

# Analysis of Multi Year Tariff & ARR for Delhi Discoms

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## DISSERTATION REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR

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Thanking You

Yours Sincerely

Vaibhav Kumar



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Further, I certify that the work is based on the investigation made, data collected and analyzed by him and it has not been submitted in any other University or Institution for award of any degree. In my opinion it is fully adequate, in scope and utility, as a dissertation towards partial fulfillment for the award of degree of MBA

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## Table of contents

APPENDIX-I : TITLE PAGE OF CONTENT
APPENDIX-II : ACKNOWLEDGEMENTii
APPENDIX-III : DECLARATION BY THE GUIDEii
APPENDIX-IV : TABLE OF CONTENTiv
APPENDIX-V : LIST OF FIGURESvi
APPENDIX-VI : LIST OF TABLESvii
APPENDIX-VII: EXECUTIVE SUMMARYvii
Chapter 1 Introduction
1.1 ARR & Tariffs under Multi Year Tariff Model1
1.1.1 History2
1.2 The Electricity Act, 2003
1.3 Delhi Electricity Regulatory Commission (DERC)
1.4 Distribution Tariffs
1.5 ARR and Tariff Determination
Chapter 2 Literature Review9
Chapter 3 Objectives12
Chapter 4 Research Methodology13
4.1 Research design13
4.2 Business problem14
4.3 Data Collection14
4.4 Scope of the study15
Chapter 5 Data Analysis16
5.1 Delhi Power scenario over the year analysis16.
5.2 Summary for ARR & Tariff for FY 2015-16 for all 03 Discoms18
5.3 True Up for FY 2015-1622

5.3.1	True up for FY 2015-16 sought by TPDDL	23
5.3.2	True up for FY 2015-16 sought by BRPL	25
5.3.3	True up for FY 2015-16 sought by BYPL	28
5.4	ARR FOR FY 2017-18	30
5.4.1	Tata Power Delhi Distribution Limited (TPDDL)	30
5.4.2	BSES Rajdhani Power Limited (BRPL)	34
5.4.3	BSES Yamuna Power Limited (BYPL)	37
5.4.4	Current Situation	37
Chapter 5	Impact of Covid-19 on Discoms and mitigation plan	41
Chapter 6	Expected Outcome & Conclusion	46
Chapter 7	Bibliography	47

Analysis of MYT & ARR for Delhi Discoms

## List of Figures

Figure 1	Delhi Discoms area wise	3
Figure 2	Structure of power sector -NCT of Delhi	4
Figure 3	Flowchart of research methodology	13
Figure 4	All India energy consumption trend during lockdown	43

## List of Tables

Table 1	Literature Review in tabular form	9
Table 2	Delhi Electricity Performance Snapshot Year 2002 to FY 2018	16
Table 3	Performance of BRPL, BYPL and TPDDL	17
Table 4	Power Supply Position of Delhi over the Years	17
Table 5	Sales for FY 2015-16 in Million Units (MU)	
Table 6	AT&C Loss target for FY 2015-16	
Table 7	Capital expenditure and Capitalization for FY 2015-16	19
Table 8	Quantum of Power Purchase and Power Purchase cost for FY 2015-16	
Table 9	Aggregate Revenue Requirement (ARR) for FY 2015-16	20
Table 10	AT & C Loss for FY 2014-15	
Table 11	O&M Expenses for FY 2014-15	23
Table 12	Non-Tariff Income for FY 2014-15	24
Table 13	Fixed Assets for FY 2014-15	
Table 14	Aggregate Revenue Requirement for FY 2014-15	
Table 15	AT&C Loss for FY 2015-16	
Table 16	Power Purchase Quantum for FY 2015-16	
Table 17	O&M Expenses for FY 2015-16	
Table 18	Non-Tariff Income during FY 2015-16	26
Table 19	Annual Revenue Requirements for FY 2015-16	27
Table 20	AT&C Loss for FY 2015-16	28
Table 21	Power Purchase Quantum for FY 2015-16	28
Table 22	O&M Expenses for FY 2015-16	
Table 23	Annual Revenue Requirements for FY 2015-16	
Table 24	Projected Sales (MU) for FY 2017-18	
Table 25	Proposed AT&C and Collection Efficiency	
Table 26	Power Purchase Cost for FY 2017-18	
Table 27	O&M Expenses for FY 2017-18	
Table 28	The Capital investment plan for FY 2017-18	
Table 29	Non-Tariff Income plan for FY 2017-18	
Table 30	Aggregate Revenue Requirement	
Table 31	Energy Requirement for FY 2017-18	34
Table 32	Power Purchase for FY 2017-18	
Table 33	O&M Expenses for FY 2017-18	
Table 34	CAPEX for FY 2017-18	35
Table 35	ARR for FY 2017-18	
Table 36	Energy Requirement for FY 2017-18	37
Table 37	Power Purchase Cost for FY 2017-18	
Table 38	O&M Expenses for FY 2017-18	
Table 39	CAPEX for FY 2017-18	38
Table 40	ARR for FY 2017-18	

## **Executive summary**

Delhi Electricity Board Regulatory Commission (DERC) was constituted in May 1999 whose prime responsibility was to look into the entire gamut of existing activity and search for various ways of power sector reforms. By Delhi Electricity Reform Ordinance, came into act in March 2001, unbundling of DVB into separate Generation companies (IPGCL/PPCL), Transmission company (Delhi Transco Limited) and five DISCOMs - BRPL, BYPL, TPDDL, NDMC and MES

The Multi Year Tariff (MYT) model has been proposed in the Electricity Act 2003 to give an element of certainty to all stakeholders. The MYT Regulations were implemented by DERC in 2007 and the Policy directions laid down by GoNCTD. The basic premise of multi-year tariff is that the tariffs would not fluctuate beyond a certain width unless there are force majeure conditions.

This report covers the process of filling petitions for Aggregate Revenue Requirement (ARR) & Tariffs is being followed by 03 Discoms, BRPL, BYPL & TPDDL in national capital Delhi. By this report we will also discuss the regulations of DERC for Distribution of electricity under the Multi Year Tariff (MYT) framework and the Petition filling for Approval of True up, ARR & Tariff for 03 years (FY 2015-16 to FY 2017-18) with relevant statistics. Additionally, we will also discuss the impact of lockdown due to outbreak of Covid-19 on power sector and Petition filling for Approval of True up, ARR & Tariff for current year.

We will discuss the various components of ARR & Tariffs filled by Discoms before DERC. With the help of relevant statistics we will able to compare the Power purchase costs, O&M expenses, Return on Capital Employed, Non-tariff income etc for Delhi Discoms.

## Chapter 1 Introduction

## 1.1 ARR & Tariffs under Multi Year Tariff (MYT) Model

In the Indian context, generation activity has become partly competitive with introduction of competitive bidding, while transmission is a monopoly activity and distribution and retail supply is still largely an area-specific monopoly, despite provisions of open access and parallel licensing provisions. All the three segments are regulated by Electricity Regulatory Commissions in India and mainly regulated through Cost-Plus Regulation. In line with the objectives of safeguarding consumer interest and to ensure recovery of cost of electricity in a reasonable manner, performance based cost of service regulation adopted in all previous tariff periods.

The Multi Year Tariff (MYT) has been proposed in the Electricity Act 2003 to give an element of certainty to all stakeholders. The basic premise of multi-year tariff is that the tariffs would not fluctuate beyond a certain width unless there are force majeure conditions.

Discoms file Petition for Approval of True up for last FY and ARR for next FY before DERC based on the DERC (Terms and Conditions for Determination of Tariff) Regulations. ARR broadly has the following components: a) Power Purchase Cost including Transmission Charges, b) Operation and Maintenance (O&M) expenses, c) Return on Capital Employed, d) Depreciation, e) Income Tax, f) Non-tariff Income, etc.

