

AGGREGATE REVENUE REQUIREMENT AND TARIFF PETITION FOR FY 2018-19

Submitted by: -

**Madhya Pradesh Power Management Company Limited
Shakti Bhawan, Vidyut Nagar, JABALPUR**



**Madhya Pradesh Poorv Kshetra Vidyut Vitran Company Limited
Block No. 7, Shakti Bhawan, Vidyut Nagar JABALPUR**



**Madhya Pradesh Paschim Kshetra Vidyut Vitran Company Limited
GPH Compound, Polo Ground, INDORE**



**Madhya Pradesh Madhya Kshetra Vidyut Vitran Company Limited
Bijlee Nagar Colony, Nishtha Parisar, Govindpura, BHOPAL**



**BEFORE THE HON'BLE MADHYA PRADESH
ELECTRICITY REGULATORY COMMISSION, BHOPAL**

Petition No. _____ of 2018

- (1) Madhya Pradesh Power Management Company Limited
Shakti Bhawan, Vidyut Nagar, Jabalpur (MP) ----- **Petitioner**
- (2) Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Limited
Shakti Bhawan, Vidyut Nagar, Jabalpur (MP) ----- **Petitioner**
- (3) Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited
GPH, Polo Ground, Indore (MP) ----- **Petitioner**
- (4) Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited
Nishtha Parisar, Bijlee Nagar, Govindpura, Bhopal (MP) ----- **Petitioner**

IN THE MATTER OF:

FILING OF ARR APPLICATION FOR THE DISTRIBUTION & RETAIL SUPPLY BUSINESS FOR THE MYT FY 2016-17 TO FY 2018-19 & TARIFF PETITION FOR FY 2018-19 under the tariff principles laid down in the “The Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Distribution and Retail Supply of Electricity and Methods and Principles for Fixation of Charges) Regulation, 2015 (RG-35 (II) of 2015) dated 17th December 2015” by MPPMCL and MPPoKVVCL, MPPaKVVCL & MPMKVVCL as the Distribution Licensee

The Applicant respectfully submits as under: -

1. Madhya Pradesh Power Management Company Ltd. is a Company incorporated under the Companies Act, 1956 (now Companies Act 2013) and having its registered office at Block No.11, Shakti Bhawan, Vidyut Nagar, Jabalpur.
2. Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Ltd. is a Company incorporated under the Companies Act, 1956 (now Companies Act 2013) and having its registered office at Block No.7, Shakti Bhawan, Vidyut Nagar, Jabalpur. The Petitioner is a deemed licensee under the Fifth Proviso to Section 14 of the Electricity Act, 2003. The area of supply of the Petitioner comprises Jabalpur, Rewa, Sagar and Shahdol Commissionary within the State of Madhya Pradesh ('MP').
3. Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Ltd. (MPMKVVCL) is a Company incorporated under the Companies Act, 1956 (now Companies Act 2013) and having its registered office at Nishtha Parisar, Bijlee Nagar Colony, Govindpura,

Bhopal. The Petitioner is a deemed licensee under the Fifth Proviso to Section 14 of the Electricity Act, 2003. The area of supply of the Petitioner comprises Bhopal, Gwalior, Hoshangabad and Chambal Commissionary within the State of Madhya Pradesh ('MP').

4. Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Ltd. is a Company incorporated under the Companies Act, 1956 (now Companies Act 2013) and having its registered office at GPH, Polo Ground, Indore. The Petitioner is a deemed licensee under the Fifth Proviso to Section 14 of the Electricity Act, 2003. The area of supply of the Petitioner comprises Indore and Ujjain Commissionary within the State of Madhya Pradesh ('MP').
5. The Government of Madhya Pradesh ('GoMP' or 'State Government'), vide an Order No. 3679 F-18-13- 2002 dated 31st May, 2005, published in the gazette of Madhya Pradesh dated 31st May 2005, have restructured the functions and undertakings of Generation, Transmission, Distribution and Retail Supply of electricity earlier carried out by the Madhya Pradesh State Electricity Board ('MPSEB' or the 'Board') and transferred the same to five Companies to function independently. The five Companies are as under:
 - a. M.P. Power Generating Company Ltd., Jabalpur (MPPGCL) / (GENCO)
 - b. M.P. Power Transmission Company Ltd., Jabalpur (MPPTCL) / (TRANSCO)
 - c. M.P. Poorv Kshetra Vidyut Vitaran Company Ltd., Jabalpur (MPPKVVCL) / (EAST DISCOM)
 - d. M.P. Madhya Kshetra Vidyut Vitaran Company Ltd. Bhopal (MPMKVVCL) / (CENTRAL DISCOM)
 - e. M.P. Paschim Kshetra Vidyut Vitaran Company Ltd., Indore (MPPKVVCL) / (WEST DISCOM)
6. With the issuance of the said Order dated 31st May 2005, the Operation and Management Agreement that existed between MPSEB and the Five Companies came to end with effect from 1st June 2005. The three Vidyut Vitaran Companies viz. East Discom, Central Discom and West Discom, started functioning independently as Distribution Licensees in their respective area of license and from the said date are no longer operating as an agent of or on behalf of the Board, subject to Cash Flow Mechanism (CFM) provided in the said Order.
7. On 3rd June 2006, GoMP, in exercise of its power under Section 23 (Sub-section (1), (2) and (3)) and Section 56 (Sub-section (2)) of Madhya Pradesh Vidhyut Sudhar Adhiniyam, 2000 read with Section 131 (Sub-sections (1), (2), (5), (6) and (7) of Electricity Act, 2003, effected the transfer of and vesting of the functions, properties, interests rights and obligations of MPSEB relating to the Bulk Purchase and Bulk Supply of Electricity in the State Government and simultaneously re-transferred and re-vested the same to MP Power Trading Company ('Tradeco' or 'MP Tradeco'). Since then, MP Tradeco is discharging the responsibilities of procurement of power in bulk and supplying to the three Discom's, including the Petitioner herein. The transfer was

effected through “M.P. Electricity Reforms Transfer Scheme Rules 2006” (Transfer Scheme Rules) vide Notification No.3474 /FRS/17/XIII/2002 dtd. 3rd June 2006 (Transfer Scheme Rules).

8. In accordance with GoMP decision the name of MP Power Trading Company Ltd has been changed to MP Power Management Company Ltd. The MP Power Management Company has been made holding companies for all the three DISCOMS of MP. The Registrar of Companies, MP has issued the Certificate of Incorporation consequent upon change of name on 10th April 2012. The MPPMCL has been vested with several of functions and power that were earlier vested with the erstwhile M.P. State Electricity Board.
9. GoMP has entrusted the MPPMCL with the responsibility inter alia of representing the Discoms before the Commission with regard to filing the tariff petition and facilitating all proceedings thereon. The Management and Corporate functions agreement signed by the MPPMCL with the three Discoms of MP also provide for the same.
10. MPPMCL has signed “Management and Corporate Functions Agreement” on 05th June 2012, with the three Discoms of the State, wherein it has been agreed that MPPMCL shall perform inter alia the following functions of common nature for the Discoms:
 - i. In consultation with Discoms, undertake long-term/ medium-term/short-term planning and assessment of the power purchase requirements for the three Discoms and explore opportunities for power procurement as per the regulations of MPERC;
 - ii. Allocation of power among the Discoms from the forthcoming projects as per retail tariff order and as per the GoMP notification and further instructions in this regard;
 - iii. Economic, reliable and cost effective power procurement of Short-term, Medium-term and Long-term and sale of surplus power, if any, for the purpose of Banking / maximization of revenue;
 - iv. Exploring opportunities for procurement of power on long-term and medium-term basis, procure power and finalizing Power Purchase Agreements (PPAs);
 - v. The expenses of MPPMCL have been considered to be included as part of power purchase cost of the Discoms.
11. In the backdrop of the above facts and circumstances, the present Petition is being made by the Petitioner (MPPMCL, East Discom, Central Discom and West Discom) under Section 61 and Section 62 (1) (d) of the Electricity Act 2003, read with the “MPERC (Terms and Conditions for Determination of Tariff for Distribution and Retail Supply of Electricity and Methods and Principles of Fixation of Charges) Regulations, 2015 (RG-35 (II) of 2015)” dated 17th December 2015” (Hereinafter referred to as “Tariff Regulations, 2015 or “Regulations”) for determination of the tariff for distribution and Retail Supply Business for the period FY 2018-19 following the regulations laid down by the Hon’ble Commission.

12. It is submitted that the present ARR for MYT FY 2016-17 to FY 2018-19 & Tariff Petition for FY 2018-19 has been prepared in accordance with the normative parameters and clauses as defined under Tariff Regulations 2015. The Petitioner has endeavoured to comply with the various legal and regulatory directions and stipulations applicable, including the directions given by the Hon'ble Commission in the Business Rules of the Commission, the Guidelines, previous ARR and Tariff Orders to the possible extent on the basis of actual and reasonable assumptions and within the limitations of availability of data.
13. It is submitted that as soon as the retail tariff order becomes applicable, the voltage level and consumer category wise cross subsidy surcharge, additional surcharge, wheeling charges and transmission charges in respect of open access customers and captive consumers should also be notified and made effective from the tariff application date.
14. Based on the information available, the Petitioner has made sincere efforts to comply with the Regulations of the Hon'ble Commission and discharge its obligations to the best of its abilities and resources in its command. However, should any further material information become available during the process of determination, the Petitioner may be permitted to reserve the right to file such additional information and consequently amend/ revise the petition.
15. The Hon'ble MPERC in the previous year's order has referred to an Appellate Tribunal for Electricity (APTEL) judgment to determine the voltage level wise Cost of Supply in the state of MP. However, this judgment is to determine the voltage level wise cross subsidy surcharge and not consumer tariff. In the present petition, the Petitioners have proposed consumer category wise tariff in line with the National Tariff Policy, 2016. The Hon'ble Commission is requested to determine the voltage level and consumer category wise cross subsidy surcharge on the basis of the available data with the Distribution Licensees in accordance with the methodology suggested by the APTEL and also approved by Hon'ble Commission in its Retail Supply Tariff Order for FY 2017-18.
16. The Petitioner has estimated a net ARR (including Transco and Genco True Up) of Rs 34,010 Crores for MP State, Rs 10,729 Crores for East Discom, Rs 10,096 Crores for Central Discom and Rs 13,185 Crores for West Discom respectively and a Revenue Gap of Rs 1,306 Crores for MP State, Rs 402 Crores for East Discom, Rs 357 Crores for Central Discom and Rs 546 Crores for West Discom respectively for FY 2018-19. The summary of the Petitioners Claim is shown below:

Sr. No	Particular	Unit	MP State	East	Central	West
1	Revenue					
2	Total ARR (Excluding True-up)	Rs Crs.	34,092	10,765	10,098	13,229
3	Revenue at Current Tariffs	Rs Crs.	32,704	10,326	9,739	12,639
4	Revenue Gap (Excluding True-up)	Rs Crs.	1,388	438	360	590
5	Average Cost of Supply (Excluding True-up)	Rs./Unit	6.33	6.26	6.42	6.32
	Impact of True-Up Amounts of Past Years					
A	Impact of True Up - Transco- FY 2015-16	Rs Crs.	330	99	105	126
B	Impact of True Up-Genco-FY 2015-16	Rs Crs.	(412)	(135)	(108)	(169)
C	Total ARR (Including True-Up)	Rs Crs.	34,010	10,729	10,096	13,185
D	Total Revenue Gap (Including True-Up)	Rs Crs.	1,306	402	357	546
E	Average Cost of Supply (Including True-up)	Rs./Unit	6.31	6.24	6.42	6.30

17. However, despite the various measures taken to improve commercial and technical efficiencies, Discoms are unable to recover the costs incurred, which are compelling the Discoms to propose for an increase in the existing tariff.
18. The petitioners would like to reiterate their proposal to alter the mechanism for deriving Fuel Cost Adjustment (FCA) for recovery/adjustment of uncontrollable costs due to increase or decrease in the cost of fuel in case of coal, oil and gas based generating stations. The petitioners would like to resubmit that the existing mechanism to calculate FCA does not have any provision to recover the incremental power purchase. The petitioners also urge that the average power purchase cost should be considered in the formula instead of only variable costs, thus passing on the complete fixed costs on to the consumers as a legitimate cost.
19. Shri F.K. Meshram, Chief General Manager (Revenue Management) of MPPMCL; Shri A.K. Sharma, Chief General Manager (Commercial) of MPPoKVVCL; Shri B.S. Khanooja, General Manager (Commercial-III) of MPMKVVCL and Shri Shailendra Jain, Deputy Director (TRAC) of MPPaKVVCL have been authorized to execute and file all the documents on behalf of the respective petitioner in this regard. Accordingly, the current petition filing is signed and verified by, and backed by the affidavit of respective authorized signatories.

PRAYER

The Petitioners request the Hon'ble Commission to:

- a) To invoke the power conferred to it under Section 62 of the Electricity Act, 2003, and to admit the petition seeking approval of ARR & Tariff Petition for FY 2018-19.
- b) To approve the net ARR (including Transco and Genco True Up) of Rs 34,010 Crores for MP State, Rs 10,729 Crores for East Discom, Rs 10,096 Crores for Central Discom and Rs 13,185 Crores for West Discom respectively and a Revenue Gap of Rs 1,306 Crores for MP State, Rs 402 Crores for East Discom, Rs 357 Crores for Central Discom and Rs 546 Crores for West Discom respectively for FY 2018-19.
- c) Considering the aforesaid facts and circumstances the Hon'ble Commission may be pleased to allow expenses of MPPMCL as stated to be allowed and include them as a part of power purchase cost of three Discom's to meet the ends of justice;
- d) Consider and approve Petitioners tariff proposal for FY 2018-19 to recover the costs for the ensuing year;
- e) To determine the wheeling charges, voltage level and consumer category wise cross subsidy surcharge, additional surcharge and transmission charges for open access customers and captive consumers on the basis of ARR petition for FY 2018-19 and make applicable w.e.f. the application date of the revised tariff;
- f) To allow taxes, Cess, etc. as pass through on actual basis.
- g) To condone any inadvertent omissions/ errors/ shortcomings and permit the petitioners to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date
- h) Treat the filing as complete in view of substantial compliance as also the specific requests for waivers with justification placed on record;
- i) To pass such order's as deemed fit and proper in the facts and circumstances of the case in the interest of justice.

Date: 12th January, 2018

Shri F.K Meshram
CGM (Revenue Management)
MPPMCL, Jabalpur

Shri Ajay Sharma
CGM (Commercial)
MP Poorv Kshetra Vidyut Vitaran Co.Ltd,
Jabalpur

Shri B.S Khanooja
GM (Commercial III)
MP Madhya Kshetra Vidyut Vitaran Co.
Ltd, Bhopal

Shri Shailendra Jain
DD (TRAC)
MP Paschim Kshetra Vidyut Vitaran Co. Ltd,
Indore

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NOTES AND ABBREVIATIONS

In this Petition:

- ✓ *All currency figures used in this Petition, unless specifically stated otherwise, are in ₹ Crores.*

Abbreviation	Full Description
ARR	Aggregate Revenue Requirement
APTEL	Appellate Tribunal for Electricity
CERC	Central Electricity Regulatory Commission
CGS	Central Generating Stations
Co-gen	Cogeneration Power Plant
CPP	Captive Power Plant
EA - 2003	The Electricity Act 2003
ERLDC	Eastern Regional Load Dispatch Committee
ERPC	Eastern Regional Power Committee
FY	Financial Year
GFA	Gross Fixed Assets
GoMP	Government of Madhya Pradesh
GoI	Government of India
HT/ HV	High Tension/ High Voltage
IPPs	Independent Power Producers
kV / KVA	Kilo Volt / Kilo Volt Ampere
kW	Kilo Watt
LT/LV	Low Tension/ Low Voltage
MoP	Ministry of Power, Government of India
MPSEB	Madhya Pradesh State Electricity Board
MPERC	Madhya Pradesh Electricity Regulatory Commission
MPMKVVCL	Madhya Pradesh Madhya Kshetra Vidyut Vitran Company Limited
MPPaKVVCL	Madhya Pradesh Paschim Kshetra Vidyut Vitran Company Limited
MPPoKVVCL	Madhya Pradesh Poorv Kshetra Vidyut Vitran Company Limited
MPPMCL	Madhya Pradesh Power Management Company Limited
MPPGCL	Madhya Pradesh Power Generation Company Limited
MPPTCL	Madhya Pradesh Power Transmission Company Limited
MU	Million Units
NCE / NCES	Non-Conventional Energy Sources
PGCIL	Power Grid Corporation India Limited
SSGS	State Sector Generating Stations
SLDC	State Load Dispatch Centre
STOA	Short Term Open Access
TO	Tariff Order
WRLDC	Western Regional Load Dispatch Committee
WRPC	Western Regional Power Committee

A1: CONTENTS OF THIS PETITION AND METHODOLOGY ADOPTED IN FILING OF THIS PETITION (INCLUDING CONSTRAINTS)

This petition has in detail basis actuals of individual elements constituting the ARR for MYT FY 2016-17 to FY 2018-19 & Tariff Petition for FY 2018-19 based on Tariff Regulations, 2015. The following elements have been explained in detail for FY 2016-17 to FY 2018-19:

- a. Energy Sales
- b. Distribution Loss and Energy Requirement
- c. Power Purchase from various sources to meet the Energy Requirement
- d. Computation of Other Expenses
 - i. O&M Expenses
 - ii. Investment Plan
 - iii. Depreciation
 - iv. Interest & Finance Charges
 - v. Interest on Working Capital
 - vi. Interest on Security Deposit
 - vii. Return on Equity
 - viii. Bad Debts
 - ix. MPPMCL Cost/ (Income)
 - x. Other Expenses if any
 - xi. Other Income & Non-Tariff Income
- e. Computation of Total ARR
- f. Computation of Revenue Category wise as collected
- g. Determination of Deficit/(Surplus) between Revenue as collected & Costs
- h. Tariff Proposal for FY 2018-19
 - i. Voltage Wise Cost of Supply
 - j. Wheeling Charges, Cross Subsidy Surcharge & Additional Surcharge
 - k. Fuel Cost Adjustment Charge
 - l. Compliance of Directives

1.1 **Methodology**

1.1.1 The Petitioner is now submitting the ARR for MYT FY 2016-17 to FY 2018-19 & Tariff Petition for FY 2018-19 on the basis of actual and reasonable assumptions and within the limitations of availability of data within the purview of the Electricity Act, 2003 & Tariff Regulations, 2015. It consists of details of projected expenditures to be made by the Petitioner and details of revenue to be received leading to projected revenue deficit/ (surplus) to be incurred from April 2018 to March 2019. It is a measure of projected accounting gains / losses and expenditures incurred to carry forward the electricity distribution business. It is humbly requested to the Hon'ble Commission to approve the ARR for MYT FY 2016-17 to FY 2018-19 & Tariff Petition for FY 2018-19 in accordance with the applicable Regulations as expenses and income have been considered while issuing the Tariff Order for FY 2018-19.

