

CHAPTER – 1

INTRODUCTION

1.0 KPTCL – A brief Profile of the State Transmission Utility:

The Karnataka Power Transmission Corporation Limited, (KPTCL) is a transmission licensee under Section 14 and a State Transmission Utility (STU) under Section 39 of the Electricity Act, 2003 (hereinafter, referred to as the Act).

The KPTCL is a Company incorporated on 28th July, 1999, registered under the Companies Act, 1956 and has commenced its operations from 1st August, 1999. Initially the KPTCL performed the functions of both Transmission and Distribution of electricity in the State, which were earlier carried out by the erstwhile the Karnataka Electricity Board (KEB).

After unbundling and formation of separate Distribution Companies, the KPTCL was assigned the functions of transmission of power from 1st June, 2002 as a Transmission Company, which also functions as the State Transmission Utility (STU) in Karnataka. The Distribution business was entrusted to the newly created Distribution Companies (ESCOMs).

The bulk power purchase activity was separated from the functions of KPTCL as per the Electricity Act, 2003 from 10th June, 2005 and the KPTCL became an exclusive transmission company. The bulk power purchase activity has been vested with the newly formed Power Company of Karnataka Ltd., (PCKL).

The KPTCL enables the ESCOMs to serve nearly 240 lakh consumers of different categories spread over the State covering an area of about 1.92 lakh square kilometers. To transmit power from different sources of generation besides the CTU network, KPTCL uses 1155 substations and 36123 Ckt. kms of transmission lines with voltages of 66 kV and above which are spread over the State.

To carry out its functions in a smooth and effective manner, the KPTCL has created six transmission zones, each headed by a Chief Engineer; sixteen circles, each headed by a Superintending Engineer; and forty-seven divisions, each headed by an Executive Engineer. The operation and maintenance of the transmission system in the State is looked after by thirty-two Transmission Line and Substation Maintenance Sub-divisions. Also, there are fifteen Transmission works divisions to carry out the construction activities related to transmission system of the State.

Further, there are four Relay testing Circles covering fourteen relay Testing Divisions for protection, troubleshooting and maintenance of protective relays, metering and testing. These relay testing wings also carry out the pre-commissioning tests of new sub-stations, besides testing of interface meters at regular periods. The Hotline Circles are established with Hotline divisions and sub-divisions to facilitate live line work for speedy addressing of the maintenance and troubleshooting works.

1.1 KPTCL at a glance:

Sl. No	Particulars (As on 31-03-2018)		2017-18
1.	Generation Capacity (connected to Transmission System)	MW	26949
	a) KPC Hydro and Thermal	MW	8,843
	b) CGS (Karnataka Share)	MW	3,693
	c) NCE, IPPs and Others	MW	14,413
2.	No. of Receiving Sub-Stations	Nos.	
	a) 400 kV	Nos.	05
	b) 220 kV	Nos.	101
	c) 110 kV	Nos.	413
	d) 66 kV	Nos.	636
3	Length of Tr. Lines		
	a) 400 kV	CKms.	3,544
	b) 220 kV	CKms.	11,279
	c) 110 kV	CKms.	10,509
	d) 66 kV	CKms.	10,792
3.	Gross Assets as at the end of FY18	Rs. in Crores	17,340
4.	Total employees:		
	a) Sanctioned	Nos.	16,434
	b) Working	Nos.	10,297
5.	Demand Charges for Transmission of Power to ESCOMs (FY18), wheeling and Miscellaneous Charges	Rs. in Crores	2,859.53
6.	Collection of transmission charges	Rs. in Crores	2,714.28
Source: KPTCL –SLDC load curve, KPTCL Website, APR Filing and Annual Accounts			

1.2 Transmission capacity of KPTCL in FY18:

The total transmission capacity in the State was 19763 MW during FY18 and the ESCOM-wise transmission capacity for FY18 is as follows:

ESCOM WISE TRANSMISSION CAPACITY IN MW – FY18

Company	Number of Sub-Stations	Transformer's / Capacity in MVA	Transmission Capacity in MW
BESCOM	44	11,195	9,516
MESCOM	8	1,900	1,615
CESC	12	2,650	2,252
HESCOM	22	4,705	4,000
GESCOM	15	2,800	2,380
TOTAL	101	23,250	19,763

Source: KPTCL Replies to Preliminary Observations