As per Regulation 27(x) of Delhi Electricity Regulatory Commission Comprehensive (Conduct of Business) Regulations, 2001, the Commission conducts Public Hearing on Tariff Petitions for True Up and ARR and the intimation for public hearings publishes in newspapers and other media platforms. The Commission approves the True Up of expenses and ARR & Tariff after prudence check. DERC issues the Orders on the Petitions after considering the comments/ suggestions received from various stakeholders.

#### 1.1.1 History

In the Indian context, generation activity has become partly competitive with introduction of competitive bidding, while transmission is a monopoly activity and distribution and retail supply is still largely an area-specific monopoly, despite provisions of open access and parallel licensing provisions. All the three segments are regulated by Electricity Regulatory Commissions in India and mainly regulated through Cost-Plus Regulation. In line with the objectives of safeguarding consumer interest and to ensure recovery of cost of electricity in a reasonable manner, performance based cost of service regulation adopted in all previous tariff periods.

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On dated May 30, 2007 DERC issued Regulations specifying Terms and Conditions for Determination of Tariff for Generation, Transmission and Distribution of electricity under the Multi Year Tariff (MYT) framework for the period FY 2007-08 to FY 2010-11. In this context, the Commission has prepared the Draft MYT Regulations for the second Control Period for Generation, Transmission and Distribution. Further, to facilitate better understanding and information of all the stakeholders, the Commission has prepared this Concept Note.

Delhi Discoms area wise

Figure 1



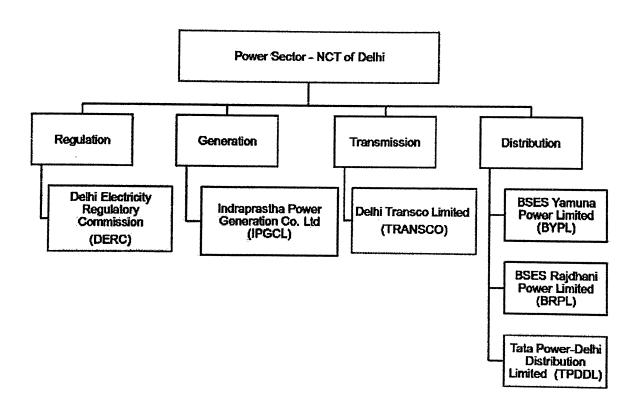


Figure 2 Structure of Power Sector- NCT of Delhi

Commission through the MYT Regulations aims to meet the following objectives:

- 1. Provide Regulatory Certainty to the investors and consumers by promoting transparency, consistency and predictability of regulatory approaches thereby minimising perceptions of regulatory risk.
- 2. Ensure financial viability of the sector to attract investments and safeguard consumers.
- 3. Provide incentivisation framework to reward performance, promote efficiency and competition.
- 4. Address risk sharing mechanism between utility and consumers based on controllable and uncontrollable factors.

However a new business model has been adopted by DERC in 2017 which is currently being followed by all 03 Discoms in Delhi. New Business model shall equipped the consumers with more powers and rights. Regulation 3 of the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017 notified on January 2017, has specified that: "The Commission shall notify Business Plan Regulations for each

Control Period based on the Business Plan submitted by the Utility which shall be read as part of these Regulations."

#### 1.2 The Electricity Act, 2003

The Electricity Act, 2003 recognizing the need for the Reform process covering the entire facets of the electricity sector comprising generation, transmission and distribution to the consumers, a comprehensive Electricity Bill was drafted in 2000 following a wide consultative process. After a number of amendments, the bill finally sailed through the legislative process and was enacted on 10 June, 2003. The Electricity Act, 2003 mandates that Regulatory Commissions shall regulate tariff and issue of licenses and that State Electricity Boards (SEBs) will no longer exist in the existing form and will be restructured into separate generation, transmission and distribution entities. Regulatory function has been taken away from the purview of the government. The Electricity Act, 2003 mandates licensee-free thermal generation, non-discriminatory open access of the transmission system and gradual implementation of open access in the distribution system which will pave way for creation of power market in India.

The main provisions of the act are:

- 1. De-licensing of thermal generation and captive generation.
- 2. Open access in distribution to be introduced in phases
- 3. Provision for license-free generation and distribution in rural areas and provision for management of rural distribution by Panchayats, Cooperative Societies, non-government organizations, franchisees, etc.
- 4. Non-discriminatory open access in transmission.
- 5. Multiple licensing in distribution.
- 6. Mandatory metering of all electricity supplies.
- 7. Adoption of multi-year tariff principles.
- 8. Provision for cross-subsidy surcharge on direct sale to consumers.
- 9. Power Trading recognized as a distinct activity with ceilings on trading margins to be fixed by the Regulatory Commissions.
- 10. Upfront payment of subsidies by the States.

11. Setting up of an Appellate Tribunal to hear appeals against the decisions of the CERC and the SERCs.

## 1.3 Delhi Electricity Regulatory Commission (DERC)

The Delhi Electricity Regulatory Commission came into existence under section 17 of the erstwhile Electricity Regulatory Commissions (ERC) Act, 1998 on 3rd March 1999 through a notification of the Government of NCT of Delhi. On the 10th of December 1999, with the appointment of Shri V.K. Sood as its Chairman, the Commission became functional. The Commission was mandated to discharge the responsibilities assigned under section 22(1) of the ERC Act, 1998, which read as follows:

- (a) To determine the tariff for electricity, wholesale, bulk, grid or retail, as the case may be, in the manner provided in section 29;
- (b) To determine the tariff payable for the use of the transmission facilities in the manner provided in section 29;
- (c) To regulate power purchase and procurement process of the transmission utilities and distribution utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in the State;
- (d) To promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purposes of this Act.

#### 1.4 Distribution Tariffs

ARR of Distribution Licensees has two types of cost component based on their nature:

- i. Fixed Cost: Fixed charges of Generating stations, Transmission charges, Return on Equity, Interest on Loan, Depreciation, Operation & Maintenance Charges etc.
- ii. Variable Cost: Fuel Cost of generating stations

Accordingly, the tariff for Distribution Licensees is also determined in two parts, comprising of Fixed Charge and Energy Charge.

Ideally the fixed cost should be recovered through fixed charges and variable cost should be recovered through energy charges of the tariff respectively. However, the present retail tariff applicable in most of the states in India includes only a part of the fixed cost into recovery as fixed charges, whereas major portion of the fixed cost is recovered through energy charge component of the retail tariff.

This kind of tariff structure leads to mismatch in the cash flow of the utilities as the Distribution Licensee have obligations to pay fixed monthly charges to GENCOs & TRASNCOs irrespective of the quantum of power procured besides their own fixed cost liabilities.

The DERC brought out a Concept Paper on Tariff in September 2000. The Concept Paper provided a historical background of the power sector in Delhi gave the first tariff proposal of Delhi Vidyut Board (DVB) and sought suggestions from various stakeholders on the conceptual issues on electricity tariff.

The Commission sent 'Guidelines for Revenue and Tariff Filing' to the Delhi Vidyut Board in October 2000 for submission of their Annual Revenue Requirement and Tariff petitions. It contained about 29 data forms with guidelines to get data from utilities.

#### 1.5 ARR and Tariff Determination

During the months of November and December 2002, the Transmission Company and three Distribution Companies filed their ARR and Tariff Petitions for the nine months of 2002-03 (July 2002 to March 2003) and for FY 2003-04. The Commission had a series of discussions with the TRANSCO and three DISCOMs wherein the Commission sought additional information, clarifications and justifications on various issues critical for admissibility of the Petitions. Subsequently, the Petitioners submitted the information and justifications. However, considering the series of submissions by the DISCOMs and the passage of time, the Commission directed the DISCOMs to file Consolidated ARR Petitions for the nine-

month period of FY 2002-03 and FY 2003-04. The DISCOMs filed the Consolidated Petitions during the first week of March 2003. The Commission admitted the Petition of TRANSCO and the Petitions of DISCOMs for further processing on March 6, 2003.

