, impact of COVID-19 on the demand and estimated recovery of sales gradually.

The petitioner has also projected maximum of peak demand for the ensuing years season wise based on historical trend of drawl at different time blocks. The following table shows the peak demand and energy requirement for season wise and time period basis (Normal, Peak and Off Peak hours).

Seasonal Peak Demand Forecast in MW for FY 2023-24

Period	Summer	Monsoon	Winter
NORMAL (06:00 to 17:00)	249	227	249
PEAK (17:00 to 23:00)	229	209	229
OFF PEAK (23:00 to 06:00)	238	217	238

Energy Demand Forecast in MU for FY 2023-24

Period	Summer	Monsoon	Winter
NORMAL (06:00 to 17:00)	158.87	159.21	179.61
PEAK (17:00 to 23:00)	86.65	86.84	97.96
OFF PEAK (23:00 to 06:00)	101.10	101.32	114.29

Seasonal Peak Demand Forecast in MW for FY 2024-25

Period	Summer	Monsoon	Winter
NORMAL (06:00 to 17:00)	315	296	315
PEAK (17:00 to 23:00)	290	273	290
OFF PEAK (23:00 to 06:00)	301	283	301

Energy Demand Forecast in MU for FY 2024-25

Period	Summer	Monsoon	Winter
NORMAL (06:00 to 17:00)	184.77	185.16	208.89
PEAK (17:00 to 23:00)	100.78	101.00	113.93
OFF PEAK (23:00 to 06:00)	117.58	117.83	132.92

Seasonal Peak Demand Forecast in MW for FY 2025-26

Period	Summer	Monsoon	Winter
NORMAL (06:00 to 17:00)	347	326	347
PEAK (17:00 to 23:00)	319	300	319
OFF PEAK (23:00 to 06:00)	331	311	331

Energy Demand Forecast in MU for FY 2025-26

Period	Summer	Monsoon	Winter
NORMAL (06:00 to 17:00)	197.77	198.19	223.58
PEAK (17:00 to 23:00)	107.87	108.11	121.95
OFF PEAK (23:00 to 06:00)	125.85	126.12	142.27

In the above table, Energy Demand forecast (MU) are inclusive of power purchase and net energy availability from own generation (DPS-12 MW) projected in Form 1.3 and 1.6 of Annexure-1. The petitioner has also shown the projected seasonal peak demand for ensuing years based on unconstrained maximum demand projection as per Annexure-5 Forms and base year actual load drawl pattern. The above projection is subjected to revision based actual demand in each year, renewable purchase and other factors.

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6. CAPITAL INVESTMENT PLAN

IPCL has prepared the Capital Investment Plan for the next three ensuing years considering system strengthening of its existing distribution areas. The main purpose of the Capital expenditure of IPCL for the next three years is to meet the following two key aspects:

a) Additional Demand and Future Load growth including LT consumer base expansion

b) Improving Reliability and Quality of Power Supply

1. Capex Initiatives to Cater Additional Demand and Future Load (HT & LT)

a) New sub-station installation to increase LT & HT consumer base

b) Network augmentation and new line addition to support additional transformation capacity addition to serve all LT & HT consumers

2. Capex Initiatives to enable network expansion for expediting LT Consumer Addition

The petitioner humbly submits that, the petitioner has planned to add about 20000-22000 numbers of new LT consumers during the MYT control period.

3. Capex Initiatives to Improve System Reliability

a) Network line addition & augmentation work including inter sub-station connectivity for better power flow & network enhancement.
b) To reduce the power system downtime for more efficient way of power supply.
c) Uninterrupted power supply with cable network for Domestic & Commercial consumers
d) To reduce individual consumers complain resolving time & preventive maintenance system.
e) Early detection of fault area to reduce downtime

4. Special Project

The Petitioner humbly submits that it has planned to construct two different 220/132/33 kV sub-stations to cater the future load growth of its license area.

The Petitioner has entered into a long term PPA with SECI to procure 100 MW RTC RE power. The Petitioner already offtakes 100 MW Wind Solar Hybrid RE through J K Nagar 220 KV substation, therefore, the balance capacity of J K Nagar 220/132/33 KV substation is inadequate for evacuation of the other 100 MW RTC RE. Therefore, the planned 220/132/33KV substation and associated infrastructure will also be required to receive the power of 100 MW RE RTC through SECI.

Considering the urgency from consumers & in view of the above requirement, new sub-station with network development has been planned with a total capex involvement of around Rs 25000 Lakhs. This will also support the Petitioner's plan for LT Network expansion & LT consumer growth plan.

The Petitioner has already received approval for transmission connectivity with Central Transmission Utility (CTU) vide CERC Order dated 29.01.2018 in Case no. 168/MP/2017 and Power Grid Corporation of India Ltd (PGCIL) has agreed vide letter dated 16.02.2018 to grant connectivity between PGCIL 400 KV substation at Rupnarayanpur (Maithon) to 220 KV substation of the Petitioner at Debipur. This will give the Petitioner accessibility to national power market to bring power at economical rates to the said area in the interest of its consumers.

Summary of Overall Proposed Capex (Capitalization) in the 8th Control Period:

Sl. No.	Particulars	2023-24	2024-25	2025-26
1	Capex Initiatives to Cater Additional Demand and Future Load (HT & LT)		20000	5000
2	Network Line Addition/ Augmentation Works	2000	4500	500
3	LT Network development	2700	3000	300
4	Capex for Improving System Reliability	300	500	200
		5000	**28000**	**6000**