1.1.2 For Reference

- FY 2016-17 or FY 17 is from 01st April 16 to 31st March 17 (Provisional)
- FY 2017-18 or FY 18 is from 01st April 17 to 31st March 18 (Re-Estimate)
- FY 2018-19 or FY 19 is from 01st April 18 to 31st March 19 (Projected)

A2: REGULATORY REQUIREMENT OF FILING OF THIS PETITION

2.1 Regulations

This petition has been based on the following regulation notified by the Madhya Pradesh Electricity Regulatory Commission:

“The Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Distribution and Retail Supply of Electricity and Methods and Principles of Fixation of Charges) Regulations, 2015 (RG-35 (II) of 2015)” dated 17th December 2015” (Hereinafter referred to as “Tariff Regulations, 2015) – Applicable from FY 2016-17 to FY 2018-19;

A3: ESTIMATION OF SALES

3.1 Method adopted for Estimation of Sales

- 3.1.1 For the purpose of projection of sales, the distribution licensees have considered category wise and slab wise actual data of the sale of electricity, number of consumers, connected / contracted load, etc. of the preceding four years i.e. FY 2013-14, FY 2014-15, FY 2015-16 and FY 2016-17 and available data of the FY 2017-18 i.e. up to the month of August 2017.
- 3.1.2 The licensees, in the previous year's filing for FY 2017-18, had projected the Sales based on the actual data of FY 2015-16. Since the actual data of FY 2016-17 is now available and it has been observed that the actual sales during FY 2017-18 have variations from the sales forecasted by the Licensee and those allowed by the Hon'ble Commission during the previous filings, the licensees feel that it will be appropriate to revise the sales forecast for FY 2017-18 and thereafter project the sales for FY 2018-19.
- 3.1.3 The sales for FY 2018-19 have been projected on the basis of the actual data of Number of Consumers, Connected Load and Consumption during the last 4 years and on the basis of revised estimate for FY 2017-18.
- 3.1.4 The approach being followed is to analyze 3 year and 2 year Compound Annual Growth Rates (CAGRs) and year on year growth rate of each category and its sub-categories in respect of urban & rural consumers separately. After analysis of the data, appropriate / reasonable growth rates have been assumed for future consumer forecasts from the past CAGRs of the Category/Sub-category by the three Discoms.
- 3.1.5 The past CAGR on sales per consumer / sales per kW and connected load has been applied while forecasting the connected load and sales in each category/sub-category. The use of specific consumption i.e. consumption per consumer and / or consumption per unit load is the basic forecasting variable and is widely used in load and energy sales forecasting. The basic intent in using this model is that, the specific consumption per consumer and / or consumption per unit load captures the trends and variations in the usage of electricity over a growth cycle more precisely. This method has been recommended by the C.E.A. also. The projections for each tariff category and the relevant assumptions of the three Discoms have been discussed in the following sections. The overall sales forecast is as follows:

Table 1: Energy Sales (MUs)

TC	Category	East Discom			Central Discom			West Discom			MP State		
		FY 17	FY 18 (RE)	FY 19 (Proj.)	FY 17	FY 18 (RE)	FY 19 (Proj.)	FY 17	FY 18 (RE)	FY 19 (Proj.)	FY 17	FY 18 (RE)	FY 19 (Proj.)
LV 1	Domestic	3,766	4,282	5,513	3,503	3,779	4,739	3,690	3,901	4,302	10,960	11,962	14,554
LV 2	Non-Domestic	1,043	998	1,119	826	906	993	963	1,046	1,135	2,832	2,950	3,246
LV 3	WW & Street Light	424	509	578	326	364	383	433	490	548	1,182	1,363	1,509
LV 4	LT Industrial	393	451	510	253	285	308	562	593	619	1,207	1,329	1,436
LV 5.1	Agriculture Irrigation Pumps	4,832	5,405	6,658	4,346	4,815	5,741	7,996	8,789	10,251	17,174	19,009	22,650
LV 5.2	Agriculture related Use	5	7	8	4	5	5	1	1	2	10	14	14
	Total (LT)	10,463	11,653	14,385	9,258	10,154	12,169	13,645	14,821	16,856	33,365	36,627	43,410
HV 1	Railway Traction	0	0	25	0	0	25	0	0	0	0	0	50
HV 2	Coal Mines	460	462	447	31	31	31	0	0	0	491	493	478
HV 3.1	Industrial	1,854	1,719	1,648	2,262	2,447	2,651	2,957	3,131	3,170	7,073	7,297	7,468
HV 3.2	Non-Industrial	245	258	271	405	424	442	417	444	471	1,067	1,126	1,185
HV 4	Seasonal	7	8	8	2	2	2	11	13	13	20	22	24
HV 5.1	Public Water Works	81	89	98	180	205	235	403	236	258	665	531	591
HV 5.1	HV Irrigation	5	6	10	3	3	3	89	98	108	96	107	121
HV 5.2	Other Agricultural	14	15	15	8	8	9	7	10	11	29	33	35
HV 6	Bulk Residential Users	280	296	291	160	164	168	31	31	32	471	491	490
HV 7	Start Up Power	0	1	0	0	1	1	5	6	6	7	6	6
	Total (HT)	2,946	2,854	2,814	3,051	3,284	3,567	3,920	3,968	4,068	9,918	10,107	10,448
	TOTAL LT+HT	13,409	14,507	17,199	12,309	13,438	15,735	17,565	18,789	20,924	43,283	46,734	53,858

3.2 Category-wise sales Projection.

The Petitioners, hereby explains the methodology for category wise for FY 2018-19 in detail:

3.2.1 LV-1: Domestic

3.2.1.1 Assumptions for Projecting Unmetered Domestic Sales

In the tariff order for FY 2017-18, Hon'ble Commission had revised the benchmark of billing to unmetered domestic connections in rural areas. Therefore, the petitioners have considered the same for projecting consumption of unmetered domestic connections.

The projections of consumption of un-metered domestic connections in this petition have been considered as NIL for urban areas (since all domestic consumers in urban areas have been metered).

3.2.1.2 Pradhan Mantri Sahaj Bijli Har Ghar Yojna

Additionally, with the introduction of the Pradhan Mantri Sahaj Bijli Har Ghar Yojna (Saubhagya Scheme), an additional 41.57 Lakh domestic households are expected to get connected with the Discom's by December 2018. Hence, over and above the normal growth, additional connections under the Saubhagya Scheme and IPDS Scheme have also been taken into consideration while computing the revised estimate for FY 2017-18 and forecasting the sales for FY 2018-19.

The on-boarding of the new consumers added under Saubhagya Scheme have been considered on a monthly basis where the computation is done at a straight line pro-rata basis i.e. the target consumers for a year have been considered to be added/ provided connection in equal monthly numbers within the year.

3.2.1.3 After factoring the growth in consumers the following projections has been arrived at for LV-1 category:

Table 2: Energy Sales for LV 1 (MUs)

Area	Sub Category	East Discom			Central Discom			West Discom			MP State		
		FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Urban	Metered	1,728	1,924	2,126	2,446	2,560	2,682	2,239	2,308	2,380	6,413	6,793	7,188
Urban	Un-metered	2	0	0	1	0	0	0	0	0	3	0	0
Urban	Temporary	15	17	17	20	20	20	26	26	26	61	63	63
Urban	Total	1,746	1,941	2,143	2,467	2,580	2,702	2,265	2,334	2,406	6,477	6,855	7,251
Rural	Metered	1,733	2,147	3,272	955	1,141	2,008	1,423	1,564	1,892	4,111	4,852	7,172
Rural	Un-metered	285	191	95	80	56	28	0	0	0	366	247	124
Rural	Temporary	2	3	3	1	2	2	3	3	3	6	8	8
Rural	Total	2,021	2,341	3,370	1,037	1,199	2,038	1,426	1,567	1,896	4,483	5,107	7,303
Total	Metered	3,462	4,072	5,398	3,401	3,701	4,690	3,661	3,872	4,273	10,524	11,645	14,360
Total	Un-metered	287	191	95	81	56	28	0	0	0	369	247	124
Total	Temporary	17	20	20	21	22	22	28	29	29	67	70	70
Total	Total	3,766	4,282	5,513	3,503	3,779	4,739	3,690	3,901	4,302	10,960	11,962	14,554

3.2.1.4 East Discom

The growth percentages assumed for the category for the FY 2017-18 & FY 2018-19 are as shown below:

Area	Category	Urban		Rural	
Metered	Consumer	0.00%	No growth rate Considered	0.00%	No growth rate Considered
	Average Load (kW) per Consumer	1.14	No growth rate Considered	0.28	No growth rate Considered
	Average consumption per consumer per month	2.77%	2 Year CAGR Considered	13.22%	YoY Growth rate Considered
Un-metered	Consumer	0.00%	No growth rate Considered	0.00%	No growth rate Considered

Area	Category	Urban		Rural	
	Average Load per Consumer	1.06	No growth rate Considered	0.23	No growth rate Considered
	Average consumption per consumer per month	0.00%	No growth rate Considered	0.00%	No growth rate Considered
Temporary	Consumer	0.00%	No growth rate Considered	0.00%	No growth rate Considered
	Average Load per Consumer	1.41	No growth rate Considered	1.32	No growth rate Considered
	Average consumption per consumer per month	0.00%	No growth rate Considered	0.00%	No growth rate Considered

Further, the connections estimated under the DDUGJY / RGGVY, Saubhagya and IPDS Schemes is as below:

Connections Estimated under DDUGJY/RGGVY/Saubhagya/IPDS for East Discom

Year	2017-18		2018-19	
	Urban	Rural	Urban	Rural
Target (No. of consumers)	33328	628221	77764	1048799
Units Consumed (MU)	52	377	125	629

*for Rural Consumers added under the DDUGJY /RGGVY and Saubhagya Schemes, the connected load has been taken as 200 watt per consumer with consumption estimate of 50 Units per month. In case of Urban Connections under IPDS and Saubhagya Schemes, the connected load per consumer as well as the consumption per consumer has been taken same as that of the Domestic Urban Metered Consumers.

3.2.1.5 Central Discom

The growth percentages assumed for the category for the FY 2017-18 & FY 2018-19 are as shown below:

Area	Category	Urban		Rural	
Metered	Consumer	3.36%	YoY growth rate considered	3.68%	2 Year CAGR Considered
	Average Load (kW) per Consumer	1.49	No growth rate has been considered	0.58	No growth rate has been considered
	Average consumption per consumer per month	1.06%	2 Year CAGR Considered	1.26%	2 Year CAGR Considered
Un-metered	Consumer	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered
	Average Load per Consumer	1.03		0.35	

Area	Category	Urban		Rural	
	Average consumption per consumer per month	0.00%		0.00%	
Temporary	Consumer	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered
	Average Load per Consumer	1.44		1.77	
	Average consumption per consumer per month	0.00%		0.00%	

Further, the connections estimated under the DDUGJY / RGGVY, Saubhagya and IPDS Schemes is as below:

Connections Estimated under DDUGJY/RGGVY/Saubhagya/IPDS for Central Discom

Year	2017-18		2018-19	
	Urban	Rural	Urban	Rural
Target (No. of consumers)	7,000	567,300	0	1,323,700
Units Consumed (MU)	13	340.38	0	794.22

*for Rural Consumers added under the DDUGJY /RGGVY and Saubhagya Schemes, the connected load has been taken as 200 watt per consumer with consumption estimate of 50 Units per month. In case of Urban Connections under IPDS and Saubhagya Schemes, the connected load per consumer as well as the consumption per consumer has been taken same as that of the Domestic Urban Metered Consumers.

3.2.1.6 West Discom

The growth percentages assumed for the category for the FY 2017-18 & FY 2018-19 are as shown below:

Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Metered	Consumer	3.10%	5 Month Variation	2.74%	5 Month Variation Considered
	Average Load (kW) per Consumer	1.45	No Growth Rate Considered	0.51	No Growth Rate Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	1.99%	5 Month Variation Considered

Area	Category	Urban			Rural	
Un-metered	Consumer	0.00%	No Growth Rate Considered		2.74%	5 Month Variation Considered
	Average Load per Consumer	1.00			0.21	No Growth Rate Considered
	Average consumption per consumer per month	0.00%			0.00%	No Growth Rate Considered
Temporary	Consumer	0.00%	No Growth Rate Considered		0.00%	No Growth Rate Considered
	Average Load per Consumer	1.86			1.99	
	Average consumption per consumer per month	0.00%			0.00%	

Further, the connections estimated under the DDUGJY / RGGVY, Saubhagya and IPDS Schemes is as below:

Connections Estimated under DDUGJY/RGGVY/Saubhagya/IPDS for West Discom

Year	2017-18	2018-19
Target (No. of consumers)	418,000	200,000
Units Consumed (MU)	250.80	120.00

*for Rural Consumers added under the DDUGJY /RGGVY and Saubhagya Schemes, the connected load has been taken as 200 watt per consumer with consumption estimate of 50 Units per month. In case of Urban Connections under IPDS and Saubhagya Schemes, the connected load per consumer as well as the consumption per consumer has been taken same as that of the Domestic Urban Metered Consumers.

3.2.2 LV-2: Non-Domestic

The future projections for FY 2017-18 & FY 2018-19 are as below:

Table 3 : Energy Sales for LV 2 (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Metered	1,020	973	1,094	786	866	953	922	1,003	1,092	2,728	2,843	3,139
Temporary	23	24	24	39	40	40	41	42	43	103	107	108
Total	1,043	998	1,119	826	906	993	963	1,046	1,135	2,832	2,950	3,246

3.2.2.1 East Discom

The growth percentages assumed for the category are as shown below:

Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Metered	Consumer	4.16%	3 Year CAGR Considered	9.77%	5 Month variation Considered
	Average Load (kW) per Consumer	3.44%	5 Month variation Considered	0.00%	No growth rate Considered
	Average consumption per kW per month	0.19%	5 Month variation Considered	11.30%	5 Month variation Considered
Temporary	Consumer	0.00%	No growth rate Considered	0.00%	No growth rate Considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		0.00%	

3.2.2.2 Central Discom

The growth percentages assumed for the category are as shown below:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Metered	Consumer	3.54%	5 month variation considered	6.10%	5 month variation considered
	Average Load (kW) per Consumer	5.20%	5 month variation considered	1.72%	YoY growth rate considered
	Average consumption per kW per month	1.25%	YoY growth rate considered	0.23%	3 year CAGR Considered
Temporary	Consumer	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		0.00%	

3.2.2.3 West Discom

The growth percentages assumed for the category are as shown below:

Growth Percentage Assumption West Discom

Area	Category	Urban			Rural	
Metered	Consumer	3.67%	2 Year CAGR Considered		8.27%	2 Year CAGR Considered
	Average Load (kW) per Consumer	4.29%	YoY Growth rate Considered		2.86%	YoY Growth rate Considered
	Average consumption per kW per month	0.00%	No Growth Rate Considered		0.64%	YoY Growth rate Considered
Temporary	Consumer	0.00%	No Growth Rate Considered		0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	1.02%	YoY Growth rate Considered		4.02%	3 Year CAGR Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered		0.00%	No Growth Rate Considered

3.2.3 LV-3.1: Public Water Works

The future projections are as follows:

Table 4: Energy Sales for LV 3.1 (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Municipal Corp.	48	58	62	83	98	100	41	46	47	172	202	210
Nagar Panchayat	62	68	77	75	81	88	54	60	63	192	210	228
Gram Panchayat	168	210	239	61	62	66	161	188	225	390	459	530
Temporary	5	5	5	3	4	4	5	5	5	13	14	14
Total	284	341	383	223	245	258	260	299	341	767	885	982

3.2.3.1 East Discom

The growth percentages assumed for the category are as shown below:

Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	2.66%	2 Year CAGR Considered	5.00%	5 Month variation Considered
	Average Load (kW) per Consumer	4.15%	3 Year CAGR Considered	5.57%	YoY Growth rate Considered
	Average consumption per kW per month	0.00%	No growth rate Considered	0.00%	No growth rate Considered
Nagar Panchayat	Consumer	6.52%	2 Year CAGR Considered	11.10%	2 Year CAGR Considered
	Average Load (kW) per Consumer	5.08%	3 Year CAGR Considered	2.48%	2 Year CAGR Considered
	Average consumption per consumer per month	0.00%	No growth rate Considered	0.00%	No growth rate Considered
Gram Panchayat	Consumer	0.00%	No growth rate Considered	4.77%	5 Month variation Considered
	Average Load (kW) per Consumer	11.09%	3 Year CAGR Considered	9.17%	2 Year CAGR Considered
	Average consumption per consumer per month	0.00%	No growth rate Considered	0.00%	No growth rate Considered
Temporary	Consumer	0.00%	No growth rate Considered	15.88%	3 Year CAGR Considered
	Average Load (kW) per Consumer	0.00%		0.00%	No growth rate Considered
	Average consumption per consumer per month	0.00%		0.00%	No growth rate Considered

3.2.3.2 Central Discom

The growth percentages assumed for the category are as shown below:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	1.11%	2 year CAGR Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	1.47%	3 year CAGR Considered	0.37%	3 year CAGR Considered
	Average consumption per kW per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Nagar Panchayat	Consumer	6.06%	YoY growth rate considered	0.79%	2 year CAGR Considered
	Average Load (kW) per Consumer	1.79%	5 Month variation Considered	0.00%	No growth rate considered

Area	Category	Urban		Rural	
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Gram Panchayat	Consumer	0.00%	No Growth Rate Considered	6.55%	5 Month variation Considered
	Average Load (kW) per Consumer	2.48%	3 year CAGR Considered	1.76%	2 year CAGR Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Temporary	Consumer	0.00%	No growth rate considered	0.00%	No growth rate considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		0.00%	