The Commission brought out a Public Notice on March 7, 2003 indicating the salient features of the Petitions and invited responses from the consumers and other stakeholders on the Petitions. However, the Commission did not receive adequate responses on the Petitions due to the fact that the Petitioners did not file a Tariff Petition and due to low awareness and appreciation of the tariff determination process based on the framework specified by the Government's Policy Directions. Due to the low response on the Petitions, the Commission made a presentation to select stakeholders and briefed them about the unbundling and privatisation process followed by the Delhi Electricity Regulatory Commission 1-5 Order on ARR and Tariff Petition of NDPL for FY 2004-05 Government, the Policy Directions framework, the salient features of the Petitions, and the importance of the ARR Petitions for the tariffs to be approved by the Commission. The Commission sought responses from the participants on the ARR Petitions as well as suggestions on other related areas including tariff rationalization.

The Commission also brought out a public notice on April 11, 2003 and sought further suggestions/responses from the general public on other related areas of concern to the consumers including rationalization of tariff categories/sub-categories, tariff structure amendment, and other charges levied as per provisions of the Tariff Schedule. The Commission received a total of 78 responses from the various stakeholders. The Commission conducted the Public Hearings on the May 12, 13 and 14, 2003 in five different sessions. Subsequently, the Commission held discussions with the Petitioners and obtained the details of actual expenses, revenue and losses for the nine month period of FY 2002-03 (July 2002 to March 2003).

The Commission, based on the detailed scrutiny of the Petitions and additional information/clarifications submitted by the Petitioners and after following the due public process, issued its Orders on the ARR and Tariff Petitions of TRANSCO and DISCOMs for FY 2002-03 (9 months) and FY 2003-04 on June 26, 2003.

## Chapter 2 Literature Review

Table 1 Literature Review in tabular form.

S. No	Article / Report Name	Website/References	Findi	ngs
1.	Major Project	www.derc.gov.in.	1.	Delhi Power Scenario
		www.cercind.gov.in/Act-with-amendment www.cea.nic.in	2.	Delhi's Restructuring and Establishment of DERC.
			3.	Organization Chart of DERC and functioning.
			4.	Recommendations and guidelines of electricity act 2003.
2	Background -	www.derc.gov.in.	1.	Electricity Act 2003
	Different policies and acts	www.cercind.gov.in/Act-with-amendment	2.	National Electricity Policy
		www.cea.nic.in	3.	National Tariff Policy
		www.cercind.gov.in/011020 03/foir-tariffpolicy	4.	Integrated Energy Policy
		https://www.iea.org/policies/1590-integrated-energy-policy.		

3.	Innovation-	www.derc.gov.in.	1.	Features of MYT	
	   Multi Year Tariff	www.cercind.gov.in/Act-		Regulations.	
	(MYT)	with-amendment	2.	Objectives &	
	Framework	www.cea.nic.in		consultations of MYT	
		vvvvv comind cov in/011020		regulations.	
		www.cercind.gov.in/011020 03/foir-tariffpolicy	3.	Annual Truing Up	
		03/1011-tai iriponey		Mechanism	
4.	Conceptualization	https://www.pspcl.in/arr-	1.	Structure of tariff orders.	
	of Introduction to	tariff-petitions-archive-for-	2	Components of ARR.	
	ARR & Tariff	old-circulars	2.	Components of Artic.	
}	Orders	lsscommittee/Energy/17 En	3.	Energy sale, PPAs,	
		ergy		AT&C losses and	
		www.derc.gov.in	-	assessment of	
		www.dere.gov.m		expenditure.	
5.	Process-	www.derc.gov.in/ordersPeti	1.	Filing the ARR petition.	
	Filing of Business	tions/Petitions/ARR/ARR.ht	2.	Petition true up for FY	
	Plan and ARR	ml		2015-16 to FY 2017-18	
	Petition	https://www.pspcl.in/arr-		Balance sheet for FY	
		tariff-petitions-archive-for-		2015-16 to FY 2017-18	
		old-circulars	4.	Public Notice regarding	
				true up for FY 2015-16	
				to 2017-18.	
6.	Determination of	www.derc.gov.in/ordersPeti	1.	ARR/ True-up/ MYT	
	actual ARR for	tions/Petitions/ARR/ARR.ht		Petitions for BYPL ,	
	FY 2015-16 to	ml		BRPL and TPDDL for	
	FY 2017-18	https://www.bsesdelhi.com/		FY 2015-16 to FY 2017-	
		web/bses		18.	
		https://www.tatapower-			
		ddł.com/			

	I = 100 = 1	T		
7.	Tariff Design	www.derc.gov.in/ordersPeti	2.	Uniform v/s differential
		tions/Petitions/ARR/ARR.ht		Tariff
		ml	3.	Cross-subsidization in
-		https://www.bsesdelhi.com/	ļ	Tariff structure
ŀ		web/bses	4.	Consolidated Sector
		web/uses		Revenue Gap/(Surplus
		https://www.tatapower-	<u>,                                      </u>	
		ddl.com/		
	Regulatory	www.psrindia.com	1.	Impact of lockdown due
	} `	-	1.	-
8	response to	www.twitter.com/psr_india.		to covid-19 on power
	Covid-19 a report	www.psrindia.com		sector.
	by Department	www.twitter.com/psr_india	2.	Impact on consumption,
	for International			demand, sale and
	Development			purchase.
	(DFID), India		3.	Regulatory response in
				tackling the condition.
			4.	Way forwards to mitigate
				the impact.
				-

### Chapter 3 Objectives

The main objectives of the dissertation are as follows:

The primary aim of the study is to perform a detailed learning of regulatory norms pertaining to the determination of Multi Year Tariff and its effect on the obligations and rights of a DERC (Delhi Electricity Regulatory Commission) like State Electricity regulatory body and on a Distribution Companies, in the State of Delhi. Study includes methodology use for the tariff determination by the commission and true up and adjustment of ARR components.

- 1. Understand the basis on Distribution Licensees in filling their petitions for approval of ARR & TRUE UP orders.
- 2. Analyse the basis of the petition and find discrepancies.
- 3. Analyse the ARR Model & True up order submitted by the petitioner and incorporate in it. My procedures based on regulations and past tariff orders passed by DERC.
- 4. Also analyzed the different possible methods the Discoms can resort to reduce the revenue gap.
- 5. Analyse the impact of Approval of same Tariff Schedule to Discoms TPDDL, BRPL& BYPL by DERC.
- 6. Analyse the impact of lockdown due to outbreak of Covid-19 on power sector and Petition filling for Approval of True up, ARR & Tariff for current year.

## Chapter 4 Research Methodology

## 4.1 Research design

The report covers the various aspects of electricity distribution business. Firstly, we have analysed the regulations of Indian Electricity Act 2003, and DERC regulations of MYT and tariff determinations. We will research on statistics filled by distribution companies on their ARR and TRUE UP on the basis of data available publically on DERC website or Discoms website.

We will follow the research methodology as per flowchart-

Collection of lations & Order of DERC Project 1. Search for 1. Study of 1.Document available in Basic Regulations. Basic Law relevance to implications the assigned on tariff project title. under MYT 2. Study of 2. Sorting of Process. Tariff order 2.Formulatregulations. acquired ion of raw report for 3. Proper basic grouping of 3. Study of Guidea' useful info: MYT Approval. complete order filed Preparation of final distribution Report licensee of document. Delhi.

Figure 3 Flow chart of research methodology

## 4.2 Business problem

As per DERC (Business Plan) Regulation,2019- In exercise of powers conferred under Section 181 read with Section 61 and Section 86(1)(b) of the Electricity Act, 2003 (Act 36 of 2003) and all other powers enabling it in this behalf and after previous publication, the Delhi Electricity Regulatory Commission hereby notifies the following Regulations namely:

- (1) These Regulations shall be called the Delhi Electricity Regulatory Commission (Business Plan) Regulations, 2019.
- (2) These Regulations shall remain in force for a period of 3 (three) years i.e., for FY 2020-21, FY 2021-22 and FY 2022-23, unless reviewed earlier.
- (3) The period of validity of these Regulations may be extended by the Commission, as deemed fit and the operational norms may also be extended as per the principles laid down in these Regulations.
- (4) These Regulations shall extend to the whole of National Capital Territory of Delhi.

**Definition and Interpretation-**In these Regulations, unless the context otherwise requires, words and expressions used in these Regulations shall have the same meaning as defined in Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017; Words and expressions used but not defined in these Regulations, shall have the same meaning as assigned to it in the Electricity Act 2003 or any other law framed under the Act by the Commission.

#### 4.3 Data collection

The data for the analysis has been collected through secondary research. Data is collected from various sources available on the internet. Every bit of data was put together and analysis was performed on the basis of the same. Various sources such as journals, articles, annual reports, magazines, newspapers etc.

### 4.4 Scope of the study

The project study lights onto the petition filed by DISCOMs for tariff determination on MYT basis, Aggregate Revenue Requirement and the responses of the State Electricity Regulatory Commission (DERC).

- 1. Study is includes to the different objections by stakeholders on multiple issues in tariff order and petitioners view as well as commissions view and decision on the objections.
- 2. The scope of the study is limited the order on petition filed for ARR second control period by TPDDL,& BRPL and true up for MYT control period year 2015-18.
- 3. Analysis is limited to the combined implications of commissions' and petitioners' views on the ARR of Retail Supply Tariff.
- 4. The data furnished in the report is the approved data available as secondary data in the complete order issued by DERC.
- 5. The conclusion documented in the report is limited to my own learning process and views.
- 6. Analysis of impact of Covid-19 on power sector and power tariffs as power sector was one of the severely impacted sector.

## Chapter 5 Data Analysis

## 5.1 Delhi Power scenario over the year analysis

Before going ahead, we will discuss and compare the BRPL, BYPL and TPDDL on basis of different parameters like fixed assets, Consumer base, Area, AT&C Losses etc

Table 2 Delhi Electricity Performance Snapshot Year 2002 to FY 2018

Parameter	Unit	FY 2002	FY 2018	% change
OPERATIONAL PERFORMANCE				
AT&C Losses (Delhi)	%	53	9.41	-82%
Subsidy Outgo	Rs. Crs	1092	0	-100%
System Reliability	%	<70	99.99	43%
Transformer Failure Rate	%	15%	0.70%	-100%
Peak Load (Delhi)	MW	3093	7411	140%
Peak Load (India)	MW	81492	177022	117%
Energy Served	Mus	20040	32360	61%
Energy Surplus(+)/Deficit(-)	%	-3.1%	-0.1%	-98%
Peak Surplus(+)/Deficit(-)	%	-7.7%	-1%	-84%
Length of Network	Ckt. Km	22367	46083	106%
Load Shedding	%	4.9 0.055		-99%
CONSUMER RELATED PERFORMANCE	4		<u> </u>	<u> </u>
Consumer Base (CA wise)	Millions	2.22	5.76	159%
Per Capita Consumption (Delhi)	KWh/ Year	653 1585		143%
Per Capita Consumption (India)	KWh/ Year	559 118		111%
Consumer CA wise mix Ratio (Domestic: Total)	%	80%	82%	2%
Consumer Sale (mu) mix Ratio (Domestic:	%	39%	55%	41%

Total)				
Share of revenue from Domestic sales	%	19%	42%	117%

Table 3 Performance of BRPL, BYPL and TPDDL

Component	BYPL	BRPL	TPDDL	
No. of Customers (in Lacs)	17.3	25.6	17.6	
Circle	Central & East Delhi	South & West Delhi	North & North West Delhi	
Divisions	14	21	12	
Distribution Area (km)	200	750	510	
Peak Demand- MW	1653	3211	2074	
Consumer Density (Cons/ sqkm)	8650	3200	3451	
Annual Energy Requirement (Mus)	7183	13540	9751	
T&D Loss	7.31%	7.22%	6.83%	
Revenue Rs Cr	5270.1	10082.92	7979	

Table 4 Power Supply Position of Delhi over the Years

Param eters	2008 -09	2009 -10	2010 -11	2011- 12	2012- 13	201 3-14	2014- 15	2015 -16	2016 -17	2017- 18
Peak Deman d met in MW	4034	4408	4720	5028	5642	565 3	5925	5846	6261	6526
Energy consum ption in MUs	2200	2334	2441 9	2534 9	25921	280 31	28965	2941	3079 7	31817
Sheddi ng, in MUs	128	185	72.4 9	82.98	138.0	77.0 4	116.8 7	42.1 7	31.5	19.46

Sheddi	0.58	0.80	0.30	0.32	0.49	0.27	0.40%	0.14	0.10	0.06
ng as	%	%	%	%	%	%		%	%	%
%age	İ							•		
of	ļ									
Energy										
Consu					•					
mption				:						
1						i				

## 5.2 Summary for ARR & Tariff for FY 2015-16 for all 03 Discoms

Table 5 Sales for FY 2015-16 in Million Units (MU)

		BR	PL	В	YPL	TPI	DDL
SI. No.	Category	Petitione r's Submissi on (MU)	ary	r's	Assessment	Petitioner's Submission (MU)	Preliminary Assessment (MU)
1	Domestic	5919	6090	3040	3045	3371	3471
2	Non- Domestic	2884	2900	1803	1715	1433	1404
3	Public Lighting	167	200	105	104	136	162
4	Railway Traction	43	28	-	-	50	49
5	DMRC	306	287	210	165	210	160
6	DIAL	208	220	-	-	-	_
7	DJB	272	279	149	141	255	246
8	Industry	481	500	216	282	2362	2366
9	Agriculture	15	15	0.22	0.22	14	13
10	Others	149	148	93	176	95	119
	Total	10444	10667	5616	5628	7926	7990

Table 6 AT&C Loss target for FY 2015-16

Sl. No.	DISCOMs	Approved for FY 2014-15 given in $2^{nd}$ MYT Order	% Reduction as per trajectory approved in 2 <sup>nd</sup> MYT order	As per trajectory approved in 2 <sup>nd</sup> MYT order
1	BRPL	12.50%	0.83%	11.67%
2	BYPL	14.50%	1.16%	13.34%
3	TPDDŁ	11.50%	0.50%	11.00%

Table 7 Capital expenditure and Capitalization for FY 2015-16 (Rs. Crs)

Sl.		BRPL		BYPL	,	TPDDL	
No.	Particulars	Petitioner's	Est.	Petitioner's	Est.	Petitioner's	Est.
		submission	Assess ment	submission	Assess ment	submission	Assess ment
1	Investment during the year	640	300	430	230	524	220
2	Capitalisation	500	300	370	230	485	220

Table 8 Quantum of Power Purchase and Power Purchase cost for FY 2015-16

SI.			BRPL			BYPL			TPDDL		
No.	Particula rs	Quant um	Amou nt	Avg. Rate	Quantu m	Amou nt	Avg. Rate	Quantu m	Amount (Rs.	Avg. Rate	
		(MU)	(Rs. Cr.)	(Rs./k Wh)	(MU)	(Rs. Cr.)	(Rs./k Wh)	(MU)	Cr.)	(Rs./k Wh)	
1	Proposed by the Petitioner	11978	7420	6.19	6541	4191	6.41	9152	5391	5.89	
2	As per SLDC	12035	6500	5.40	6463	3107	4.81	8931	4996	5.59	
3	Surplus	2978	577	1.94	2628	545	2.08	4617	1524	3.30	

	estimated by the Petitioner									
4	Surplus estimated - as per SLDC	963	337	3.50	1829	640	3.50	1313	460	3.50