3.2.3.3 West Discom

The growth percentages assumed for the category are as shown below:

Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	1.40%	2 Year CAGR Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	1.08%	YoY Growth rate Considered	1.83%	YoY Growth rate Considered
	Average consumption per kW per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Nagar Panchayat	Consumer	5.58%	5 Month variation Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.23%	2 Year CAGR Considered	0.00%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	2.26%	2 Year CAGR Considered
Gram Panchayat	Consumer	0.00%	No Growth Rate Considered	12.20%	3 year CAGR Considered
	Average Load (kW) per Consumer	1.57%	2 Year CAGR Considered	1.77%	3 year CAGR Considered
	Average consumption per consumer per month	5.58%	YoY Growth rate Considered	5.91%	YoY Growth rate Considered
Temporary	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		0.00%	

3.2.4 LV-3.2: Street Light

The future projections are as below:

Table 5: Energy Sales for LV-3.2 (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Municipal Corp.	60	70	81	47	52	55	67	78	86	174	200	223
Nagar Panchayat	55	67	81	50	58	60	43	47	51	147	172	192
Gram Panchayat	24	31	32	6	8	9	63	67	70	94	105	112
Total	140	168	194	103	119	125	172	191	207	415	478	527

3.2.4.1 East Discom

The growth percentages assumed for the category are as shown below:

Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	2.66%	2 Year CAGR Considered	5.00%	5 Month variation Considered
	Average Load (kW) per Consumer	0.00%	No growth rate Considered	15.00%	5 Month variation Considered
	Average consumption per kW per month	6.72%	5 Month variation Considered	23.04%	5 Month variation Considered
Nagar Panchayat	Consumer	6.52%	2 Year CAGR Considered	11.10%	2 Year CAGR Considered
	Average Load (kW) per Consumer	4.08%	5 Month variation Considered	14.25%	YoY Growth rate Considered
	Average consumption per consumer per month	11.68%	5 Month variation Considered	14.39%	YoY Growth rate Considered
Gram Panchayat	Consumer	0.00%	No growth rate Considered	4.77%	5 Month variation Considered
	Average Load (kW) per Consumer	6.59%	YoY Growth rate Considered	2.00%	5 Month variation Considered
	Average consumption per consumer per month	0.00%	No growth rate Considered	0.00%	No growth rate Considered

3.2.4.2 Central Discom

The growth percentages assumed for the category are as shown below:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	5.66%	3 Year CAGR Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	33.33%	5 Month variation Considered
	Average consumption per kW per month	0.00%	No Growth Rate Considered	20.00%	Nominal Growth Rate Considered
Nagar Panchayat	Consumer	3.16%	3 Year CAGR Considered	9.09%	5 Month variation Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	5.10%	3 Year CAGR Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Gram Panchayat	Consumer	0.00%	No Growth Rate Considered	2.70%	YoY growth rate considered
	Average Load (kW) per Consumer	9.41%	YoY growth rate considered	13.68%	3 Year CAGR Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered

3.2.4.3 West Discom

The growth percentages assumed for the category are as shown below:

Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	8.10%	YoY Growth rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	
	Average consumption per kW per month	3.03%	3 year CAGR Considered	0.00%	
Nagar Panchayat	Consumer	7.96%	5 Month variation Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	1.71%	3 year CAGR Considered
	Average consumption per consumer per month	0.00%		0.00%	No Growth Rate Considered
Gram Panchayat	Consumer	3.96%	2 Year CAGR Considered	2.77%	3 year CAGR Considered
	Average Load (kW) per Consumer	9.49%	3 year CAGR Considered	1.71%	YoY Growth rate Considered
	Average consumption per consumer per month	6.69%	5 Month variation Considered	0.00%	No Growth Rate Considered

3.2.5 LV-4.1: Non- Seasonal Industrial

The future projections are as below:

Table 6: Energy Sales for LV-4.1 (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Upto 25HP	192	212	230	141	155	160	244	248	250	578	614	640
Above 25HP to 100HP	164	191	225	97	108	117	227	237	244	489	536	586
Above 100HP	28	38	43	12	19	27	83	99	116	122	156	186
Temporary LT Ind.	6	8	8	1	1	1	2	2	2	8	11	11
Total	389	449	507	251	283	305	556	585	612	1196	1317	1424

3.2.5.1 East Discom

The assumptions for sales forecast for the category are given below:

Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Upto 25HP	Consumer	1.02%	5 Month variation Considered	2.35%	YoY Growth rate Considered
	Average Load (kW) per Consumer	1.53%	YoY Growth rate Considered	2.00%	YoY Growth rate Considered
	Average consumption per kW per month	2.00%	YoY Growth rate Considered	6.59%	3 Year CAGR Considered
Above 25HP to 100HP	Consumer	1.09%	YoY Growth rate Considered	18.43%	YoY Growth rate Considered
	Average Load (kW) per Consumer	0.00%	No growth rate Considered	0.00%	No growth rate Considered
	Average consumption per consumer per month	3.61%	YoY Growth rate Considered	7.57%	5 Month variation Considered
Above 100HP	Consumer	10.00%	Nominal Growth Rate Considered	20.00%	Nominal Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No growth rate Considered	1.43%	YoY Growth rate Considered
	Average consumption per consumer per month	0.00%	No growth rate Considered	0.00%	No growth rate Considered
Temporary	Consumer	0.00%	No growth rate Considered	0.00%	No growth rate Considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		0.00%	

3.2.5.2 Central Discom

The growth percentages assumed are as follows:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Up to 25HP	Consumer	0.58%	5 Month variation Considered	2.78%	5 Month variation Considered
	Average Load (kW) per Consumer	0.63%	YoY growth rate considered	2.88%	YoY growth rate considered
	Average consumption per kW per month	2.12%	YoY growth rate considered	0.00%	No Growth Rate Considered
Above 25HP to 100HP	Consumer	3.08%	YoY growth rate considered	12.77%	YoY growth rate considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average consumption per consumer per month	3.09%	2 Year CAGR Considered	10.05%	YoY growth rate considered
Above 100HP	Consumer	20.00%	Nominal Growth rate Considered	20.00%	Nominal Growth rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average consumption per consumer per month	16.83%	5 Month variation Considered	10.00%	Nominal Growth rate Considered
Temporary	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		0.00%	

3.2.5.3 West Discom

The growth percentages assumed are as follows:

Growth Percentage Assumption West Discom

Area	Category	Urban			Rural
Upto 25HP	Consumer	0.00%	No Growth Rate Considered	2.41%	5 Month variation Considered
	Average Load (kW) per Consumer	0.36%	5 Month variation Considered	0.13%	5 Month variation Considered
	Average consumption per kW per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Above 25HP to 100HP	Consumer	2.24%	5 Month variation Considered	10.09%	compared the growth as of Aug'17 with that of Mar'17
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Above 100HP	Consumer	14.91%	5 Month variation Considered	25.00%	Nominal Growth Rate Considered
	Average Load (kW) per Consumer	0.61%	5 Month variation Considered	0.00%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	3.55%	2 Year CAGR Considered
Temporary	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%		0.80%	5 Month variation Considered
	Average consumption per consumer per month	0.00%		0.00%	No Growth Rate Considered

3.2.6 LV-4.2: Seasonal Industrial

The future projections are as follows:

Table 7: Energy Sales for LV-4.2 (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Upto 25HP	1	0	0	0	1	1	3	4	4	5	5	6
Above 25HP to 100HP	1	1	1	1	1	2	3	3	3	6	6	6
Above 100HP	1	1	1	0	0	0	0	0	0	1	1	1
Total	3	3	3	2	2	2	6	7	7	11	12	13

3.2.6.1 East Discom

The growth percentages assumed are as follows:

Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Upto 25HP	Consumer	0.00%	No growth rate Considered	0.00%	No growth rate Considered
	Average Load (kW) per Consumer	2.34%	YoY Growth rate Considered	0.00%	
	Average consumption per kW per month	8.79%	5 Month variation Considered	0.00%	
Above 25HP to 100HP	Consumer	0.00%	No growth rate Considered	0.00%	No growth rate Considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		0.88%	5 Month variation Considered
Above 100HP	Consumer	0.00%	No growth rate Considered	0.00%	No growth rate Considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		15.00%	Nominal growth rate considered

3.2.6.2 Central Discom

The growth percentages assumed are as follows:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Upto 25HP	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	5.75%	3 Year CAGR Considered	0.00%	
	Average consumption per kW per month	17.11%	2 Year CAGR Considered	0.00%	
Above 25HP to 100HP	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	7.33%	3 Year CAGR Considered	0.00%	
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	
Above 100HP	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	
	Average consumption per consumer per month	20.00%	Nominal Growth rate Considered	0.00%	

3.2.6.3 West Discom

The growth rates assumed are as follows:

Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Upto 25HP	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.35%	5 Month variation Considered	0.46%	YoY Growth rate Considered
	Average consumption per kW per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Above 25HP to 100HP	Consumer	0.00%	No Growth Rate Considered	14.35%	2 Year CAGR Considered
	Average Load (kW) per Consumer	0.00%		0.00%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%		0.00%	No Growth Rate Considered
Above 100HP	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		0.00%	

3.2.7 LV-5.1: Agricultural

The projections for LV 5.1 Agricultural category are as follows

Table 8: Energy Sales for LV 5.1 (MUs)

Area	Sub Category	East Discom			Central Discom			West Discom			MP State		
		FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Urban	Metered General	4	5	5	29	57	63	6	6	6	39	67	74
Urban	Metered Temporary	1	1	1	3	2	2	1	1	0	5	4	3
Urban	Unmetered General	315	334	387	157	144	160	178	183	206	650	661	754

Area	Sub Category	East Discom			Central Discom			West Discom			MP State		
		FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Urban	Unmetered Temporary	7	8	7	7	5	3	14	13	11	29	25	22
Urban	Total	327	348	401	197	207	228	198	201	223	722	757	852
Rural	Metered General	2	1	1	8	16	18	2	2	2	12	20	22
Rural	Metered Temporary	1	1	0	0	1	0	0	0	0	1	1	1
Rural	Unmetered General	4,294	4,875	6,094	3,901	4,437	5,390	7,441	8,267	9,739	15,636	17,579	21,222
Rural	Unmetered Temporary	209	180	162	240	153	104	355	319	287	803	652	553
Rural	Total	4,505	5,057	6,257	4,149	4,608	5,512	7,798	8,588	10,028	16,452	18,253	21,798
Total	Metered General	6	6	6	37	73	81	7	8	8	50	87	95
Total	Metered Temporary	2	1	1	3	3	2	1	1	0	6	5	4
Total	Unmetered General	4,608	5,209	6,481	4,059	4,581	5,550	7,619	8,449	9,944	16,286	18,240	21,976
Total	Unmetered Temporary	216	188	169	247	158	107	369	332	299	832	678	575
Total	Total	4,832	5,405	6,658	4,346	4,815	5,741	7,996	8,789	10,251	17,174	19,009	22,650

For Temporary Metered & Temporary Permanent Connections, the estimation of consumers and load has been carried out on Monthly basis instead of directly applying the growth rate to annual figures. For unmetered temporary agriculture consumers under this category, the assessed consumption is considered as per the norms stipulated by Hon'ble Commission in the Tariff order for FY 2017-18. The same is shown as below:

Assessment Phase Wise

Phase	Figures in Unit			
	Urban	Urban	Rural	Rural
	2017-18	2018-19	2017-18	2018-19
Three Phase	220	220	195	195
Single Phase	230	230	205	205

The month-wise segregation of norms for assessed consumption of unmetered permanent agricultural connections are as shown below:

Assessment Phase Wise for Unmetered Permanent Agriculture Connections

Figures in Unit	Three Phase				Single Phase			
	Urban	Urban	Rural	Rural	Urban	Urban	Rural	Rural
	2017-18	2018-19	2017-18	2018-19	2017-18	2018-19	2017-18	2018-19
April	90	120	80	110	90	120	90	110
May	90	120	80	110	90	120	90	110
June	90	120	80	110	90	120	90	110
July	90	120	80	110	90	120	90	110
Aug	90	120	80	110	90	120	90	110
Sept	90	120	80	110	90	120	90	110
Oct	170	170	170	170	180	180	180	180
Nov	170	170	170	170	180	180	180	180
Dec	170	170	170	170	180	180	180	180
Jan	170	170	170	170	180	180	180	180
Feb	170	170	170	170	180	180	180	180
March	170	170	170	170	180	180	180	180

The Hon'ble Commission had last increased the normative units for permanent agriculture consumers in the Tariff Order for FY 2014-15 from 1200 Units to 1500 Units per HP per Annum. Till FY 2013-14, agriculture pump consumers were being supplied with 8 Hrs of electricity per day in groups. From FY 2014-15, feeder separation work started and as a result 10 Hours of electricity was supplied on daily basis on separated feeders to agriculture consumers whereas for mixed feeders it was on 24 Hours supply. On mixed feeders there are many agriculture pump connections that are being supplied by more than 20 Hours of supply.

In the past four years, the Agriculture sector has grown for over 20% per annum in the State. The overall area under cultivation has increased, instead of the traditional 2 Crops per Year cycle, the farmers are now cultivating up to three-four crops a year. With an extraordinary increase in the cultivation of water-intensive crops like Paddy and Green Grams (Moong), the area used for Kharif crop cultivation too has increased by almost 50%. Accordingly, the electricity consumption by irrigation pumps has also increased. Some districts have seen tremendous increase in the Agriculture load due this phenomenon. Further, due to decrease in groundwater levels regions like Malwa, the average head for pumps has increased, leading to increase in electricity consumption. All these factors have been key contributors to additional consumption. Hence, in the

months from April to September, the consumption of pump connections is more than the normative units thus leading to increase in Distribution and AT&C losses.

To overcome these issues, it has been proposed to increase the normative units for permanent agricultural pump connections from 1500 Units/ HP / Annum and 1560 Units / HP / Annum to 1680 Units /HP / Annum and 1740 Units / HP / Annum for Rural and Urban Connections respectively. The monthly distribution of these Units is proposed as furnished below:

Normative Units

Time period (months)	Single Phase/Three Phase	Rural		Urban	
		Existing units per HP per month	Proposed units per HP per month	Existing units per HP per month	Proposed units per HP per month
April to September	3 Phase	80	110	90	120
October to March	3 Phase	170	170	170	170
April to September	1 Phase	90	110	90	120
October to March	1 Phase	180	180	180	180

3.2.7.1 East Discom

The growth rates assumed for future projections and revised estimates for this category by East Discom are as follows:

Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Metered General	Consumer	5.00%	Nominal Growth rate Considered	5.00%	Nominal Growth rate Considered
	Load	5.00%		5.00%	
	Consumption per HP	5.00%		5.00%	
Unmetered Permanent	Consumer	4.00%	Nominal Growth rate Considered	7.00%	Nominal Growth rate Considered
	Load	4.00%		5.00%	
	Consumption per HP	4.00%		5.00%	
Metered Temporary	Consumer	0.00%	No growth rate Considered	0.00%	No growth rate Considered
	Load/ consumer	0.00%		0.00%	
	Consumption per HP	0.00%		0.00%	

3.2.7.2 Central Discom

The growth rates assumed for future projections and revised estimates for this category by Central Discom are as follows:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Metered General	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Load	0.00%		0.00%	
	Consumption per HP	0.00%		0.00%	
Unmetered Permanent	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Load	0.00%		0.00%	
	Consumption per HP	0.00%		0.00%	
Metered Temporary	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Load/ consumer	0.00%		0.00%	
	Consumption per HP	0.00%		0.00%	

3.2.7.3 West Discom

Mukhya Mantri Sthayi Krishi Pump Yojna (MMSKPY) was introduced by Hon'ble Chief Minister of Madhya Pradesh in 2016. According to the capex plan, 137,890 and 59,947 temporary connection will be converted to Permanent Unmetered Connections in FY 2017-18 and FY 2018-19 respectively. Accordingly, the Petitioner has worked out the conversion plan.

With the conversion of Temporary Connections to Permanent Connections, a reduction in the number of Temporary Connections is also anticipated. Accordingly, a 10% reduction in growth has been considered in projecting the Consumers, Sales and Demand for FY 2017-18 and FY 2018-19.

Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Metered General	Consumer	3.00%	Nominal Growth rate	3.00%	Nominal Growth rate
	Load	1.00%	Nominal Growth rate	1.00%	Nominal Growth rate
	Consumption per HP	1.00%	Nominal Growth rate	1.00%	Nominal Growth rate

Area		Category	Urban			Rural		
Unmetered Permanent	Consumer	3.00%	Nominal Growth rate			3.00%	Nominal Growth rate	
	Load	1.00%	Nominal Growth rate			1.00%	Nominal Growth rate	
	Consumption per HP	1.00%	Nominal Growth rate			1.00%	Nominal Growth rate	
Metered Temporary	Consumer	0.00%	No Growth Rate Considered			0.00%	No Growth Rate Considered	
	Load/ consumer	0.00%				0.00%		
	Consumption per HP	0.00%				0.00%		

3.2.8 LV-5.2: Other agricultural Use

The projections for LV 5.2 Agricultural category are as follows:

Table 9: Energy Sales for LV 5.2 (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Upto 20HP	4	6	6	3	3	3	1	1	1	7	10	11
greater than 20HP	1	1	1	1	1	1	1	1	1	3	3	3
Temporary	0	0	0	0	0	0	0	0	0	1	1	1
Total	5	7	8	4	5	5	1	2	2	11	14	15

3.2.8.1 East Discom

The growth rates assumed for future projections and revised estimates for this category by East Discom are as follows:

Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Up to 3HP	Consumer	2.99%	2 Year CAGR Considered	5.69%	5 Month variation Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average consumption per kW per month	0.00%		0.00%	
Above 3HP to 5HP	Consumer	6.00%	5 Month variation Considered	21.82%	5 Month variation Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%		0.00%	
Above 5HP to 10HP	Consumer	6.00%	5 Month variation Considered	3.64%	5 Month variation Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered

Area	Category	Urban		Rural	
	Average consumption per consumer per month	0.00%		0.00%	
Above 10HP to 20HP	Consumer	6.00%	Nominal Growth rate Considered No Growth Rate Considered	2.04%	5 Month variation Considered
	Average Load (kW) per Consumer	0.00%		0.00%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%		0.00%	
Above 20HP	Consumer	0.00%	No Growth Rate Considered	7.14%	5 Month variation Considered
	Average Load (kW) per Consumer	0.00%		0.00%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%		0.00%	
Temporary	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		0.00%	

3.2.8.2 Central Discom

The growth rates assumed for future projections and revised estimates for this category by Central Discom are as follows:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Upto 3HP	Consumer	13.33%	YoY growth rate considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	
	Average consumption per kW per month	0.00%	No Growth Rate Considered	0.00%	
Above 3HP to 5HP	Consumer	20.95%	3 Year CAGR Considered	2.86%	5 Month variation Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Above 5HP to 10HP	Consumer	2.33%	5 Month variation Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	
Above 10HP to 20HP	Consumer	6.00%	Nominal Growth rate Considered	20.00%	5 Month variation Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Above 20HP	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%		0.00%	
	Average consumption per consumer per month	0.00%		0.00%	

Area	Category	Urban	Rural
Temporary	Consumer	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	
	Average consumption per consumer per month	0.00%	

3.2.8.3 **West Discom**

The growth rates assumed for future projections and revised estimates for this category by West Discom are as follows:

Growth Percentage Assumption West Discom

Area	Category	Urban	Rural
Upto 3HP	Consumer	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	
	Average consumption per kW per month	0.00%	
Above 3HP to 5HP	Consumer	0.00%	21.05% No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	
	Average consumption per consumer per month	0.00%	
Above 5HP to 10HP	Consumer	0.00%	4.00% No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	
	Average consumption per consumer per month	0.00%	
Above 10HP to 20HP	Consumer	20.00%	24.32% No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	
	Average consumption per consumer per month	0.00%	
Above 20HP	Consumer	0.00%	0.00% No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	
	Average consumption per consumer per month	0.00%	
Temporary	Consumer	0.00%	0.00% No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	
	Average consumption per consumer per month	0.00%	

3.2.9 HV-1: Railway Traction

The petitioners have recently signed a contract with Railways for on-demand supply of electricity for the currently under-development corridor between Itarsi and Katni. With the electrification of Railway Line between Itarsi-Pipariya-Bankhedi-Gadarwada, one new connection for Central Discom is expected. Similarly, with the electrification of the Railway Line between Gadarwara-Kareli-Katni, a new connection is expected for East Discom. There is no expectation of sales to Railways from West Discom.

The projection of sales for this category is as follows:

Table 10: Energy Sales for HV 1 (MUs)

Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
HV-1 Railway Traction	0	0	25	0	0	25	0	0	0	0	0	50

3.2.9.1 East Discom

There has been no sale to Railways to date in FY 2017-18 or FY 2016-17. However, owing to the new contract signed with Railways, and looking at the historic trend of sales from the time when, Railways used to draw power from Discom's, One Connection of 10,000 kVA is expected in the year FY 2018-19. With a load factor of 30% and power factor of 0.95, approximately 25 MUs worth of sales is expected.

3.2.9.2 Central Discom

There has been no sale to Railways to date in FY 2017-18 or FY 2016-17. However, owing to the new contract signed with Railways, and looking at the historic trend of sales from the time when, Railways used to draw power from Discom's, One Connection of 10,000 kVA is expected in the year FY 2018-19. With a load factor of 30% and power factor of 0.95, approximately 25 MUs worth of sales is expected.

3.2.9.3 West Discom

West Discom lacks any consumer base for this category.

3.2.10 HV -2: Coal Mines

The projection of sales for this category is as shown below:

Table 11: Energy Sales for HV 2 (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
132 kV	195	197	197	0	0	0	0	0	0	195	197	197
33 kV	260	260	246	30	30	30	0	0	0	291	291	276
11 kV	4	4	4	1	1	1	0	0	0	5	5	5
Total	460	462	447	31	31	31	0	0	0	491	493	478

3.2.10.1 East Discom

Revised estimates for FY 2017-18 has been considered based upon the year on year trend. On the estimated sales of FY 2017-18, no growth rate has been considered for Rural & 0.92% for Urban 33 kV (Based on 3 years CAGR) for the sales for FY 2018-19.

Table 12: Growth Percentage Assumption East Discom

Area	Category	Urban			Rural		
132 kV	Consumer	0.00%	No Growth rate has been considered		0.00%	No Growth rate has been considered	
	Load (kW)	0.00%			0.00%		
	Units (MUS)	0.00%			0.00%		
33 kV	Consumer	0.00%	No Growth rate has been considered		0.00%	No Growth rate has been considered	
	Load (kW)	0.00%			0.00%		
	Units (MUS)	0.92%	3 year CAGR Considered		0.00%		
11 kV	Consumer	0.00%	No Growth rate has been considered		0.00%	No Growth rate has been considered	
	Load (kW)	0.00%			0.00%		
	Units (MUS)	0.00%			0.00%		

3.2.10.2 Central Discom

No Growth has been considered.

Growth Percentage Assumption Central Discom

Area	Category	Urban			Rural		
132 kV	Consumer	0.00%	No Growth rate has been considered			0.00%	No Growth rate has been considered
	Load (kW)	0.00%				0.00%	
	Units (MUS)	0.00%				0.00%	
33 kV	Consumer	0.00%	No Growth rate has been considered			0.00%	No Growth rate has been considered
	Load (kW)	0.00%				0.00%	
	Units (MUS)	0.00%				0.00%	
11 kV	Consumer	0.00%	No Growth rate has been considered			0.00%	No Growth rate has been considered
	Load (kW)	0.00%				0.00%	
	Units (MUS)	0.00%				0.00%	

3.2.10.3 West Discom

West Discom lacks any consumer base for this category.

3.2.11 HV 3: Industrial and Non-Industrial

The future projections are as follows:

Table 13: Energy Sales for HV 3 (MUs)

Sub Category		East Discom			Central Discom			West Discom			MP State		
		FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Industrial - Unit	220 kV	316	273	173	-	-	-	3	2	2	319	275	175
	132 kV	925	776	776	991	1,054	1,121	160	202	205	2,076	2,033	2,102
	33 kV	447	461	478	1,024	1,125	1,236	1,851	1,915	1,939	3,321	3,500	3,654
	11 kV	110	117	125	53	56	59	135	138	140	297	311	324
	Total	1,797	1,627	1,552	2,067	2,234	2,417	2,149	2,258	2,286	6,013	6,119	6,255

Sub Category		East Discom			Central Discom			West Discom			MP State		
		FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Non Industrial - Unit	132 kV	0	1	1	7	8	8	37	38	38	45	46	47
	33 kV	149	157	166	257	269	281	214	231	250	619	658	697
	11 kV	89	92	96	114	119	125	116	119	122	318	330	343
	Total	237	250	263	378	396	413	367	389	411	982	1,034	1,087
Shopping Malls	132 kV	-	-	-	-	-	-	-	-	-	-	-	-
	33 kV	7	7	8	26	26	27	47	53	57	81	86	92
	11 kV	1	1	1	1	2	2	3	3	3	5	5	6
	Total	8	8	8	27	28	29	50	56	60	85	92	98
Power intensive industries	220 kV	-	-	-	-	-	-	-	-	-	-	-	-
	132 kV	-	-	-	-	-	-	314	348	352	314	348	352
	33 kV	57	92	96	195	213	234	494	525	532	746	830	861
	Total	57	92	96	195	213	234	808	873	884	1,060	1,178	1,213

3.2.11.1 East Discom

The assumptions for sales forecast for the Industrial category HV 3.1 are as given below:

Growth Percentage Assumption East Discom

Area	Category	Urban			Rural	
440/220 kV	Consumer	0.00%	No Growth rate has been considered		0.00%	No Growth rate has been considered
	Load (kW)	0.00%			0.00%	
	Units (MUS)	0.00%			0.00%	
132 kV	Consumer	0.00%	No Growth rate has been considered		0.00%	No Growth rate has been considered
	Load (kW)	0.00%			0.00%	
	Units (MUS)	0.00%			0.00%	
33 kV	Consumer	5.00%	2 Year CAGR Considered		1.60%	5 Month variation Considered
	Load (kW)	2.93%	3 Year CAGR Considered		0.00%	No Growth rate has been considered
	Units (MUS)	3.14%	3 Year CAGR Considered		5.21%	2 Year CAGR Considered
11 kV	Consumer	4.10%	2 Year CAGR Considered		9.84%	5 Month variation Considered
	Load (kW)	3.41%	2 Year CAGR Considered		7.17%	5 Month variation Considered
	Units (MUS)	6.89%	YoY Growth rate Considered		6.21%	YoY Growth rate Considered

The assumptions for sales forecast for the Non-Industrial category HV 3.2 are as given below:

Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
33 kV	Consumer	0.93%	5 Month variation Considered	6.67%	5 Month variation Considered
	Load (kW)	4.81%		0.00%	No Growth rate has been considered
	Units (MUS)	5.40%		6.95%	2 Year CAGR Considered
11 kV	Consumer	3.55%	5 Month variation Considered	15.00%	YoY Growth rate Considered
	Load (kW)	0.60%		0.00%	No Growth rate has been considered
	Units (MUS)	2.99%		13.62%	3 Year CAGR Considered

3.2.11.2 Central Discom

The assumptions for sales forecast for the Industrial category HV 3.1 are as given below:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
440/220 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
132 kV	Consumer	0.00%	No Growth rate has been considered	15.44%	5 Months Variation for overall category Considered
	Load (kW)	0.00%	No Growth rate has been considered	0.01%	5 Month Variation Considered
	Units (MUS)	6.70%	3 Year CAGR for overall category Considered	3.36%	YoY growth rate considered
33 kV	Consumer	5.80%	5 Month Variation Considered	15.13%	5 Month Variation Considered
	Load (kW)	5.30%	3 Year CAGR Considered	4.62%	YoY growth rate considered
	Units (MUS)	6.70%	3 Year CAGR for overall category Considered	16.75%	2 Year CAGR Considered
11 kV	Consumer	3.40%	2 Year CAGR Considered	20.00%	Nominal Growth rate considered
	Load (kW)	2.13%	2 Year CAGR Considered	19.46%	5 Month Variation Considered
	Units (MUS)	5.56%	3 Year CAGR Considered	20.73%	2 Year CAGR for overall category Considered

The assumptions for sales forecast for the Non-Industrial category HV 3.2 are as given below:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%	No Growth rate has been considered	0.00%	
	Units (MUS)	2.79%	5 Month Variation for overall category Considered	0.00%	
33 kV	Consumer	1.08%	5 Month Variation Considered	15.63%	5 Month Variation Considered
	Load (kW)	4.60%	5 Month Variation Considered	11.75%	YoY growth rate considered
	Units (MUS)	3.46%	3 Year CAGR Considered	15.96%	2 Year CAGR Considered
11 kV	Consumer	4.20%	5 Month Variation Considered	3.77%	2 Year CAGR Considered
	Load (kW)	3.38%	5 Month Variation Considered	0.00%	No Growth rate has been considered
	Units (MUS)	4.76%	5 Month Variation Considered	19.62%	3 Year CAGR Considered

3.2.11.3 West Discom

In case of HV3.1 Industrial Category, with the introduction of Open Access, since FY 2015-16, 22 HT Consumers have applied for and been availing Open Access. In Tariff Orders for FY 2016-17 and FY 2017-18 several rebates and incentives were introduced for HT Consumers owing to which, as of August 2017, only 4 of the 22 Consumers are continuing to avail the Open Access. In effect, the increase in sales in FY 2016-17 and April-August FY 2017-18 has a substantial contribution from these erstwhile Open Access Consumers.

Since this effect of Open Access consumers shifting their demand back to Discom can be termed as a one-time effect, it was pertinent to determine the growth rates (3 Year CAGR, 2 Year CAGR, 1 Year Growth and 5 Month Variation) by excluding the spikes introduced from sales to such consumers. By excluding such Open Access Consumers, it has been observed that there is in fact a decline in demand in case of HV 3.1.

However, keeping a positive outlook, West Discom has assumed a nominal growth rate of 1.25% instead.

The assumptions for sales forecast for the Industrial category HV 3.1 are as given below:

Growth Percentage Assumption West Discom

Area	Category	Urban	Rural	
440/220 kV	Consumer	0.00%	No growth rate has been considered	0.00%
	Load (kW)	0.00%		0.00%
	Units (MUS)	0.00%		1.25% Nominal Growth Rate Considered
132 kV	Consumer	1.25%	Nominal Growth Rate Considered	0.00% no growth rate considered
	Load (kW)	1.25%		1.25% Nominal Growth Rate Considered
	Units (MUS)	1.25%		1.25% Nominal Growth Rate Considered
33 kV	Consumer	4.29%	YoY Growth Rate Considered	3.41% 2 Year CAGR Considered
	Load (kW)	1.25%	Nominal Growth Rate Considered	1.25% Nominal Growth Rate Considered
	Units (MUS)	1.25%		1.25% Nominal Growth Rate Considered
11 kV	Consumer	4.51%	3 Year CAGR Considered	1.25%
	Load (kW)	1.57%	YoY Growth Rate Considered	1.25% Nominal Growth Rate Considered
	Units (MUS)	1.25%	Nominal Growth Rate Considered	1.25%

The assumptions for sales forecast for the Non- Industrial category HV 3.2 are as given below:

Growth Percentage Assumption West Discom

Area	Category	Urban	Rural	
132 kV	Consumer	0.00%	No growth rate has been considered	0.00%
	Load (kW)	0.00%		0.00%
	Units (MUS)	0.00%		0.00% No growth rate has been considered
33 kV	Consumer	6.27%	5 Month variation Considered	10.00% 5 Month variation Considered
	Load (kW)	6.24%	5 Month variation Considered	5.80% 5 Month variation Considered
	Units (MUS)	8.68%	2 Year CAGR Considered	3.48% YoY Growth Rate Considered
11 kV	Consumer	2.61%	2 Year CAGR Considered	20.00% YoY Growth Rate Considered
	Load (kW)	0.00%	No growth rate has been considered	0.00% No growth rate has been considered
	Units (MUS)	2.71%	5 Month variation Considered	14.36% 3 Year CAGR Considered

3.2.12 HV 4: Seasonal

The future projections are as follows:

Table 14: Energy Sales for HV 4 (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
33 kV	6	7	7	1	1	1	9	10	11	17	18	19
11 kV	1	1	1	0	0	0	2	2	3	3	4	4
Total	7	8	8	2	2	2	11	13	13	20	22	24

3.2.12.1 East Discom

The assumptions for sales forecast for the category are given below:

Growth Percentage Assumption East Discom

Area	Category	Urban			Rural		
33 kV	Consumer	0.00%	No Growth rate has been considered			0.00%	No Growth rate has been considered
	Load (kW)	0.00%				0.00%	
	Units (MUS)	9.12%	3 Year CAGR Considered			0.30%	3 Year CAGR Considered
11 kV	Consumer	5.00%	Nominal Growth rate Considered			0.00%	No Growth rate has been considered
	Load (kW)	0.00%	No Growth rate has been considered			0.00%	
	Units (MUS)	17.41%	YoY Growth rate Considered			7.60%	5 Month variation Considered

3.2.12.2 Central Discom

The assumptions for sales forecast for the category are given below:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
33 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Units (MUS)	4.82%	3 Year CAGR Considered	4.04%	3 Year CAGR Considered
11 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	

3.2.12.3 West Discom

The assumptions for sales forecast for the category are given below:

Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
33 kV	Consumer	4.55%	3 Year CAGR Considered	0.00%	No growth rate has been considered
	Load (kW)	0.00%	No growth rate has been considered	0.00%	
	Units (MUS)	10.00%	Nominal Growth rate considered	4.64%	YoY Growth Rate Considered
11 kV	Consumer	11.80%	2 Year CAGR Considered	0.00%	No growth rate has been considered
	Load (kW)	0.00%	No growth rate has been considered	0.00%	
	Units (MUS)	10.00%	Nominal Growth rate considered	10.00%	Nominal Growth rate considered

3.2.13 HV 5: Water Works, Lift Irrigation & Other Agricultural use

The future projections are as follows:

Table 15: Energy Sales for HV 5 (MUs)

Sub Category		East Discom			Central Discom			West Discom			MP State		
		FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
Irrigation - Units (MU)	132 kV	0	0	0	0	0	0	0	0	0	0	0	0
	33 kV	4	6	10	2	2	3	89	98	108	95	106	121
	11 kV	0	0	0	1	1	1	0	0	0	1	1	1
	Total	5	6	10	3	3	3	89	98	108	96	107	121
Water Works - Units (MU)	132 kV	0	0	0	60	60	60	302	123	129	362	183	189
	33 kV	72	78	85	107	130	158	92	105	121	271	313	364
	11 kV	9	11	13	13	15	17	10	9	8	32	35	38
	Total	81	89	98	180	205	235	403	236	258	665	531	591
Other than Agricultural - Units (MU)	132 kV	0	0	0	0	0	0	0	0	0	0	0	0
	33 kV	12	12	12	6	6	7	2	0	0	20	18	19
	11 kV	2	3	3	2	2	2	5	10	11	9	14	16
	Total	14	15	15	8	8	9	7	10	11	29	33	35

3.2.13.1 East Discom

The growth percentages for sales forecast for the HT Water Works category are given below:

Growth Percentage Assumption East Discom

Area	Category	Urban			Rural		
		Consumer	Load (kW)	Units (MUS)	0.00%	0.00%	No Growth rate has been considered
132 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	0.00%	No Growth rate has been considered	0.00%
	Load (kW)	0.00%			0.00%		
	Units (MUS)	0.00%			0.00%		

Area	Category	Urban		Rural	
33 kV	Consumer	7.14%	YoY Growth rate Considered	10.94%	2 Year CAGR Considered
	Load (kW)	8.66%	3 Year CAGR Considered	1.02%	2 Year CAGR Considered
	Units (MUS)	9.58%	5 Month variation Considered	8.23%	5 Month variation Considered
11 kV	Consumer	4.89%	3 Year CAGR Considered	0.00%	No Growth rate has been considered
	Load (kW)	1.36%	2 Year CAGR Considered	0.00%	
	Units (MUS)	8.95%	3 Year CAGR Considered	33.43%	

The growth percentages for sales forecast for the HT – Irrigation category are given below:

Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
33 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
11 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		58.59%	3 Year CAGR Considered

The growth percentages for sales forecast for the HT – Other Agricultural category are given below:

Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
33 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
11 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	23.62%	YoY Growth rate Considered	34.02%	2 Year CAGR Considered

3.2.13.2 Central Discom

The growth percentages for sales forecast for the HT water works category are given below:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
33 kV	Consumer	13.79%	YoY growth rate considered	44.22%	3 Year CAGR Considered
	Load (kW)	6.60%	3 Year CAGR Considered	10.00%	Nominal Growth rate considered
	Units (MUS)	21.74%	5 Month Variation Considered	10.08%	2 Year CAGR Considered
11 kV	Consumer	2.25%	2 Year CAGR Considered	0.00%	No Growth rate has been considered
	Load (kW)	4.48%	2 Year CAGR Considered	10.00%	Nominal Growth rate considered
	Units (MUS)	15.16%	3 Year CAGR Considered	27.13%	2 Year CAGR Considered

The growth percentages for sales forecast for the HT Irrigation category are given below:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
33 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	42.62%	5 Month Variation Considered	0.00%	No Growth rate has been considered
	Units (MUS)	14.48%	YoY growth rate considered	17.29%	2 year CAGR for overall category considered
11 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	

The growth percentages for sales forecast for the HT- Other Agricultural category are given below:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
33 kV	Consumer	3.28%	2 Year CAGR Considered	0.00%	No Growth rate has been considered
	Load (kW)	5.46%	5 Month Variation Considered	0.00%	No Growth rate has been considered
	Units (MUS)	3.63%	2 Year CAGR Considered	7.55%	YoY growth rate considered
11 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Units (MUS)	15.87%	5 Month Variation Considered	23.01%	3 year CAGR for overall category considered

3.2.13.3 West Discom

The growth percentages for sales forecast for the HT Irrigation category are given below:

Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
132 kV	Consumer	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
33 kV	Consumer	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered
	Load (kW)	1.46%	5 Month variation Considered	0.00%	
	Units (MUS)	10.55%	YoY Growth Rate Considered	0.00%	
11 kV	Consumer	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	

The growth percentages for sales forecast for the HT- Other Agricultural category are given below:

Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
33 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
11 kV	Consumer	7.69%	YoY Growth rate of the entire category considered	0.00%	No Growth rate has been considered
	Load (kW)	8.73%	YoY Growth rate of the entire category considered	0.00%	
	Units (MUS)	10.00%	Nominal Growth rate Considered	0.00%	

3.2.14 HV 6: Bulk Residential users

The future projections are as follows:

Table 16: Energy Sales for HV 6 (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
132 kV	0	0	0	0	0	0	0	0	0	0	0	0
33 kV	255	270	263	146	149	151	25	25	26	426	444	440
11 kV	25	26	27	14	15	16	6	6	6	45	47	50
Total	280	296	291	160	164	168	31	31	32	471	491	490

3.2.14.1 East Discom

The assumptions for sales forecast for the category are given below:

Growth Percentage Assumption East Discom

Area	Category	Urban			Rural		
33 kV	Consumer	0.00%	No Growth rate has been considered			0.00%	No Growth rate has been considered
	Load (kW)	0.00%				0.00%	
	Units (MUS)	0.00%				0.00%	
11 kV	Consumer	0.00%	No Growth rate has been considered			0.00%	No Growth rate has been considered
	Load (kW)	0.00%				0.00%	
	Units (MUS)	5.00%	Nominal Growth rate Considered			3.65%	5 Month variation Considered

3.2.14.2 Central Discom

The assumptions for sales forecast for the category are given below:

Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
33 kV	Consumer	1.27%	3 Year CAGR Considered	10.00%	Nominal Growth rate considered
	Load (kW)	1.13%	2 Year CAGR Considered	1.60%	3 Year CAGR Considered
	Units (MUS)	1.66%	3 Year CAGR Considered	6.68%	5 Month Variation Considered
11 kV	Consumer	5.27%	3 Year CAGR Considered	10.00%	Nominal Growth rate considered
	Load (kW)	0.88%	2 Year CAGR Considered	1.26%	3 Year CAGR Considered
	Units (MUS)	5.29%	2 Year CAGR Considered	7.85%	YoY growth rate considered

3.2.14.3 West Discom

The assumptions for sales forecast for the category are given below:

Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
33 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
11 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	

3.2.15 HV-7: Requirement Of Power For Generators Connected to the grid

The future projections are as follows:

Table 17: Requirement of Power for Generators Connected to the grid (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)	FY 17	FY 18 (RE)	FY 19 (Projection)
132 kV	0	0	0	0	0	0	1	2	2	1	2	2
33 kV	0	1	0	0	0	0	4	4	4	5	5	4
11 kV	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	1	5	6	6	6	7	6

3.2.15.1 East Discom

No Growth has been considered in the sales in any category.

Requirement of Power for Generators Connected to the grid- East Discom

Area	Category	Urban			Rural		
132kV	Consumer	0.00%	No Growth rate has been considered			0.00%	No Growth rate has been considered
	Load (kW)	0.00%				0.00%	
	Units (MUS)	0.00%				0.00%	
33 kV	Consumer	0.00%	No Growth rate has been considered			0.00%	No Growth rate has been considered
	Load (kW)	0.00%				0.00%	
	Units (MUS)	0.00%				0.00%	
11 kV	Consumer	0.00%	No Growth rate has been considered			0.00%	No Growth rate has been considered
	Load (kW)	0.00%				0.00%	
	Units (MUS)	0.00%				0.00%	

3.2.15.2 Central Discom

The assumptions for sales forecast for the category are given below:

Requirement of Power for Generators Connected to the grid- Central Discom

Area	Category	Urban		Rural	
132kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
33 kV	Consumer	5.00%	Nominal Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	5.00%	Nominal Growth rate has been considered	0.00%	
	Units (MUS)	5.00%	Nominal Growth rate has been considered	0.00%	
11 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	5.00%	Nominal Growth rate has been considered	0.00%	

3.2.15.3 West Discom

The assumptions for sales forecast for the category are given below:

Requirement of Power for Generators Connected to the grid- West Discom

Area	Category	Urban		Rural	
132kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
33 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	
11 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	
	Units (MUS)	0.00%		0.00%	

A4: ENERGY REQUIREMENT AT DISCOM BOUNDARY & EX-BUS REQUIREMENT

4.1 Conversion of Annual Sales into Monthly Sales

The annual sales of the Discom's have been converted into monthly sales using the sales profile actually observed in the past five years including FY 2016-17 for each Discom. This profile is then used to compute monthly sales for the FY 2017-18 & FY 2018-19. The profiling for all Discom's is given in the table below:

Table 18: Month wise Sales Profile

Sr. No	Discom	Month wise Sales Profile Mix (%)												Total
		April	May	June	July	August	September	October	November	December	January	February	March	
1	FY 2016-17 (Provisional)													
a	East	7%	7%	7%	7%	7%	7%	9%	8%	9%	11%	10%	11%	100%
b	Central	7%	8%	8%	8%	7%	7%	9%	9%	9%	9%	9%	10%	100%
c	West	7%	7%	7%	7%	7%	7%	9%	10%	10%	10%	10%	10%	100%
2	FY 2017-18 (Re-Estimate)													
a	East	7%	7%	7%	7%	7%	7%	9%	9%	10%	10%	9%	10%	100%
b	Central	7%	7%	7%	7%	7%	7%	9%	10%	10%	10%	9%	9%	100%
c	West	7%	7%	7%	7%	7%	7%	9%	10%	10%	10%	10%	9%	100%
3	FY 2018-19 (Projected)													
a	East	7%	7%	7%	7%	7%	7%	9%	9%	10%	10%	9%	10%	100%
b	Central	7%	7%	7%	7%	7%	7%	9%	10%	10%	10%	9%	9%	100%
c	West	7%	7%	7%	7%	7%	7%	9%	10%	10%	10%	10%	9%	100%

4.2 Distribution Losses

The Commission in its Tariff Regulations, 2015 had notified normative distribution loss levels for the MYT period FY 2016-17 to FY 2018-19. The distribution loss level trajectory as specified in the Regulations is given in the table below:

Table 18: Normative Distribution Loss Level (%)

Sr. No	Particulars	FY 2016-17	FY 2017-18	FY 2018-19
1	East Discom	18.00%	17.00%	16.00%
2	Central Discom	19.00%	18.00%	17.00%
3	West Discom	16.00%	15.50%	15.00%

The provisional losses of the Discom's are observed at 22.61% for East Discom, 36.15% for Central Discom and 17.87% for West Discom for FY 2016-17. However for the purpose of this petition the normative loss targets specified by the Commission in its Tariff Regulations' 2015 have been considered for the calculation of Energy Balance and calculation of power purchase costs of the Discom's for FY 2017-18 & FY 2018-19 except FY 2016-17 wherein it has considered at the provisional loss figures.

4.3 Intra State Transmission Losses

The Discom's has considered the actual Intra Transmission Losses for FY 2016-17 as reported by MPPTCL in its Annual Report on Regulatory Compliance for FY 2016-17 uploaded on its website (http://www.mptransco.in/Document/2016-17Annual%20Regulatory%20compliance_01072017.pdf) losses is approx. 2.71%. The same has been considered for FY 2017-18 & FY 2018-19.

4.4 Inter-State Transmission Losses

The Hon'ble Commission in its earlier directive had directed to submit region wise PGCIL losses, the Discom's has shown the actual Inter-Transmission losses as reported during the FY 2016-17 by the Eastern Region Load Dispatch Centre applicable for Eastern Region Plants (ERLDC-http://www.erldc.org/OpenAccess/schd_loss_2017-2018.pdf & http://www.erldc.org/OpenAccess/schd_loss_2016 - 2017.pdf) & Western Region Load Dispatch Centre applicable for Western Region Plants (<http://www.wrldc.in/Commercial/WR LOSS NEW/>).

The Discom's has considered the actual losses for FY 2016-17 for Western Region & Eastern Region i.e. 3.66% and 2.27% respectively and last 52 weeks moving average losses (12 September 16 – 10 September 17) for FY 2017-18 & FY 2018-19 i.e. 3.57% and 2.29% respectively

4.5 Energy Requirement at Discom Boundary and Ex-Bus Requirement

The annual distribution loss trajectory is converted into monthly loss trajectory based on the standard deviations of monthly losses from the cumulative annual losses during the past 5 years. In this method, the actual monthly loss levels and the cumulative annual losses of the Discom for the past years are taken and standard deviation of loss levels of each month from the cumulative annual average is calculated. The monthly standard deviations are then used to calculate the monthly loss levels using the annual MPERC loss level trajectory.

As a result, the annual energy requirement at the Discom boundary is grossed up by a higher loss figure than observed as per the MPERC loss trajectory. The energy requirement is computed for all three Discom's and MP state at the state boundary as shown in tables below:

Table 19: Energy Requirement- Discom & Ex-Bus (MUs) for FY 2016-17 (Provisional)

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2016-17 (Provisional)														
Sr. No	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
1	Sales	3,064	3,156	3,240	3,074	2,923	2,977	3,945	3,951	3,993	4,336	4,230	4,393	43,283
a	East	937	956	975	902	877	891	1,158	1,130	1,184	1,486	1,406	1,508	13,409
b	Central	887	934	985	930	882	890	1,133	1,114	1,110	1,137	1,136	1,173	12,309
c	West	1,241	1,266	1,281	1,243	1,164	1,196	1,654	1,708	1,700	1,713	1,687	1,713	17,565
2	Distribution Loss (%)													
a	East	42%	35%	30%	26%	28%	34%	16%	23%	27%	6%	6%	2%	23%
b	Central	43%	39%	33%	36%	37%	44%	29%	38%	41%	36%	31%	25%	36%
c	West	31%	25%	21%	11%	12%	14%	3%	23%	26%	21%	14%	6%	18%
3	Distribution Loss	1,883	1,543	1,258	987	1,026	1,373	727	1,538	1,786	1,187	879	520	14,708
a	East	667	514	425	318	345	462	217	328	428	98	92	23	3,917
b	Central	660	605	495	517	529	711	463	693	756	641	518	381	6,968
c	West	556	425	338	152	152	200	48	517	602	448	268	116	3,822
4	Energy at Discom Periphery	4,947	4,700	4,498	4,062	3,949	4,350	4,672	5,489	5,779	5,524	5,109	4,914	57,992
a	East	1,604	1,470	1,400	1,220	1,222	1,353	1,375	1,458	1,612	1,585	1,498	1,531	17,327
b	Central	1,547	1,539	1,480	1,447	1,411	1,601	1,595	1,806	1,866	1,777	1,655	1,554	19,278
c	West	1,796	1,691	1,619	1,395	1,316	1,396	1,702	2,225	2,302	2,161	1,956	1,829	21,387
5	State Transmission Losses	138	131	125	113	110	121	130	153	161	154	142	137	1,615
a	East	45	41	39	34	34	38	38	41	45	44	42	43	483
b	Central	43	43	41	40	39	45	44	50	52	50	46	43	537
c	West	50	47	45	39	37	39	47	62	64	60	54	51	596

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2016-17 (Provisional)														
Sr. No	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
6	Energy at State Boundary	5,085	4,831	4,624	4,175	4,059	4,471	4,802	5,642	5,940	5,677	5,251	5,050	59,607
a	East	1,648	1,511	1,439	1,254	1,256	1,391	1,413	1,498	1,657	1,629	1,540	1,573	17,809
b	Central	1,590	1,582	1,521	1,487	1,450	1,645	1,640	1,857	1,918	1,827	1,701	1,597	19,814
c	West	1,846	1,738	1,664	1,434	1,353	1,435	1,749	2,287	2,366	2,221	2,010	1,880	21,983
7	External/PGCIL Losses (WR/ER)	140	168	180	166	146	155	139	136	133	146	129	137	1,775
a	East	45	53	56	50	45	48	41	36	37	42	38	43	534
b	Central	44	55	59	59	52	57	48	45	43	47	42	43	594
c	West	51	60	65	57	49	50	51	55	53	57	49	51	648
8	Energy Requirement (Ex-Bus) including adjustment of UI	5,225	4,999	4,803	4,341	4,205	4,626	4,941	5,778	6,073	5,823	5,380	5,187	61,382
a	East	1,694	1,564	1,495	1,303	1,301	1,439	1,454	1,535	1,694	1,671	1,578	1,616	18,343
b	Central	1,634	1,637	1,580	1,547	1,502	1,702	1,687	1,902	1,961	1,874	1,742	1,641	20,408
c	West	1,897	1,798	1,729	1,491	1,402	1,485	1,800	2,342	2,418	2,279	2,060	1,931	22,631

Table 20: Energy Requirement- Discom & Ex-Bus (MUs) for FY 2017-18 (Re-Estimate)

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2017-18 (Re-Estimate)														
Sr. No	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
1	Sales	3,296	3,451	3,417	3,298	3,362	3,276	4,166	4,408	4,622	4,643	4,442	4,352	46,734
a	East	1,080	1,104	1,037	985	1,093	1,060	1,236	1,283	1,408	1,472	1,354	1,393	14,507
b	Central	933	999	1,025	1,001	983	981	1,200	1,291	1,324	1,255	1,196	1,249	13,438
c	West	1,282	1,348	1,355	1,312	1,286	1,234	1,731	1,834	1,890	1,916	1,892	1,710	18,789
2	Distribution Loss (%)													
a	East	28%	28%	19%	18%	20%	22%	15%	17%	19%	8%	8%	2%	17%
b	Central	23%	23%	16%	17%	19%	25%	17%	22%	21%	17%	12%	4%	18%
c	West	29%	26%	16%	11%	9%	16%	5%	24%	24%	13%	7%	6%	16%
3	Distribution Loss	1,229	1,195	692	591	629	863	571	1,199	1,269	683	411	187	9,518
a	East	424	419	245	223	271	301	221	254	325	135	117	28	2,963
b	Central	277	303	196	199	235	329	251	362	354	252	159	54	2,970
c	West	528	473	251	169	123	233	100	583	590	296	135	106	3,585

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2017-18 (Re-Estimate)														
Sr. No	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
4	Energy at Discom Periphery	4,524	4,646	4,109	3,889	3,991	4,139	4,737	5,607	5,892	5,326	4,853	4,539	56,252
a	East	1,504	1,523	1,282	1,208	1,364	1,361	1,457	1,538	1,733	1,607	1,471	1,421	17,469
b	Central	1,210	1,303	1,220	1,200	1,218	1,310	1,450	1,653	1,678	1,507	1,355	1,302	16,408
c	West	1,810	1,820	1,606	1,481	1,409	1,467	1,830	2,416	2,480	2,211	2,027	1,816	22,374
5	State Transmission Losses	126	129	114	108	111	115	132	156	164	148	135	126	1,567
a	East	42	42	36	34	38	38	41	43	48	45	41	40	487
b	Central	34	36	34	33	34	37	40	46	47	42	38	36	457
c	West	50	51	45	41	39	41	51	67	69	62	56	51	623
6	Energy at State Boundary	4,650	4,775	4,223	3,997	4,102	4,254	4,869	5,763	6,056	5,474	4,988	4,666	57,819
a	East	1,546	1,566	1,318	1,241	1,402	1,399	1,497	1,581	1,782	1,652	1,512	1,461	17,956
b	Central	1,244	1,339	1,254	1,234	1,252	1,347	1,491	1,699	1,725	1,549	1,393	1,339	16,865
c	West	1,860	1,871	1,651	1,522	1,448	1,508	1,881	2,483	2,550	2,273	2,084	1,866	22,998
7	External/PGCIL Losses (WR/ER)	128	117	110	104	135	83	112	147	161	142	132	118	1,489
a	East	42	38	34	32	46	27	35	40	47	43	40	37	463
b	Central	34	33	33	32	41	26	34	43	46	40	37	34	434
c	West	51	46	43	40	48	29	43	63	68	59	55	47	592
8	Energy Requirement (Ex-Bus)	4,778	4,892	4,333	4,102	4,237	4,337	4,982	5,910	6,217	5,616	5,121	4,784	59,308
a	East	1,588	1,604	1,352	1,274	1,448	1,426	1,532	1,621	1,829	1,695	1,552	1,498	18,419
b	Central	1,278	1,372	1,287	1,266	1,293	1,373	1,525	1,742	1,770	1,589	1,430	1,373	17,299
c	West	1,911	1,917	1,694	1,562	1,496	1,538	1,925	2,547	2,617	2,332	2,139	1,914	23,590