Table 9 Aggregate Revenue Requirement (ARR) for FY 2015-16 (Rs. Crore)

	BRPL		PL	ВУ	PL.	TI	PDDL
Sl.	Particulars						
			Prelimi	Petitioner'	Preliminar	Petitioner'	Preliminary
		r's	nary	s	у	s	Assessment
		submissi	Assess	submissio	Assessmen	submissio	
		on	ment	n	t	n	
	Power		<del></del>				
	Purchase						
	cost (incl.						
	Transmissio	7420	6500	4031	3107	5391	4996
1	n charges)						
2	O&M			,			
	Expenses	764	555	457	399	708	470
3	Administrati ve	-	-	-	-	-	-
	Expenses						
4	Other Expenses	-	-	0	0	35	0
5	Depreciation	194	158	105	84	186	140
6	Advance against	0	0	0	0	43	0
	Depreciation						
7	Return on Capital	545	376	310	181	477	336

	Employed						
8	Income Tax	68	37	34	14	69	33
9	Sub-total	8991	7626	4937	3785	6909	5975
10	Less: Non- tariff income	125	125	79	79	117	90
11	Aggregate Revenue	8866	7501	4858	3706	6792	5885
	Requireme nt						
12	Carrying cost on provisional revenue gap		771		524	1240	467
	as on 31.03.2014						
13	ARR with carrying cost	8866	8272	4858	4230	8032	6352
14	Revenue at existing tariff	7671	8016	4066	4138	6647	6236
15	Surplus/(Ga p)	(1195)	(256)	(792)	(92)	(1385)	(116)

## 5.3 True Up of FY 2015-16

All 03 Discoms filed Petition for Approval of True up for FY 2015-16 and Petition of ARR for FY 2017-18 under Multi Year ARR model on the provisions of Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017, which broadly has the following components:

- 1. Power Purchase Cost including transmission charges
- 2. Operation and Maintenance (O&M) expenses
  - a. Employee Expenses
  - b. Administrative & General Expenses
  - c. Repair & Maintenance Expenses
- 3. Return on Capital Employed
- 4. Depreciation
- 5. Income Tax.
- 6. Non-tariff Income, etc.

Depreciation and RoCE shall be trued up based on the actual capital expenditure and actual capitalization vis-à- vis capital investment plan (capital expenditure and capitalization) approved by the Commission - Controllable parameters.

TPDDL has submitted that its energy sales in FY 2015-16 was 7854.29 MU compared to 7987.90 MU, BRPL has submitted that its energy sales in FY 2015-16 was 10505 MU compared to 10683 MU and BYPL has submitted that its energy sales in FY15-16 was 5676 MU compared to 5629 MU approved by the DERC in its Tariff Order dated Sep 29, 2015.

## 5.3.1 True up for FY 2015-16 sought by TPDDL

Table 10 AT & C Loss for FY 2014-15

Sl. No.	Particular	UoM	Actual
A	Energy Input at TPDDL Periphery	MU	8,422.94
В	Units Billed	MÜ	7,615.91
С	Amount Billed	(Rs Cr)	5,727.63
D	Average Billing Rate	Rs/kWh	7.52
Е	Distribution Loss	%	9.58%
F	Amount Collected	(Rs Cr)	5,714.43
G	Collection Efficiency	%	99.77%
Н	Units Realized	Mu	7,598.37
I	AT&C Loss Level	%	9.79%

Table 11 O&M Expenses for FY 2014-15 (Rs. Cr.)

Sl. No	Particulars	FY 2014-15 Approved by the Commission	Actual
A	Employee Cost	323.32	361.08
В	A&G Expenses	61.52	61.52
С	R&M Expenses	93.85	131.52
D	Total O&M expenses	478.68	554.12
E	Efficiency factor (%)	4%	
F	Less: Efficiency Improvement (Rs)	19.15	-
G	Add: SVRS Pension	2.47	2.47
Н	Net O&M Expenses	462.00	556.58

Table 12: Non-Tariff Income for FY 2014-15 (Rs. Cr.)

Sl. No.	Particular	(Rs Cr)
A	Other Operating Income	155.71
В	Other Income	35.79
С	Add: Open Access Charges	0.18
D	Service line charges	0.54
Е	Less- Income from other business	(17.37)
F	Total Income	174.84

Table 13 Gross Fixed Assets for FY 2014-15 (Rs. Cr.)

Sl. No.	Particulars	FY 14-15
A	Opening Balance	4,586.79
B1	Capitalization out of CWIP prior to 01.04.2007	16.82
B2	Capitalization out of CWIP after to 01.04.2007	338.65
В	Total Capitalization during the year	355.47
С	De-Capitalization	-
D	Closing Balance	4,942.27
Е	Average Fixed Assets	4,764.53

Table 14 Aggregate Revenue Requirement for FY 2014-15 (Rs. Cr)

Sl. No.	Particulars	Tariff Order	Actual
		July, 2014	
A	Power Purchase Cost	3,730.17	4,346.42
В	Inter-State Transmission Charges	378.93	432.65
С	Intra-State Transmission Charges	340.05	224.13
D	Less- Normative Rebate	111.47	98.25
Е	O&M Expenses	437.97	556.58
F	Other statutory levies/New initiatives		24.60
G	Depreciation	139.16	163.64

H	Return on Capital Employed	324.73	425.20
I	Additional Return on Capital employed-		117.02
	AT&C overachievement		
J	Income tax	30.60	61.17
K	Add- PPAC	50.10	
L	Less: Non-Tariff Income	74.28	71.85
M	Less: Interest on CSD		42.47
N	Aggregate Revenue Requirement	5,245.96	6,138.86

## 5.3.2 True up for FY 2015-16 sought by BRPL:

Table 15 AT&C Loss for FY 2015-16 (%)

S. No	Particulars	Approved in MYT Order July 2012	Submission	Revised AT&C Loss Target
1	FY 2015-16	11.67%	11.90%	13.03%

Table 16 Power Purchase Quantum for FY 2015-16 (MU)

S. No	Particulars	Approved in TO dated Sep 29, 2015	Submission
A	Power Purchase		
I	Gross Power Purchase Quantum	12860	13418
ii	Power sold to other sources	432	963
iii	Net Power Purchase	12428	12455
В	Transmission Loss:		
I	Inter-State Transmission Loss	308	439
ii	Intra-State Transmission Loss	85	
iii	Total transmission loss	393	439
С	Net power available after Transmission Loss	12035	12017

Table 17: O&M Expenses for FY 2015-16 (Rs. Cr.)

S. No	Particulars	FY 2015-16	
		Tariff Order	Petition
Α	Employee	340	378
В	A&G Expenses	118	127
С	R&M Expenses	117	152
D	Total O&M Expenses	575	657
Е	Efficiency factor (%)	4%	0%
F	Efficiency factor	23	0
G	SVRS Pension	7	2
Н	Revision in salary of Head Clerk/ Jr.Stenographer		9
I	Total O&M Expenses	560	667

Table 18: Non-Tariff Income during FY 2015-16 (Rs. Cr.)

S. No	Particulars	FY 2015-16
1	Other Operating Revenue	124
2	Other Income	112
3	Total Income as per Accounts	237
4	Add: Interest on CSD	61
5	Add: Difference in SLD	5
6	Total Other Income	303
7	Less: Income from other business	
a	Street Light Maintenance Business	15
b	Consulting Business	11
8	Net Income	277

Table 19 Annual Revenue Requirements for FY 2015-16 (Rs. Cr.)

S. No	Particulars	TO dated Sep 29, 2015	Submission
A	Purchase of power including	6583	6389
	Transmission and SLDC Charges		
В	O&M Expenses	560	667
C	Other Expenses/ Statutory levies		18
D	Depreciation	147	184
Е	Return on Capital Employed (RoCE)	373	529
F	Income Tax	39	68
G	Sub-total	7703	7855
Н	Less: Non-Tariff Income	190	142
I	Less: Income from other business		
J	Less: Interest on CSD		
K	Aggregate Revenue Requirement	7513	7713
L	Add: Impact of DERC/ APTEL/ High/ Supreme Court Judgments		
M	Add: PPAC (Balance of Q4-FY 14)		
N	Net Aggregate Revenue Requirement	7513	7713
О	Add: Carrying cost	451	
P	ARR	7964	7713
Q	ARR for FY 2015-16	7964	7713
R	Revenue available towards ARR	8042	7658
S	Revenue (Gap)/ Surplus	78	(54)

## 5.3.3. True up for FY 2015-16 sought by BYPL:

Table 20: AT&C Loss for FY 2015-16 (%)

S. No	Particulars	Approved in MYT Order July 2012	Submission	Revised AT&C Loss Target
1	FY 2015-16	13.33%	15.66%	15.55%

Table 21: Power Purchase Quantum for FY 2015-16 (MU)

S. No	Particulars	Tariff Order dated September 29,2015	Submission
A	Power Purchase:		
i	Gross Power Purchase Quantum	8895	8117
ii	Power sold to other sources	2152	1093
iii	Net Power Purchase	6744	7025
В	Transmission Loss:		
i	Inter-State Transmission Loss	236	261
ii	Intra-State Transmission Loss	46	
iii	Total transmission loss	282	261
C	Net power available after Transmission Loss	6462	6764

Table 22: O&M Expenses for FY 2015-16 (Rs. Cr.)

S. No	Particulars	Tariff Order dated September 29, 2015	Submission
Α	Employee Expenses	252.86	298.23
В	A&G Expenses	82.02	88.21
. C	R&M Expenses	79.41	96.08
D	Gross O&M Expenses	414.29	482.52

Е	Efficiency factor %	4%	
F	Less: Efficiency improvement	16.57	0.00
G	SVRS Pension	4.92	0.90
H	Net O&M Expenses	402.64	483.42

Table 23 Annual Revenue Requirements for FY 2015-16

S. No	Particulars	Tariff Order dated	Submission
		September 29, 2015	
A	Purchase of power including Transmission	3177	3196
	and SLDC Charges		
В	O&M Expenses	403	483
C	Other Expenses/ Statutory levies		22
D	Depreciation	82	98
Е	Advance Against Depreciation (AAD)	0	20
F	Return on Capital Employed (RoCE)	231	318
G	Income Tax	25	40
Н	Sub-total	3917	4177
I	Less: Non-Tariff Income	169	88
J	Less: Income from other business		0
K	Less: Interest on CSD		
L	Aggregate Revenue Requirement	3749	4090
	Add: Impact of DERC/ APTEL/ High/Supreme Court Judgments		
N	Net Aggregate Revenue Requirement	3749	4090
О	Add: Carrying cost	271	
P	ARR	4020	4090

## 5.4 ARR FOR FY 2017-18:

**5.4.1 Tata Power Delhi Distribution Limited (TPDDL)**- TPDDL submitted its ARR for FY 2017-18 before DERC, different components of ARR are as under-

Table 24: Projected Sales (MU) for FY 2017-18

Sr. No	Category	FY 2017-18
A	Domestic	
	Domestic - Others than CGHS	3,952.73
	Single delivery point for CGHS	28.90
В	Non –Domestic	
	Non -Domestic Low Tension (NDLT)	1,088.30
	Non -Domestic High Tension (NDHT)	386.47
С	Industrial	
	Small Industrial Power (SIP) [less than	2,090.90
	200kW/215kVA]	
	Industrial Power on 11 kV Single Point	0.35
	Delivery for Group of SIP Consumers	
	Large Industrial Power (LIP) (Supply at	316.03
	11kV and above)	
D	Agriculture	12.75
E	Mushroom Cultivation	0.02
F	Public Lighting	
	Metered	112.45
	Unmetered	1.69
G	Delhi Jal Board (DJB)	<del></del>

	Supply at LT	13.87
	Supply at 11kV and above	233.16
Н	Railways Traction	46.68
I	DMRC	148.55
J	Adv. & Hoardings	1.19
K	Temporary Supply	62.85
L	Others	52.93
	Total	8,549.81

Table 25: Proposed AT&C and Collection Efficiency

Category	2017-18
Distribution Loss Level	9.85%
Collection Efficiency	99.00%
AT&C Loss Level	10.75%

Table 26: Power Purchase Cost for FY 2017-18

Energy Balance of FY 2017-18			
Particulars	Projected		
	Energy MU	Amt Rs Cr	Rate Rs/unit
Power from CSGS	11134.87	4533.76	4.07
RPO obligation to be met through purchase from renewable sources	222.10	121.85	5.49
RPO obligation to be met through purchase of REC		78.09	
TOTAL Purchase	12,552.52	5,691.88	4.53
Transmission losses			
(Intra state & Interstate)	(531.37)		

Transmission charges		1049.12	
Transmission charges on towards		200.00	
Pension Trust Payment			
Total Purchase with Tx	12021.15	6941.00	5.77
Less: Short Term surplus power sale	(2,537.33)	(685.08)	2.70
Net Power Purchase Cost	9,483.82	6,255.92	6.60
Less- Normative Rebate		116.69	
Power Purchase Cost for the year	9,483.82	6,139.23	6.47
Add: RPO obligation for previous years		50.00	
Total Power Purchase Cost including RPO obligations		6,189.23	

Table 27: O&M Expenses for FY 2017-18 (Rs. Cr.)

Amount	
486.71	
91.53	
176.14	
754.39	

Table 28: The Capital investment plan for FY 2017-18

Budget Head	Planned Estimate (Rs. Cr.) for FY 2017-18
DISTRIBUTION LOSS REDUCTION	26.42
QUALITY IMPROVEMENT	142.89
LOAD GROWTH	175.44
INFRASTRUCTURE DEVELOPMENT	24.75
Grand Total	369

Table 29: Non-Tariff Income plan for FY 2017-18

Sl. No.	Particulars	FY 2017-18
A	Non-Tariff Income	71.14
В	Interest on Consumer Security Deposit	44.78
С	Impact of Open Access	26.36
Total N	on-Tariff Income including open access charges	142.28

Table 30: Aggregate Revenue Requirement (Rs. Cr)

S.No.	Particular	FY 2017-18		
}		1 9		Retail
		ARR	ARR	ARR
Α	Cost of Power Purchase	6,189.23	_	6,189.23
В	O&M Expenses (Net of expenses capitalized)	754.39	438.18	316.21
B.1	Add:- New Initiative	35.27	-	35.27
B.2	Total O&M Expenses	789.66	438.18	351.48
С	Depreciation	204.37	147.54	56.83
D	Return on Capital Employed	486.90	340.87	146.02
Е	Income Tax	151.98	106.40	45.58
F	Sub-Total	7,822.13	1,032.99	6,789.13
G	Less: Non-Tariff Income/ Interest on	142.28	28.46	113.82
	consumer security deposit			
Н	Sub-Total	142.28	28.46	113.82
J	Annual Revenue Requirement	7,679.85	1,004.53	6,675.31

**5.4.2 BSES Rajdhani Power Limited (BRPL)** - BRPL submitted its ARR for FY 2017-18 before DERC, different components of ARR are as under-

Table 31: Energy Requirement for FY 2017-18

A	Energy sales (MU)	11070
В	Distribution Loss (%)	12.0%
C	Energy Requirement (MU)	12579

Table 32: Power Purchase for FY 2017-18 (Rs. Cr.)