Table 21: Energy Requirement- Discom & Ex-Bus (MUs) for FY 2018-19 (Projected)

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2018-19 (Projected)														
Sr. No	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
1	Sales	3,636	3,850	3,844	3,751	3,697	3,848	4,885	5,167	5,421	5,445	5,206	5,109	53,858
a	East	1,192	1,275	1,240	1,207	1,212	1,275	1,486	1,543	1,693	1,771	1,628	1,676	17,199
b	Central	1,070	1,152	1,141	1,132	1,119	1,169	1,430	1,538	1,577	1,495	1,425	1,488	15,735
c	West	1,374	1,422	1,463	1,412	1,366	1,404	1,969	2,086	2,151	2,179	2,152	1,945	20,924

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2018-19 (Projected)														
Sr. No	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2	Distribution Loss (%)													
a	East	27%	27%	18%	17%	19%	21%	14%	16%	18%	7%	7%	1%	16%
b	Central	22%	22%	15%	16%	18%	24%	16%	21%	20%	16%	11%	3%	17%
c	West	29%	25%	15%	11%	8%	15%	5%	24%	23%	13%	6%	5%	15%
3	Distribution Loss	1,297	1,277	737	637	655	968	625	1,335	1,415	742	434	173	10,296
a	East	445	461	274	256	281	341	245	284	366	142	122	16	3,232
b	Central	300	330	202	209	251	371	278	406	397	279	171	48	3,241
c	West	552	486	261	173	123	256	102	645	653	322	141	109	3,823
4	Energy at Discom Periphery	4,933	5,127	4,580	4,388	4,351	4,816	5,510	6,502	6,836	6,188	5,640	5,282	64,154
a	East	1,637	1,736	1,513	1,462	1,493	1,616	1,732	1,828	2,059	1,912	1,750	1,692	20,431
b	Central	1,370	1,482	1,343	1,341	1,369	1,541	1,707	1,944	1,974	1,774	1,596	1,536	18,977
c	West	1,927	1,909	1,724	1,585	1,489	1,659	2,071	2,731	2,803	2,501	2,294	2,055	24,746
5	State Transmission Losses	137	143	128	122	121	134	153	181	190	172	157	147	1,787
a	East	46	48	42	41	42	45	48	51	57	53	49	47	569
b	Central	38	41	37	37	38	43	48	54	55	49	44	43	529
c	West	54	53	48	44	41	46	58	76	78	70	64	57	689
6	Energy at State Boundary	5,070	5,269	4,708	4,510	4,472	4,950	5,663	6,683	7,027	6,360	5,797	5,430	65,941
a	East	1,682	1,784	1,556	1,503	1,535	1,661	1,780	1,879	2,117	1,966	1,799	1,739	21,000
b	Central	1,408	1,524	1,380	1,378	1,408	1,583	1,755	1,998	2,029	1,824	1,641	1,578	19,505
c	West	1,980	1,962	1,772	1,629	1,530	1,706	2,129	2,807	2,881	2,571	2,358	2,112	25,436
7	External/PGCIL Losses	119	116	114	118	113	113	119	153	171	129	119	124	1,508
a	East	39	39	38	39	39	38	37	43	51	40	37	40	481
b	Central	33	33	34	36	36	36	37	46	49	37	34	36	446
c	West	46	43	43	43	39	39	45	64	70	52	48	48	581
8	Ex-Bus Energy Requirement	5,189	5,385	4,822	4,628	4,585	5,064	5,783	6,836	7,198	6,489	5,916	5,553	67,449
a	East	1,722	1,824	1,593	1,543	1,574	1,699	1,817	1,921	2,168	2,006	1,836	1,779	21,481
b	Central	1,441	1,557	1,414	1,414	1,443	1,620	1,792	2,044	2,078	1,861	1,674	1,614	19,952
c	West	2,026	2,005	1,815	1,672	1,569	1,745	2,174	2,871	2,952	2,623	2,406	2,160	26,016

The ex-bus energy to be purchased during FY 2016-17 to FY 2018-19 (Normative & Actual Losses) is shown in the following table:

Table 22: Energy Requirement- Normative Losses (MUs)

Sr. No	Particulars	Power Purchase Requirement - (Normative Distribution Losses)											
		MP State			East			Central			West		
FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	FY 17	FY 18
1	Sales (MUs)	43,283	46,734	53,858	13,409	14,507	17,199	12,309	13,438	15,735	17,565	18,789	20,924
	LT	33,365	36,627	43,410	10,463	11,653	14,385	9,258	10,154	12,169	13,645	14,821	16,856
	HT	9,918	10,107	10,448	2,946	2,854	2,814	3,051	3,284	3,567	3,920	3,968	4,068
2	Distribution Losses %	17.49%	16.92%	16.05%	18.00%	17.00%	16.00%	19.00%	18.00%	17.00%	16.00%	15.50%	15.00%
	MUs	9,176	9,518	10,296	2,943	2,963	3,232	2,887	2,970	3,241	3,346	3,585	3,823
3	Energy Requirement at Discom Boundary (MUs)	52,460	56,252	64,154	16,352	17,469	20,431	15,196	16,408	18,977	20,911	22,374	24,746
4	State Transmission Losses	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%
	MUs	1,461	1,567	1,787	455	487	569	423	457	529	582	623	689
5	Energy Requirement at State Boundary (MUs)	53,921	57,819	65,941	16,808	17,956	21,000	15,620	16,865	19,505	21,493	22,998	25,436
6	External Losses WR	3.66%	3.57%	3.57%	3.66%	3.57%	3.57%	3.66%	3.57%	3.57%	3.66%	3.57%	3.57%
	External Losses ER	2.27%	2.29%	2.29%	2.27%	2.29%	2.29%	2.27%	2.29%	2.29%	2.27%	2.29%	2.29%
	MUs	1,775	1,489	1,508	531	463	481	589	434	446	655	592	581
7	Energy Requirement Ex-Bus	55,696	59,308	67,449	17,339	18,419	21,481	16,209	17,299	19,952	22,149	23,590	26,016

Table 23: Energy Requirement- Actual Losses (MUs)

Sr. No	Particulars	Power Purchase Requirement - (Actual Losses)											
		MP State			East			Central			West		
FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	FY 17	FY 18
1	Sales (MUs)	43,283	46,734	53,858	13,409	14,507	17,199	12,309	13,438	15,735	17,565	18,789	20,924
	LT	33,365	36,627	43,410	10,463	11,653	14,385	9,258	10,154	12,169	13,645	14,821	16,856
	HT	9,918	10,107	10,448	2,946	2,854	2,814	3,051	3,284	3,567	3,920	3,968	4,068
2	Distribution Losses	25.36%	25.43%	25.55%	22.61%	22.61%	22.61%	36.15%	36.15%	36.15%	17.87%	17.87%	17.87%
	MUs	14,708	15,934	18,485	3,917	4,238	5,024	6,968	7,608	8,908	3,822	4,088	4,553

Power Purchase Requirement - (Actual Losses)													
Sr. No	Particulars	MP State			East			Central			West		
		FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
3	Energy Requirement at Discom Boundary (MUs)	57,991	62,667	72,344	17,326	18,744	22,224	19,278	21,046	24,644	21,387	22,877	25,477
4	State Transmission Losses	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%
	MUs	1,615	1,746	2,015	483	522	619	537	586	686	596	637	710
5	Energy Requirement at State Boundary (MUs)	59,606	64,413	74,359	17,809	19,267	22,843	19,815	21,632	25,330	21,983	23,514	26,186
6	External Losses WR %	3.66%	3.57%	3.57%	3.66%	3.57%	3.57%	3.66%	3.57%	3.57%	3.66%	3.57%	3.57%
	External Losses ER %	2.27%	2.29%	2.29%	2.27%	2.29%	2.29%	2.27%	2.29%	2.29%	2.27%	2.29%	2.29%
	MUs	1,775	1,489	1,508	531	463	481	589	434	446	655	592	581
7	Energy Requirement Ex-Bus	61,381	65,902	75,867	18,339	19,729	23,324	20,403	22,066	25,776	22,639	24,107	26,767

The Hon'ble Commission is hereby requested to approve energy requirement as shown above.

A5: ASSESSMENT OF AVAILABILITY

5.1 Availability Assessment- Existing and Upcoming

The Discom's had broadly categorised the sources of energy into State-Owned Generation, i.e., Generation from MPPGCL, Allocation (firm and non-firm) from Central Generating Stations (CGS), Independent Power Producers (IPPs), Biomass, Wind, Hydro, DVC and Solar Power Plants etc.

This section details the availability of power and related costs for the ensuing years for the state of Madhya Pradesh. The forecast takes into account the following aspects:

- Existing long term allocated generation capacity of MP
- New generation capacity additions during the period FY 2017-18 and FY 2018-19 for MPPGCL, Central Sector, Joint venture and by Private players awarded through competitive bidding
- Impact of generation capacity allocation in WR and ER

Based on the above available information, power purchase for the ensuing years has been forecasted. The same has been detailed in the subsequent sections. We further submit that new Central and State Generating Plants are scheduled to commence generation during FY 2017-18 & 2018-19 as follows:

Table 24: Upcoming Conventional Stations and Other Technical Parameters

Particulars	Capacity (MW)	PLF Considered (%) First 90 Days	PLF Considered (%) After 90 Days	Remarks	MP Share		CoD
					%	MW	
NTPC Mouda II Unit 2	660	77.08%	77.08%	PLF of Mouda II 1st Unit considered	18.77%	123.85	18-Sep-17
NTPC Solapur STPS, Unit-1	660	27.00%	27.00%	PLF of First two months considered Sep & Oct 17	25.15%	165.99	25-Sep-17
NTPC Solapur STPS, Unit-2	660	27.00%	27.00%	PLF as per Solapur I	23.03%	152.00	30-Jun-18
NTPC Gadarwara STPS, Unit-1	800	65.00%	82.50%	New Plants-Assumption	50.00%	400.00	30-Jun-18
NTPC Lara STPS, Raigarh, Unit I	800	65.00%	82.50%		7.98%	63.80	30-Jun-18
Shri Singaji Phase-2, Unit-1	660	66.47%	66.47%	PLF of Singaji STPS Ph 1 Considered	90.00%	594.00	30-Sep-18
Shri Singaji Phase-2, Unit-2	660	66.47%	66.47%		90.00%	594.00	31-Dec-18
Total	4,900					2,093.64	

Allocation to the state of MP from Central Sector stations is as per **Western Regional Power Committee in their letter No. WRPC/Comml-I/6/Alloc/2017/13837 dated**

22nd September 2017 and for Eastern Region NTPC Kahalgaon 2 vide GoI MoP letter no. 5/31/2006-Th.2 dated 21st February 2007. Allocation from MP Genco and other sources have been considered based on latest communication and updates held with their kind office.

The various stations both new and existing in which MPPMCL/Discom's has been allocated share are listed in the table below.

Table 25: Contracted Capacity – MP State (Existing & New)

Particulars	Region	Capacity (MW)	FY 2016-17 (Provisional)		FY 2017-18 (Re-Estimated)		FY 2018-19 (Projected)	
			%	MW	%	MW	%	MW
Central Sector		19,914		3,263		3,659		4,388
NTPC Korba	WR	2,100	23	482	23	479	23	479
NTPC Korba III	WR	500	15	77	15	76	16	76
NTPC Vidyachal I	WR	1,260	35	443	35	441	35	441
NTPC Vidyachal II	WR	1,000	32	318	32	316	32	316
NTPC Vidyachal III	WR	1,000	25	245	24	243	24	243
NTPC Vidyachal IV	WR	1,000	28	284	28	284	28	284
NTPC Vidyachal V Unit 1	WR	500	28	142	28	142	28	142
NTPC Sipat I	WR	1,980	17	338	17	337	17	337
NTPC Sipat II	WR	1,000	19	187	19	186	19	186
NTPC Mouda I	WR	1,000	0		18	181	18	181
NTPC Mouda II Unit 1	WR	660	14	92	19	124	19	124
NTPC Mouda II Unit 2	WR	660	14	92	19	124	19	124
NTPC Kawas GPP	WR	656	21	140	21	140	21	140
NTPC Gandhar GPP	WR	657	18	117	18	117	18	117
NTPC Kahalgaon 2	ER	1,500	5	74	5	74	5	74
KAPP Kakrapar	WR	440	0	-	0	-	26	113
TAPP Tarapur	WR	1,080	21	232	21	230	21	230
NTPC Solapur STPS, Unit-1	WR	660	0		25	166	25	166
NTPC Solapur STPS, Unit-2	WR	660	0		0		23	152
NTPC Gadawara STPS, Unit-1	WR	800	0		0		50	400
NTPC Lara STPS, Raigarh, Unit I	WR	800	0		0		8	64
MP GENCO		6,586		4,997		4,997		6,185
Amarkantak TPS Ph-III	State	210	100	210	100	210	100	210
Satpura TPS Ph-II & III	State	830	100	830	100	830	100	830
Satpura TPS Ph-IV	State	500	100	500	100	500	100	500
SGTPS Ph-I & II	State	840	100	840	100	840	100	840
SGTPS Ph-III	State	500	100	500	100	500	100	500
Shri Singaji STPS, Ph-I	State	1,200	100	1,200	100	1,200	100	1,200
Shri Singaji Phase-2, Unit-1	State	660	0%		0%		90%	594
Shri Singaji Phase-2, Unit-2	State	660	0%		0%		90%	594
Rani Awanti Bai Sagar, Bargi HPS	State	90	100	90	100	90	100	90
Bansagar Ph I HPS (Tons)	State	315	100	315	100	315	100	315
Bansagar Ph-II HPS (Silpara)	State	30	100	30	100	30	100	30

Particulars	Region	Capacity (MW)	FY 2016-17 (Provisional)		FY 2017-18 (Re-Estimated)		FY 2018-19 (Projected)	
			%	MW	%	MW	%	MW
Bansagar Ph-III HPS (Deolond)	State	60	100	60	100	60	100	60
Bansagar Ph-IV HPS (Jhinna)	State	20	100	20	100	20	100	20
Birsinghpur HPS	State	20	100	20	100	20	100	20
Marhikheda HPS	State	60	100	60	100	60	100	60
Rajghat HPS	State	45	50	23	50	23	50	23
Gandhisagar HPS	State	115	50	58	50	58	50	58
R.P Sagar & Jawahar Sagar HPS	State	271	50	136	50	136	50	136
Pench HPS	State	160	67	107	67	107	67	107
JV Hydel & Other Hydels		3,301		2,347		2,347		2,402
NHDC Indira Sagar HPS	State	1,000	100	1,000	100	1,000	100	1,000
NHDC Omkareshwar HPS	State	520	100	520	100	520	100	520
Sardar Sarovar HPS	WR	1,450	57	827	57	827	57	827
Rihand HPS	WR	300	0%		0%	-	15	45
Matatila HPS	WR	31	0%		0%	-	33	10
DVC		2,840		500		500		-
DVC (MTPS & CTPS)	ER	1,840	22	400	22	400	0%	-
DVC DTPS, Unit 1& Unit 2	ER	1,000	10	100	10	100	0%	-
IPPs		9,352		3,019		3,414		3,414
Torrent Power	WR	765	13	100	10	75	10	75
BLA Power*	State	90	36	32	35	32	35	32
Jaypee Bina Power	State	500	70	350	70	350	70	350
Lanco Amarkantak TPS Unit 1*	WR	300	100	300	100	300	100	300
Reliance UMPP, Sasan	WR	3,960	38	1,485	38	1,485	38	1,485
Essar Power STPS	State	600	5%	30	5%	30	5%	30
Jaiprakash Power STPS, Nigri	WR	1,320	38	495	38	495	38	495
MB Power STPS	WR	1,200	18	210	35	420	35	420
Jhabua Power STPS, Unit-1	WR	600	0%		35	210	35	210
Captive	State	17		17		17		17
Renewables		-		2,798		3,274		3,688
Solar	State		100	550	100	1,025	100	1,284
Other Mini Micro	State		NA	100	30	100	30	32
Other than Solar	State			100	2,218	100	2,218	100
Total		41,992		16,925		18,190		20,076

* *Power Availability from Lanco Amarkantak and BLA Power has been considered as per PPA. Cost has been considered as per methodology as adopted and explained under power purchase cost section.*

As can be seen from the above table, some relevant information for FY 2018-19 are as follows:

- No Availability has been considered from Kakrapar, Rihand, Matatila and Essar Power based on nil availability in last few months in FY 2017-18, but projections have been made for FY 2018-19 based on assumption that power would be available during the FY 2018-19

- MPPMCL has decided to foreclose the PPAs with DVC for 400 MW from DVC (MTPS & CTPS) and 100 MW (DTPS) w.e.f. 01st March 2018 & 15th May 2017 respectively. The Cost of such plants has not been considered while calculating the power purchase cost for FY 2018-19. However, in case the PPAs with DVC remains in force in FY 2018-19, MPPMCL will be obligated to pay fixed charges for these stations.
- During FY 2017-18, power from MB Power Unit II & Sugen Torrent Generating Stations has been scheduled following MoD whereas in the Tariff Order for FY 2017-18 Hon'ble Commission had not considered availability and the cost thereon from these plants. It is humbly submitted that the power purchase expenditure incurred on these plants will be submitted before the Hon'ble Commission in the true up of FY 2017-18. It is further humbly submitted before the Hon'ble Commission that for FY 2018-19, the availability from these plants has been considered as the PPAs with these plants remain in force.