S.	Particulars	Qty	Amt	Avg. Rate
No.		(MU)	(Rs. Cr.)	(Rs./kWh)
1	Power Purchase @ exbus- FIRM	12906	6196	4.80
2	Inter-State Losses	323	456	
3	Cost towards REC		219	
4	Power Available at Delhi Periphery	12583	6872	5.46
5	Intra-state Loss & Charges (Including SLDCcharges)	88	424	
6	Power Available to DISCOM	12495	7296	5.84
7	Banking Import	438	175	4.00
8	Shortfall to be met at Discom Periphery	575	182	3.17
9	Total Available	13508	7654	5.67
10	Sales	11070		
11	Distribution Loss	1510		
12	Energy Requirement at Distribution Periphery	12579	7340	5.84
13	Sale of Surplus power	469	130	2.77
14	Sale of Power through Banking	460	184	4.00
15	Total Sale of Surplus Power	929	314	3.38

Table 33: O&M Expenses for FY 2017-18 (Rs. Cr.)

A	Employee Expenses	459
В	A&G Expenses	248
С	R&M Expenses	241
D	Net O&M Expenses	948

Table 34: CAPEX for FY 2017-18 (Rs. Cr.)

	Loss reduction	20
Performance	Metering	72
Obligation	Consumer Contribution	30
	Load Growth	222
	System Improvement	17
Power Reliability	Automation	14
	IT and Communication	13
	Civil Infrastructure	31
	Vehicle	5
Infrastructure Development	Safety	4
	Test Equipment, Tools & Tackles	5
	Total	432

Table 35: ARR for FY 2017-18 (Rs. Cr.)

S. No.	Particulars	Amount
1	Power purchase expenses (a)	7340
2	O&M (b)	948
3	Interest & Finance charges (c)	236
4	Depreciation (d)	220
5	Interest on working capital (e)	127
6	Gross expenditure (F=a+b+c+d+e)	8871

7	Return on Equity (G)	328
8	Net Expenditure (H=F+G)	9200
9	Less: Non- Tariff Income	148
10	Net ARR (I)	9052
11	Revenue at existing Tariff	8028
12	Collection Efficiency (CE)	99.5%
13	Revenue at existing tariff grossed up with CE (J)	7988
14	Surplus/(Gap) (J-I)	(1063)

# **5.4.3 BSES Yamuna Power Limited (BYPL)** - BYPL submitted its ARR for FY 2017-18 before DERC, different components of ARR are as under-

Table 36: Energy Requirement for FY 2017-18

A	Energy sales (MU)	6079
В	Distribution Loss (%)	14.3%
С	Energy Requirement (MU)	7093

Table 37: Power Purchase Cost for FY 2017-18

S.No.	Particulars	Qty (MU)	Amt (Rs. Cr.)	Avg. Rate (Rs./kWh)
1	Power Purchase @Exbus- FIRM	8531	3312	3.88
2	Inter-State Losses/ PGCIL Charges	222	313	
3	Cost towards REC		116	
4	Power Available at Delhi Periphery	8310	3740	4.50
5	Intra-state Loss & Charges (Including SLDCcharges)	58	242	
6	Power Available to DISCOM	8251	3982	4.83
7	Banking Import	307	123	4.00
8	Shortfall to be met at Discom Periphery	176	56	3.17
9	Total Available	8734	4160	4.76
10	Sales	6079		
11	Distribution Loss	1014		
12	Energy Requirement at Distribution Periphery	7093	3737	5.27
13	Sale of Surplus power	1319	294	2.23
14	Sale of Power through Banking	322	129	4.00
15	Total Sale of Surplus Power	1641	423	2.58

Table 38: O&M Expenses for FY 2017-18

S.No.	O&M Expenses (Rs. Cr.)	FY 17-18
A	Employee Expenses	320
В	A&G Expenses	179
С	R&M Expenses	149
D	Net O&M Expenses	648

**Table 39: CAPEX for FY 2017-18** 

Budget Head	Sub Head	FY 17-18
Performance	Loss reduction	41
Obligation	Metering	53
	Consumer Contribution	11
	Load Growth	143
Power Reliability	System Improvement	44
	Automation	25
-	IT and Communication	9
	Civil Infrastructure	5
Infrastructure	Vehicle	4
Development	Safety	3
	Test Equipment, Tools & Tackles	2
Total	1	340

Table 40: ARR for FY 2017-18

Particulars	UoM	FY 2017-18
		(Estimated)
Power Purchase Cost (includes transmission charges)	Rs. Crore	3737
O&M Expense	Rs. Crore	648
Depreciation including AAD	Rs. Crore	126
ROCE (Return + Interest)/RoE	Rs. Crore	421
Other Expenses	Rs. Crore	0
Income Tax	Rs. Crore	45
Less: Non Tariff Income	Rs. Crore	86
Aggregate Revenue Requirement	Rs. Crore	4892
Revenue available at existing tariff	Rs. Crore	4369
Revenue (Gap) at existing Tariff	Rs. Crore	(523)

#### 5.4.4. Current Situation-

As of October 2019, Delhi had a total installed power generation capacity of 7,795.93 MW.

Thermal power plants accounted for 6,899.35 MW of the total installed capacity, followed by hydro power plants with installed capacity of 723.09 MW, nuclear power plants with 102.83 MW of installed capacity and 70.66 MW of other renewable energy sources.

As of October 2017, central utilities sector accounted for a majority of the share in the total installed capacity in the state, accounting for 4812.65 MW of the installed capacity, followed by 1935.40 MW by the state utilities and around 1,047.88 MW by private utilities.

IPGCL and PPCL were the two state-owned power generating entities.

To improve power generation & operational efficiencies, the Government decided to merge IPGCL & PPCL into a single entity.

During 2015-16, the state government minimized the average load shedding to 0.15%. Moreover, electricity bills were reduced by 50% in the state, for the consumers that consumed up to 400 units of electricity every month.

Moreover, as per the state budget 2017-18, the state government has allocated a plan outlay of US\$ 340.5 million for the development of energy sector in the state.

The load growth pattern of Delhi was of the order of 6.32% during the years 2009 to 2015. The load demand in the capital is estimated to grow approximately at 7 percent per annum.

The per capita consumption of electricity of Delhi is much higher than the national average. Government prepared a proposal for islanding of Delhi, which was approved by Government of India. The project is under implementation.

As of March 2017, BSES Yamuna distributed power to around 1.59 million customers in Central & East Delhi. Moreover BSES Rajdhani accounts for a customer base of 2.38 million customers in the areas of South & West Delhi.

TPDDL distributes power to around 1.35 million customers spread over a 510 sq km area in North and Northwest Delhi.

NDMC serves around 70000 customers in New Delhi, while MES serves around 10000 customers in Delhi cantonment.

During 2016-17, the energy requirement in the state reached 31,110 MU & peak requirement reached 6,100 MW.

In 2017-18, the energy requirement in the state is anticipated to reach 32,396 MU & peak requirement is anticipated to reach 6,560 MW.

Further during 2021-22, the energy requirement is expected to increase to 52,930 MU & peak load to reach 9,024 MW.

### Chapter 6 Impact of Covid-19 on Discoms and mitigation plan.

As per latest public notice released by DERC, due to outbreak of Corona Virus Disease declared as a pandemic by WHO dated 13/03/2020, the Public Hearing which was scheduled on 18/03/2020 was cancelled and last date of submission of comments/suggestions on Tariff Petitions for True up of FY 2018-19 and ARR for FY 2020- 21 which was earlier till 20/03/2020 was extended till the next date of Public Hearing. The Public Notices, in this regard, were issued by the Commission.

Further, based on the directions of the Commission, Delhi utilities have submitted additional information considering the impact of COVID-19 in their ARR for FY 2020-21. The said additional information and its Executive Summary have been uploaded on the Commission's website.

Ministry of Power (MoP), Government of India in the current scenario of COVID-19 outbreak and nationwide lockdown and a need to ensure uninterrupted power supply, in the interest of public, under Section 107 of the Electricity Act, 2003 issued directions vide its Order No. 23/22/2019- R&R Part-4 dated 28/03/2020 to Central Electricity Regulatory Commission (CERC) as follows:

"The Commission may specify a reduced rate of Late Payment Surcharge (LPSC) for payments which become delayed beyond a period 45 days (from the date of presentation of the bill) during the period from 24th March, 2020 to 30th June, 2020 to generating companies and licensees treating the restrictions placed by central government to contain COVID-19 as an event of force majeure. The reduced LPSC shall be applicable for delayed payments till 30th June, 2020. The LPSC should not be more than the cost the Generating Companies and Transmission Licensees would have to bear because of the delayed payment"

CERC, in compliance to above mentioned direction of MoP, has passed a suo-motu Order dated 03/04/2020 regarding reduction of Late Payment Surcharge, as follows:

"Keeping in view the directions issued by the Government of India under section 107 of the Act and to address the difficulties faced by the distribution companies (beneficiaries of the generating stations and long term customers of inter-State transmission systems) on account of the unprecedented situation arising out of the restrictions placed by the Central Government and State Governments on the movement of public and opening of offices and

establishments etc., the Commission in exercise of its powers under Regulation 76 of the 2019 Tariff Regulations relaxes the provisions of Regulation 59 of 2019 Tariff Regulations to provide that if any delayed payment by the distribution companies to the generating companies and inter-State Transmission licensees beyond 45 days from the date of the presentation of the bills falls between 24.03.2020 and 30.06.2020, the concerned distribution companies shall make the payment with LPS at the reduced rate of 12% per annum that translates into 1% per month."

India's nation-wide lockdown has imposed a fresh set of challenges, particularly on the Distribution Companies (DISCOMs) which were already reeling under revenue loss and low operational efficiencies. The numbers tell the grim story: In FY2018-19, the total financial loss of state DISCOMs at the national level was reported to be INR 27,250 crores (GBP 2.9 billion). Adding to these woes are the Aggregate Technical and Commercial (AT&C) losses—the DISCOMs recorded AT&C losses to the tune of 18.2% in FY2018-19.

From the power sector's perspective, the lockdown has severely impacted the industrial and commercial customers. This has led to large reduction in peak electricity demand and shifts in power consumption patterns. Further, DISCOMs are also facing several issues such as delay in disbursal of subsidies by state governments and meter reading restrictions which have impact their revenue and business operations.

Demand: The average daily electricity consumption has reduced by 15-20% since the beginning of the nationwide lockdown on March 25, 2020. This is largely due to reduction in demand from high-end customers such as railways, commercial and industrial sectors. It is to be noted that this reduction is slightly offset by an increase in demand from residential customers. However, on a year on year basis, the electricity demand has reduced by 24% in April 2020 in comparison to April 2019. The reduction in demand in the cross-subsidising sectors (i.e. commercial and industrial customers) is impacting the finances of DISCOMs significantly. At an all-India level, average net revenue loss to the DISCOMs (due to reduction in sales) during the forty-day lockdown (March 25, 2020 to May 3, 2020) is estimated to be around INR 9,340 crores (GBP 1 billion).

Figure 4 All India energy consumption trend during lockdown

Post-lockdown (announced on March 25, 2020) 3,586 3,391 15%-20% Reduction All India energy consumption (MU) 3.025 2,968 2,801 2,789 2,742 2,731 2,757 2,592 22-03-2020 27-03-2020 01-04-2020 06-04-2020 11-04-2020 16-04-2020 21-04-2020

Figure 1: All India energy consumption daily

Source: POSOCO website

March 12 and March 17 2020 values: https://posaco.in/download/monthly\_report\_mar\_2020/?wpdmdi=28541

Other values: https://posoco.in/covid-19/

Revenue: Due to lockdown restrictions, several DISCOMs that follow the manual meter reading process have not been able to accurately measure the electricity consumption. Instead, they are issuing provisional bills to their customers based on the average/estimated consumption. At the other end, several customers are unable to pay their electricity dues on a timely basis. The inability to effectively collect revenue is critically impacting the liquidity position of DISCOMs. This intern is impairing their ability to make timely payments to generating and transmission utilities. At the end of FY2019-20, DISCOMs owed nearly INR 90,666 crores (GBP 9.7 billion) to generation companies (GENCOs).

**State support:** The lockdown has also impacted the revenues of the state governments. All state governments are directing their limited resources towards COVID-19 relief measures. This is expected to have a trickle-down effect on the delay in disbursal of subsidies, increase in non-payment of government department dues towards the usage of electricity or grant of any relief package to the DISCOMs. Delays in subsidy payout process may further add pressure on the already weak financial health of the DISCOMs.

Investments: DISCOMs need to modernise and upgrade their infrastructure day more than ever—they need to future-proof themselves and ensure enhanced operational efficiencies and improved resilience. However, demand uncertainty/softening and weakening finances are likely to impact the DISCOM's ability to undertake investments in modernisation initiatives. Delays in utility modernisation efforts will mean that DISCOMs will be unable to timely leverage the emerging technologies that can bring in efficiencies and turn operations around.

Formation of Regulatory Assets: Regulatory assets and their associated carrying costs have a significant impact on retail tariffs across states. Ongoing revenue disruptions due to the lockdown coupled with a limited headroom for tariff hikes post-pandemic is likely to lead to additional uncovered gap i.e. regulatory assets. With the extant situation of regulatory assets already a serious cause of concern, further addition will have detrimental ramifications across the value chain.

Regulatory Response: In India, The government and regulatory commissions have acted swiftly to address the critical challenges related to COVID-19. While the government has announced three-month moratorium on payments and liquidity injection of INR 90,000 crore (GBP 9.7 billion) for DISCOMs, the regulatory commissions have also undertaken various Interventions. These include directives for issuing provisional bills, reducing or waiving off late payment charges for customers, nudge techniques to encourage early payments through digital channels, delaying decisions for tariff increase, etc. The detailed assessment of these initiatives is mentioned in the following section.

Way Forward- COVID-19 is expected to have a significant impact on the financial and operational health of the DISCOMs. The regulatory commissions can play a pivotal role in ensuring minimum disruption in the supply of electricity services and building resilient DISCOMs.

#### Recommendations Summary

- 1) Timeliness in regulatory filing and tariff order issuance
- a). Ensure timely issuance of tariff orders
- b). Compliance with OP-1 Judgement of APTEL
- 2) Quantification of impact of COVID-19 measures

- a). Estimate financial impact of measures taken-up to
- b).address the challenges posed by COVID-19
- 3). Drive efficiency through rate-making process
- a). Demand stimulation through innovative tariff structures
- b). Roadmap for recovery of pending dues
- 4). Decoupling utility cash flow from subsidy
- a). Decouple tariff with subsidies
- b ). Devise roadmap for implementation of DBT scheme to drive efficiency
- 5). Modernisation of DISCOM's infrastructure
- a). Fast track approval of utility modernisation projects
- b). Enabling digitalisation
- 6). Ease of doing business
- a). Revisit SOP regulations
- b). Focus on monitoring and compliance
- 7). Cyber security
- a). Develop staff expertise on cyber security
- b). Continuously assess response and recovery plans
- 8). Financing disaster resilience response
- a).Create disaster resilience funds
- b). Facilitate market development for innovative insurance

## **Chapter 7 Expected Outcomes & Conclusion**

- 1. The advantage of the MYT approach in Delhi is that it sets out more clearly the revenue path for Discoms, TPDDL, BRPL, and BYPL and provides incentives for improved efficiency.
- 2. In the MYT framework when the tariff is determined for the Control Period the consumers are aware of their commitment on electricity charges in future years and the Licensee is aware of his possible revenue in the future years to enable him to plan his cash budget.
- 3. Performance trajectories on the various parameters are cast on the licensee with incentives and disincentives which will go to improve the performance and cost reduction.
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