5.2 Ex-Bus Availability

The Discom's has considered the provisional energy received in FY 2016-17 & FY 2017-18 (till August 2017) for estimation of Ex-Bus Availability. The total Ex-Bus Availability from the existing allocated stations as well as the future capacity additions which are expected to become operational till end of MYT period i.e. FY 2018-19 as discussed in previous sections is as given below:

Table 26: Ex-Bus Availability (MUs) Plant Source Wise

Particulars	FY 2016-17 (Provisional)	FY 2017-18 (Re-Estimated)	FY 2018-19 (Projected)
Central Sector	25,470	24,414	27,631
NTPC Korba	3,685	3,767	3,615
NTPC Korba III	644	623	611
NTPC Vidyachal I	3,354	3,023	3,243
NTPC Vidyachal II	2,312	2,220	2,308
NTPC Vidyachal III	1,956	1,942	1,894
NTPC Vidyachal IV	2,314	2,069	2,171
NTPC Vidyachal V Unit 1	1,078	1,092	1,069
NTPC Sipat I	2,650	2,590	2,576
NTPC Sipat II	1,519	1,487	1,492
NTPC Mouda I	1,473	1,384	1,361
NTPC Mouda II Unit 1	151	666	788
NTPC Mouda II Unit 2	-	390	788
NTPC Kawas GPP	1,162	724	299
NTPC Gandhar GPP	919	566	250
NTPC Kahalgaon 2	568	490	565
KAPP Kakrapar	-	-	347
TAPP Tarapur	1,687	1,189	1,411
NTPC Solapur STPS, Unit-1	-	191	370
NTPC Solapur STPS, Unit-2	-	-	255
NTPC Gadarwara STPS, Unit-1	-	-	1,910
NTPC Gadarwara STPS, Unit-2	-	-	-

Particulars	FY 2016-17 (Provisional)	FY 2017-18 (Re-Estimated)	FY 2018-19 (Projected)
NTPC Lara STPS, Raigarh, Unit I	-	-	305
NTPC Lara STPS, Raigarh, Unit II	-	-	-
MP GENCO (THERMAL & HYDRO)	31,132	26,794	26,716
Amarkantak TPS Ph-III	1,446	1,602	1,550
Satpura TPS Ph-II & III	5,638	4,338	4,006
Satpura TPS Ph-IV	3,399	3,176	2,561
SGTPS Ph-I & II	5,061	3,863	3,347
SGTPS Ph-III	3,857	3,193	3,303
Shri Singaji STPS, Ph-I	8,782	8,289	6,585
Shri Singaji Phase-2, Unit-1	-	-	1,634
Shri Singaji Phase-2, Unit-2	-	-	813
Rani Awanti Bai Sagar, Bargi HPS	443	363	466
Bansagar Ph I HPS (Tons)	1,230	1,015	1,166
Bansagar Ph-II HPS (Silpara)	89	92	107
Bansagar Ph-III HPS (Deolond)	72	125	114
Bansagar Ph-IV HPS (Jhinna)	87	79	97
Birsinghpur HPS	41	39	36
Marhikheda HPS	146	60	111
Rajghat HPS	30	21	30
Gandhisagar HPS	173	120	168
Ranapratap Sagar & Jawahar Sagar HPS	373	230	370
Pench HPS	264	187	252
JV Hydel & Other Hydels	6,455	4,757	4,644
NHDC Indira Sagar HPS	3,253	2,143	2,221
NHDC Omkareshwar HPS	1,417	1,058	1,021
Sardar Sarovar HPS	1,785	1,556	1,303
Rihand HPS	-	-	78
Matatila HPS	-	-	22
DVC	3,727	2,429	-
DVC (MTPS & CTPS)	2,966	2,326	-
DVC DTPS, Unit 1& Unit 2	761	103	-
IPPs	21,564	23,885	21,461
Torrent Power	632	275	173
BLA Power	100	63	65
Jaypee Bina Power	2,267	2,046	2,120
Lanco Amarkantak TPS Unit 1	2,248	2,836	2,105
Reliance UMPP, Sasan	10,608	11,340	10,840
Essar Power STPS	-	20	20
Jaiprakash Power STPS, Nigri	3,304	3,489	3,211
MB Power STPS	1,526	2,773	2,148
Jhabua Power STPS, Unit-1	879	1,022	745
Captive	-	20	34
Renewables	4,083	5,523	5,980
Solar	931	1,324	1,636
Other Mini Micro	9	12	35
Other than Solar	3,143	4,187	4,309
Total	92,431	87,801	86,433

Table 27: Month Wise Power Availability for FY 2018-19

Particulars	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Total
Central Sector	2,068	2,137	2,077	2,415	2,415	2,337	2,415	2,337	2,415	2,415	2,182	2,415	27,631
NTPC Korba	297	307	297	307	307	297	307	297	307	307	277	307	3,615
NTPC Korba III	50	52	50	52	52	50	52	50	52	52	47	52	611
NTPC Vidyachal I	267	275	267	275	275	267	275	267	275	275	249	275	3,243
NTPC Vidyachal II	190	196	190	196	196	190	196	190	196	196	177	196	2,308
NTPC Vidyachal III	156	161	156	161	161	156	161	156	161	161	145	161	1,894
NTPC Vidyachal IV	178	184	178	184	184	178	184	178	184	184	167	184	2,171
NTPC Vidyachal V Unit 1	88	91	88	91	91	88	91	88	91	91	82	91	1,069
NTPC Sipat I	212	219	212	219	219	212	219	212	219	219	198	219	2,576
NTPC Sipat II	123	127	123	127	127	123	127	123	127	127	114	127	1,492
NTPC Mouda I	112	116	112	116	116	112	116	112	116	116	104	116	1,361
NTPC Mouda II Unit 1	65	67	65	67	67	65	67	65	67	67	60	67	788
NTPC Mouda II Unit 2	65	67	65	67	67	65	67	65	67	67	60	67	788
NTPC Kawas GPP	25	25	25	25	25	25	25	25	25	25	23	25	299
NTPC Gandhar GPP	21	21	21	21	21	21	21	21	21	21	19	21	250
NTPC Kahalgao 2	46	48	46	48	48	46	48	46	48	48	43	48	565
KAPP Kakrapar	29	29	29	29	29	29	29	29	29	29	27	29	347
TAPP Tarapur	116	120	116	120	120	116	120	116	120	120	108	120	1,411
NTPC Solapur STPS, Unit-1	30	31	30	31	31	30	31	30	31	31	28	31	370
NTPC Solapur STPS, Unit-2	-	-	1	29	29	28	29	28	29	29	26	29	255
NTPC Gadarwara STPS, Unit-1	-	-	7	215	215	208	215	208	215	215	194	215	1,910
NTPC Gadarwara STPS, Unit-2	-	-	-	-	-	-	-	-	-	-	-	-	-
NTPC Lara STPS, Raigarh, Unit I	-	-	1	34	34	33	34	33	34	34	31	34	305
NTPC Lara STPS, Raigarh, Unit II	-	-	-	-	-	-	-	-	-	-	-	-	-
MP GENCO	1,939	1,989	1,907	2,015	2,251	2,178	2,367	2,256	2,324	2,592	2,334	2,566	26,716
Amarkantak TPS Ph-III	127	132	127	132	132	127	132	127	132	132	119	132	1,550
Satpura TPS Ph-II & III	329	340	329	340	340	329	340	329	340	340	307	340	4,006
Satpura TPS Ph-IV	210	218	210	218	218	210	218	210	218	218	196	218	2,561
SGTPS Ph-I & II	275	284	275	284	284	275	284	275	284	284	257	284	3,347
SGTPS Ph-III	271	280	271	280	280	271	280	271	280	280	253	280	3,303
Shri Singaji STPS, Ph-I	541	559	541	559	559	541	559	541	559	559	505	559	6,585
Shri Singaji Phase-2, Unit-1	-	-	-	-	-	-	9	277	268	277	250	277	1,634

Particulars	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Total
Shri Singaji Phase-2, Unit-2	-	-	-	-	-	-	-	-	9	277	250	277	813
Rani Awanti Bai Sagar, Bargi HPS	29	28	24	32	70	66	44	37	36	36	31	32	466
Bansagar Ph I HPS (Tons)	73	70	61	80	175	166	111	93	90	90	78	79	1,166
Bansagar Ph-II HPS (Silpara)	7	6	6	7	16	15	10	9	8	8	7	7	107
Bansagar Ph-III HPS (Deolond)	7	7	6	8	17	16	11	9	9	9	8	8	114
Bansagar Ph-IV HPS (Jhinna)	6	6	5	7	15	14	9	8	7	7	7	7	97
Birsinghpur HPS	2	2	2	2	5	5	3	3	3	3	2	2	36
Marhikheda HPS	7	7	6	8	17	16	11	9	9	9	7	8	111
Rajghat HPS	2	2	2	2	5	4	3	2	2	2	2	2	30
Gandhisagar HPS	11	10	9	12	25	24	16	13	13	13	11	11	168
R.P. Sagar & Jawahar Sagar HPS	23	22	19	26	56	53	35	30	28	28	25	25	370
Pench HPS	16	15	13	17	38	36	24	20	19	19	17	17	252
JV Hydel & Other Hydels	382	394	382	394	394	382	394	382	394	394	356	394	4,644
NHDC Indira Sagar HPS	183	189	183	189	189	183	189	183	189	189	170	189	2,221
NHDC Omkareshwar HPS	84	87	84	87	87	84	87	84	87	87	78	87	1,021
Sardar Sarovar HPS	107	111	107	111	111	107	111	107	111	111	100	111	1,303
Rihand HPS	6	7	6	7	7	6	7	6	7	7	6	7	78
Matatila HPS	2	2	2	2	2	2	2	2	2	2	2	2	22
IPPs	1,764	1,823	1,764	1,823	1,823	1,764	1,823	1,764	1,823	1,823	1,646	1,823	21,461
Torrent Power	14	15	14	15	15	14	15	14	15	15	13	15	173
BLA Power	5	6	5	6	6	5	6	5	6	6	5	6	65
Jaypee Bina Power	174	180	174	180	180	174	180	174	180	180	163	180	2,120
Lanco Amarkantak TPS Unit 1	173	179	173	179	179	173	179	173	179	179	161	179	2,105
Reliance UMPP, Sasan	891	921	891	921	921	891	921	891	921	921	832	921	10,840
Essar Power STPS	2	2	2	2	2	2	2	2	2	2	2	2	20
Jaiprakash Power STPS, Nigri	264	273	264	273	273	264	273	264	273	273	246	273	3,211
MB Power STPS	177	182	177	182	182	177	182	177	182	182	165	182	2,148
Jhabua Power STPS, Unit-1	61	63	61	63	63	61	63	61	63	63	57	63	745
Captive	3	3	3	3	3	3	3	3	3	3	3	3	34
Renewables	491	508	491	508	508	491	508	491	508	508	459	508	5,980
Solar	134	139	134	139	139	134	139	134	139	139	125	139	1,636
Other Mini Micro	3	3	3	3	3	3	3	3	3	3	3	3	35
Other than Solar	354	366	354	366	366	354	366	354	366	366	331	366	4,309
Total	6,644	6,851	6,621	7,155	7,392	7,153	7,508	7,231	7,464	7,732	6,977	7,706	86,433

5.3 Renewable Purchase Obligation

5.3.1 The Hon'ble Commission had notified Fifth Amendment to MPERC (Co-generation and generation of electricity from Renewable sources of energy) (Revision-I) regulation, 2010 [ARG-33(I) (v) of 2015] vide notification dated October 02nd, 2015. The Hon'ble Commission had considered procurement of power from renewable energy sources through PPA or short term market to ensure RPO compliance. In the said Regulation, while defining the RPO percentage in compliance from Solar and Other than Solar, the Hon'ble Commission while considering the Ex-Bus Requirement based on Merit Order Dispatch of MP State (Three Discom's) had included consumption met through hydro sources of power as well. As a result while defining the RPO requirement for FY 2017-18, the Hon'ble Commission in its Tariff Order for Retail Supply of Discom's dated 31st March 2017, had considered ex-bus requirement along with consumption met through hydro power sources.

5.3.2 Meanwhile, the Hon'ble Commission had notified Sixth Amendment to the said Regulation and the amendment therein is as follows:

As per regulation 4.1 of notified MPERC (Co-generation and generation of electricity from Renewable sources of energy) (Revision-I) regulation, 2010 [ARG-33(I)(v) of 2015], the minimum quantum of electricity is 1.25% for Solar and 6.50% for Non-Solar for FY 2016-17, 1.50% for Solar and 7.00% for Non-Solar for FY 2017-18 and 1.75% for Solar and 7.50% for Non-Solar for FY 2018-19 excluding consumption met through hydro sources of power during the FY.

5.3.3 As can be verified from the above Regulation, the Hon'ble Commission defined a percentage of RPO on Ex-Bus Requirement by excluding hydro sources of power in the Sixth Amendment. The Petitioner, in view of the RPO targets as specified under Fifth Amendment to MPERC (Co-generation and generation of electricity from Renewable sources of energy) (Revision-I) regulation, 2010 [ARG-33(I)(v)of 2015] vide notification dated October 02nd, 2015 & National Tariff Policy, 2016 had made an arrangement under various PPA for its compliance. As a result, there is a surplus situation in solar in FY 2016-17, FY 2017-18 & FY 2018-19 in compliance to RPO targets and deficit in non-solar for FY 2016-17 & FY 2018-19. Accordingly the Petitioners have calculated the RPO requirement as shown in the following table:

Table 28: Renewable Purchase Obligation (MUs)

Particulars	MP State		
	FY 2016-17 (Provisional)	FY 2017-18 (Re-Estimate)	FY 2018-19 (Projected)
RPO Obligations (%)	7.75%	8.50%	9.25%
Solar	1.25%	1.50%	1.75%
Other than Solar	6.50%	7.00%	7.50%
Ex-Bus RPO Requirement based on MoD (MUs) excluding Hydro	4,028	4,441	5,539
Solar	650	784	1,048
Other than Solar	3,379	3,658	4,491
Energy Available from Existing Sources (MUs)	4,083	5,523	5,980
Solar	931	1,324	1,636
Other than Solar	3,153	4,199	4,344
Shortfall (MUs)	226	-	148
Solar	-	-	-
Other than Solar	226	-	148
Extra Power Available (MUs) after meeting RPO Obligations which needs to be sold	226	-	148
Surplus Sale Rate (Paisa/kWh)	250	265	260
Additional Revenue from Sale of Power (Rs Crores)	57	-	38
Renewable Energy Purchase Rate (Paisa/kWh)			
Solar	716	619	595
Other than Solar	573	543	537
Renewable Energy Purchase from Existing Source (Rs Crores)	2,473	3,099	3,306
Solar	666	820	973
Other than Solar	1,807	2,279	2,333
Additional Cost due to Shortage of Renewable Energy Purchase (Rs Crores)	130	-	79
Solar	-	-	-
Other than Solar	130	-	79
Net Additional Cost to be borne for shortage of RPO (Rs Crores)	73	-	41
Solar	-	-	-
Other than Solar	73	-	41

5.3.4 It can be observed from the above table that there is an overachievement of the RPO from Solar category in FY 2018-19 and the Petitioner would meet its Renewable Purchase Obligation requirement from its contracted sources and any surplus would be consumed by the licensees itself with an objective to promote renewable energy and to comply its contractual obligations. The Petitioner hereby requests the Hon'ble Commission to carry forward the surplus Y-o-Y to meet its next FYs RPO target in case of shortage of power from renewable sources. It may be appreciated that the overall RPO target is being met by DISCOMs in FY 2016-17 & FY 2017-18 and there is a minor shortage in the non-solar RPO while there is surplus in solar RPO. It is therefore humbly requested before the Hon'ble Commission that it should consider fulfilment of RPO as a whole.

5.4 Backing down of Power

- 5.4.1 After fully meeting the requirement of the State and selling power on the power exchange, the Petitioners still have to partially back-down plants so as to save on the variable costs being incurred. The Petitioners have applied month-wise merit order dispatch principle on the basis of variable costs for FY 2016-17 to FY 2018-19 and thereafter, after considering all generating stations allocated to MPPMCL. The Petitioners have considered the provisional data for FY 2016-17 & FY 2017-18 (till August 17) for calculating normative availability including backing down of power for FY 2016-17 to FY 2018-19.
- 5.4.2 The Petitioners have also considered partial backing down of units/stations which are higher up in the MoD (provided the variable costs of such stations are higher than Paisa 260.10 per unit for FY 2018-19), during those periods when their running is not required to meet the demand in that period and the market rates do not justify their running either. This addresses demand fluctuations and ensures that power procured from cheaper sources is fully utilized and avoids procurement of power from costlier sources. The resultant benefit of reduced power procurement cost or sale at a higher rate, whichever the case maybe, is in turn being passed on to the consumers.
- 5.4.3 The following table shows the stations which are considered for partial/full back down for FY 2016-17, FY 2017-18 & FY 2018-19:

Table 29: Backing Down of Power (MUs) Plant Source Wise

Particulars	Normative Availability			Net Availability			Back Down of Power		
	FY 16-17 (Provisional)	FY 17-18 (Re-Estimated)	FY 18-19 (Projected)	FY 16-17 (Provisional)	FY 17-18 (Re-Estimated)	FY 18-19 (Projected)	FY 16-17 (Provisional)	FY 17-18 (Re-Estimated)	FY 18-19 (Projected)
NTPC Korba	3,685			3,487	-	-	197		
NTPC Korba III	644			620	-	-	24		
NTPC Vindyachal I	3,354			1,932	-	-	1,422		
NTPC Vindyachal II	2,312			1,866	-	-	446		
NTPC Vindyachal III	1,956			1,622	-	-	334		
NTPC Vindyachal IV	2,314			1,717	-	-	597		
NTPC Vindyachal V Unit 1	1,078			887	-	-	190		
NTPC Sipat I	2,650			2,629	-	-	21		
NTPC Sipat II	1,519			1,508	-	-	11		
NTPC Mouda I	1,473	1,384	1,361	136	433	563	1,337	952	798
NTPC Mouda II Unit 1	151	666	788	27	-	132	124	666	656
NTPC Mouda II Unit 2	-	390	788	-	-	132	-	390	656
NTPC Kawas GPP	1,162			216	-	-	946		
NTPC Gandhar GPP	919			243	-	-	676		
NTPC Solapur STPS, Unit-1		191	370		-	153		191	217
NTPC Solapur STPS, Unit-2			255		-	140			115
NTPC Gadarwara STPS, Unit-1			1,910		-	1,049			861
NTPC Lara STPS, Raigarh, Unit I			305		-	68			237
NTPC Kahalgaon 2	568	490		238	327	-	330	163	
Amarkantak TPS Ph-III	1,446			1,344	-	-	103		
Satpura TPS Ph-II & III	5,638	4,338	4,006	1,116	-	670	4,522	4,338	3,337
Satpura TPS Ph-IV	3,399	3,176		2,118	3,131	-	1,281	45	
SGTPS Ph-I & II	5,061	3,863	3,347	2,838	2,276	3,063	2,223	1,586	284
SGTPS Ph-III	3,857	3,193		3,446	2,611	-	411	581	
Shri Singaji STPS, Ph-I	8,782	8,289	6,585	2,331	5,015	5,467	6,451	3,275	1,119

Particulars	Normative Availability			Net Availability			Back Down of Power		
	FY 16-17 (Provisional)	FY 17-18 (Re-Estimated)	FY 18-19 (Projected)	FY 16-17 (Provisional)	FY 17-18 (Re-Estimated)	FY 18-19 (Projected)	FY 16-17 (Provisional)	FY 17-18 (Re-Estimated)	FY 18-19 (Projected)
Shri Singaji Phase-2, Unit-1			1,634		-	1,634			
Shri Singaji Phase-2, Unit-2			813		-	813			
DVC (MTPS & CTPS)	2,966	2,326		1,662	2,092	-	1,304	235	
DVC DTPS, Unit 1& Unit 2	761	103		195	35	-	566	68	
Torrent Power	632	275	173	0	-	-	631	275	173
BLA Power	100	63	65	15	-	27	85	63	38
Jaypee Bina Power	2,267	2,046	2,120	162	-	180	2,105	2,046	1,940
Lanco Amarkantak TPS Unit 1	2,248			1,904	-	-	344		
Reliance UMPP, Sasan	10,608			10,425	-	-	183		
Essar Power STPS	-	20	20	-	-	8	-	20	12
Jaiprakash Power STPS, Nigri	3,304			3,302	-	-	2		
MB Power STPS	1,526			869	-	-	657		
Captive		20			20	-		-	
Jhabua Power STPS, Unit-1	879	1,022	745	24	-	-	855	1,022	745
Total	77,258	31,857	25,287	48,879	15,939	14,098	28,379	15,918	11,189

5.5 Allocation Statement at State Boundary Level

The Government of MP vide gazette notification dated 21st March 2016 has allocated all the stations to MPPMCL and in order to maintain equitable allocation of the power purchased cost among all the three Discom's, MPPMCL have allocated the costs to the three Discom's as per their monthly energy requirement.

For allocation of the overall availability and costs to the Discom's, MPPMCL have considered the monthly energy requirement of the three Discom's at the state boundary level for the period FY 2016-17, FY 2017-18 & FY 2018-19 as provided in the table below:

Table 30: Allocation Statement at State Boundary Level

Discom	April	May	June	July	August	September	October	November	December	January	February	March	Total
FY 2016-17 (Provisional) - MUs excluding UI adjustment													
MP State	5,085	4,831	4,624	4,175	4,059	4,471	4,802	5,642	5,940	5,677	5,251	5,050	59,607
East	1,648	1,511	1,439	1,254	1,256	1,391	1,413	1,498	1,657	1,629	1,540	1,573	17,809
Central	1,590	1,582	1,521	1,487	1,450	1,645	1,640	1,857	1,918	1,827	1,701	1,597	19,814
West	1,846	1,738	1,664	1,434	1,353	1,435	1,749	2,287	2,366	2,221	2,010	1,880	21,983
FY 2017-18 (Re-Estimate)- MUs													
MP State	4,650	4,775	4,223	3,997	4,102	4,254	4,869	5,763	6,056	5,474	4,988	4,666	57,819
East	1,546	1,566	1,318	1,241	1,402	1,399	1,497	1,581	1,782	1,652	1,512	1,461	17,956
Central	1,244	1,339	1,254	1,234	1,252	1,347	1,491	1,699	1,725	1,549	1,393	1,339	16,865
West	1,860	1,871	1,651	1,522	1,448	1,508	1,881	2,483	2,550	2,273	2,084	1,866	22,998
FY 2018-19 (Projected)- MUs													
MP State	5,070	5,269	4,708	4,510	4,472	4,950	5,663	6,683	7,027	6,360	5,797	5,430	65,941
East	1,682	1,784	1,556	1,503	1,535	1,661	1,780	1,879	2,117	1,966	1,799	1,739	21,000
Central	1,408	1,524	1,380	1,378	1,408	1,583	1,755	1,998	2,029	1,824	1,641	1,578	19,505
West	1,980	1,962	1,772	1,629	1,530	1,706	2,129	2,807	2,881	2,571	2,358	2,112	25,436
FY 2016-17 (Provisional)- %													
MP State	100%												
East	32%	31%	31%	30%	31%	31%	29%	27%	28%	29%	29%	31%	30%
Central	31%	33%	33%	36%	36%	37%	34%	33%	32%	32%	32%	32%	33%
West	36%	36%	36%	34%	33%	32%	36%	41%	40%	39%	38%	37%	37%
FY 2017-18 (Re-Estimate)- %													
MP State	100%												
East	33%	33%	31%	31%	34%	33%	31%	27%	29%	30%	30%	31%	31%
Central	27%	28%	30%	31%	31%	32%	31%	29%	28%	28%	28%	29%	29%
West	40%	39%	39%	38%	35%	35%	39%	43%	42%	42%	42%	40%	40%
FY 2018-19 (Projected)-%													
MP State	100%												
East	33%	34%	33%	33%	34%	34%	31%	28%	30%	31%	31%	32%	32%
Central	28%	29%	29%	31%	31%	32%	31%	30%	29%	29%	28%	29%	30%
West	39%	37%	38%	36%	34%	34%	38%	42%	41%	40%	41%	39%	39%

5.6 Management of Surplus Energy

As per the power supply position, the state is expected to have surplus energy in most of the months in the ensuing year. Currently MPPMCL disposes the surplus power through power exchange (IEX) at the prevailing rates. MPPMCL tries to sell such surplus power at a cost which is determined by the market conditions prevailing at that time.

The IEX rate for the past Thirty Six Months (Sep'14 to Aug'17) is observed to be at Paisa 260.10 per Unit. For the purpose of computation of revenue from surplus energy, the IEX rate is taken at Paisa 260.10 per Unit for FY 2018-19. The Petitioners have considered the provisional data for FY 2016-17 & FY 2017-18 (till August 17) for calculating surplus sale for FY 2016-17 to FY 2018-19.

The energy surplus of the Discom's vis-à-vis overall energy availability and energy requirement as well as the details of revenue from sale of energy are shown in the table below. This revenue has been subtracted from the variable power purchase costs of MPPMCL allocated stations, while computing the total power purchase costs of the Discom's.

Table 31: Management of Surplus Power

Particulars	FY 2016-17 (Provisional)	FY 2017-18 (RE)	FY 2018-19 (Projected)
Ex-Bus Availability	92,431	87,801	86,433
Back down of Power	28,379	15,918	11,189
Energy Available after Back down	64,052	71,883	75,244
Ex-Bus Energy Required by Discom's	61,382	59,307	67,449
East	18,343	18,419	21,481
Central	20,407	17,299	19,952
West	22,632	23,590	26,016
Ex-Bus Energy Required by Discom's including UI Adjustment	61,049	59,307	67,449
Surplus Units available for Sale	3,003	12,576	7,795
Additional surplus due to RPO obligation	226	-	148
Total Units Available	3,229	12,576	7,943
IEX Rate (Paisa/kWh)	250	265	260
Revenue from Sale of Surplus Power (Rs Crores)	807	3,332	2,066

The Petitioner hereby requests the Hon'ble Commission to approve Assessment of Availability including treatment of surplus energy as shown above.

A6: POWER PURCHASE COST

6.1 Details of Cost for Power Stations

The fixed (Rs Crores) and variable costs (Paisa/kWh) of all stations have been considered as per the following methodology:

Table 32: Methodology for Power Purchase Cost for FY 2018-19

Fixed (Rs Crores) and Variable Charge (Paisa/kWh)				
Sr. No	Particulars	FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Remarks
1	Central Sector			
a	NTPC Korba	246	93	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) & Energy Charge as per last 3 Month Avg (Sep 17 to Nov 17)
b	NTPC Korba III	80	108	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) & Energy Charge as per last 12 Month Avg (Dec 16 to Nov 17)
c	NTPC Vindyachal I	260	163	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) & Energy Charge as per last 3 Month Avg (Sep 17 to Nov 17)
d	NTPC Vindyachal II	159	154	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) & Energy Charge as per last 3 Month Avg (Sep 17 to Nov 17)
e	NTPC Vindyachal III	187	153	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) & Energy Charge as per last 3 Month Avg (Sep 17 to Nov 17)
f	NTPC Vindyachal IV	326	154	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) & Energy Charge as per last 3 Month Avg (Sep 17 to Nov 17)
g	NTPC Vindyachal V Unit 1	162	155	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) & Energy Charge as per last 3 Month Avg (Sep 17 to Nov 17)
h	NTPC Sipat I	340	122	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) & Energy Charge as per last 3 Month Avg (Sep 17 to Nov 17)
i	NTPC Sipat II	182	143	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
j	NTPC Mouda I	242	261	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
k	NTPC Mouda II Unit 1	76	272	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
l	NTPC Mouda II Unit 2	76	272	As per Mouda II Unit 1 Proportionately
m	NTPC Kawas GPP	90	206	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
n	NTPC Gandhar GPP	92	192	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
o	NTPC Kahalgaon 2	57	220	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
p	KAPP Kakrapar	-	241	As per Actual Bill (Sep 15 to Aug 16)
q	TAPP Tarapur	-	295	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
r	NTPC Solapur STPS, Unit-1	87	265	As per latest two month bill (Sep & Oct 17)
s	NTPC Solapur STPS, Unit-2	60	265	As per latest two month bill (Sep & Oct 17)
t	NTPC Gadarwara STPS, Unit-1	184	272	As per Mauda Stage II Unit I (Sep 16 - Aug 17)
u	NTPC Lara STPS, Raigarh, Unit I	29	272	As per Mauda Stage II Unit I (Sep 16 - Aug 17)
2	MP GENCO			
a	Amarkantak TPS Ph-III	229	184	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
b	Satpura TPS Ph-II & III	378	276	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
c	Satpura TPS Ph-IV	695	209	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
d	SGTPS Ph-I & II	387	236	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
e	SGTPS Ph-III	377	218	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
f	Shri Singaji STPS, Ph-I	1,313	256	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
g	Shri Singaji Phase-2, Unit-1	376	256	Fixed Charge - Assumption and Energy Charge - As per Shri Singaji STPS Phase I Proportionately
h	Shri Singaji Phase-2, Unit-2	125	256	Fixed Charge - Assumption and Energy Charge - As per Shri Singaji STPS Phase I Proportionately
i	Rani Awanti Bai Sagar, Bargi HPS	8	51	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)

Fixed (Rs Crores) and Variable Charge (Paisa/kWh)				
Sr. No	Particulars	FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Remarks
j	Bansagar Ph I HPS (Tons)	60	72	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
k	Bansagar Ph-II HPS (Silpara)	5	65	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
l	Bansagar Ph-III HPS (Deolond)	9	108	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
m	Bansagar Ph-IV HPS (Jhinna)	9	118	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
n	Birsinghpur HPS	3	157	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
o	Marhikheda HPS	17	139	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
p	Rajghat HPS	1	128	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
q	Gandhisagar HPS	3	68	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
r	Ranapratap Sagar & Jawahar Sagar HPS	-	151	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
s	Pench HPS	9	43	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
3	JV Hydel & Other Hydels			
a	NHDC Indira Sagar HPS	619	45	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
b	NHDC Omkareshwar HPS	428	42	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
c	Sardar Sarovar HPS	178	82	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
d	Rihand HPS	-	40	As per Weighted Avg 12 month Bill (Sep 15- Aug 16)
e	Matatila HPS	-	40	As per Weighted Avg 12 month Bill (Sep 15- Aug 16)
4	DVC			
a	DVC (MTPS & CTPS)	-	-	
b	DVC DTPS, Unit 1& Unit 2	-	-	
5	IPPs			
a	Torrent Power	67	492	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
b	BLA Power	10	270	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
c	Jaypee Bina Power	458	278	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
d	Lanco Amarkantak TPS Unit 1	281	113	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
e	Reliance UMPP, Sasan	168	139	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) & Energy Charge as per last 3 Month Avg (Sep 17 to Nov 17)
f	Essar Power STPS	-	266	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
g	Jaiprakash Power STPS, Nigri	586	77	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
h	MB Power STPS	303	192	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) and Energy Charge as approved by MPERC in FY 18 Tariff Order
i	Jhabua Power STPS, Unit-1	42	278	Fixed Charge as per Weighted Avg 12 month Bill (Sep 16- Aug 17) and Energy Charge Assumed
j	Captive	-	229	As approved by the Hon'ble Commission in FY 18 Tariff Order
6	Renewables			
a	Solar	-	595	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
b	Other Mini Micro	-	381	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)
c	Other than Solar	-	538	As per Weighted Avg 12 month Bill (Sep 16- Aug 17)

6.2 Merit Order Dispatch

As already explained above, all plants have been considered to be allocated to MPPMCL and a common MoD has been applied to all the plants after considering the backing down of selected stations as explained above. However, for the ease of understanding, costs for each of the stations have been given separately for MPPMCL allocated stations. The MoD applied for FY 2018-19 is given in the following table:

Table 33: Merit Order Dispatch for FY 2018-19

MoD Station for FY 2018-19			
Sr. No	Particulars	Paisa/kWh	Availability (MUs)
1	KAPP Kakrapar	241	347
2	TAPP Tarapur	295	1,411
3	Solar	595	1,636
4	Other Mini Micro	381	35
5	Other than Solar	538	4,309
6	Rihand HPS	40	78
7	Matatila HPS	40	22
8	NHDC Omkareshwar HPS	42	1,021
9	Pench HPS	43	252
10	NHDC Indira Sagar HPS	45	2,221
11	Rani Awanti Bai Sagar, Bargi HPS	51	466
12	Bansagar Ph-II HPS (Silpara)	65	107
13	Gandhisagar HPS	68	168
14	Bansagar Ph I HPS (Tons)	72	1,166
15	Jaiprakash Power STPS, Nigri	77	3,211
16	Sardar Sarovar HPS	82	1,303
17	NTPC Korba	93	3,615
18	Bansagar Ph-III HPS (Deolond)	108	114
19	NTPC Korba III	108	611
20	Lanco Amarkantak TPS Unit 1	113	2,105
21	Bansagar Ph-IV HPS (Jhinna)	118	97
22	NTPC Sipat I	122	2,576
23	Rajghat HPS	128	30
24	Reliance UMPP, Sasan	139	10,840
25	Marhikheda HPS	139	111
26	NTPC Sipat II	143	1,492
27	Ranapratap Sagar & Jawahar Sagar HPS	151	370
28	NTPC Vidyachal III	153	1,894
29	NTPC Vidyachal IV	154	2,171
30	NTPC Vidyachal II	154	2,308
31	NTPC Vidyachal V Unit 1	155	1,069
32	Birsinghpur HPS	157	36
33	NTPC Vidyachal I	163	3,243
34	Amarkantak TPS Ph-III	184	1,550

MoD Station for FY 2018-19			
Sr. No	Particulars	Paisa/kWh	Availability (MUs)
35	NTPC Gandhar GPP	192	250
36	MB Power STPS	192	2,148
37	NTPC Kawas GPP	206	299
38	Satpura TPS Ph-IV	209	2,561
39	SGTPS Ph-III	218	3,303
40	NTPC Kahalgaon 2	220	565
41	Captive	229	34
42	SGTPS Ph-I & II	236	3,347
43	Shri Singaji STPS, Ph-I	256	6,585
44	Shri Singaji Phase-2, Unit-1	256	1,634
45	Shri Singaji Phase-2, Unit-2	256	813
46	NTPC Mouda I	261	1,361
47	NTPC Solapur STPS, Unit-1	265	370
48	NTPC Solapur STPS, Unit-2	265	255
49	Essar Power STPS	266	20
50	BLA Power	270	65
51	NTPC Gadarwara STPS, Unit-1	272	1,910
52	NTPC Lara STPS, Raigarh, Unit I	272	305
53	NTPC Mouda II Unit 1	272	788
54	NTPC Mouda II Unit 2	272	788
55	Satpura TPS Ph-II & III	276	4,006
56	Jaypee Bina Power	278	2,120
57	Jhabua Power STPS, Unit-1	278	745
58	Torrent Power	492	173
59	Total	-	86,433

6.3 Power Purchase Cost for MP

The following tables show the Total costs (fixed costs and variable costs) of allocated stations to MP State and the three Discoms before consideration of MPPMCL Cost and treatment of surplus energy:

Table 34: Gross Power Purchase Cost for MP State

Sr. No	Particulars	Power Purchase Cost- MP State (Rs Crores)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
A	Central Sector	2,484	3,537	6,020	2,552	3,605	6,156	2,936	3,936	6,871
1	NTPC Korba	271	536	807	243	534	777	246	337	583
2	NTPC Korba III	83	89	171	78	72	150	80	66	146
3	NTPC Vidyachal I	270	416	686	254	510	764	260	529	788
4	NTPC Vidyachal II	156	376	532	156	366	522	159	355	514
5	NTPC Vidyachal III	217	318	535	190	316	505	187	289	476
6	NTPC Vidyachal IV	308	339	648	317	344	661	326	334	661
7	NTPC Vidyachal V Unit 1	145	169	314	164	176	340	162	166	328
8	NTPC Sipat I	353	375	729	334	348	683	340	314	654
9	NTPC Sipat II	213	220	433	179	207	387	182	213	395
10	NTPC Mouda I	209	35	244	236	161	397	242	147	389
11	NTPC Mouda II Unit 1	18	6	24	70	10	80	76	36	112
12	NTPC Mouda II Unit 2	-	-	-	44	-	44	76	36	112
13	NTPC Kawas GPP	105	48	152	87	69	157	90	62	151
14	NTPC Gandhar GPP	78	47	125	90	70	160	92	48	140
15	NTPC Kahalgaon 2	59	50	109	57	72	129	57	125	182
16	KAPP Kakrapar	-	2	2	-	-	-	-	84	84
17	TAPP Tarapur	-	509	509	-	351	351	-	416	416
18	NTPC Solapur STPS, Unit-1	-	-	-	51	-	51	87	41	128
19	NTPC Solapur STPS, Unit-2	-	-	-	-	-	-	60	37	97
20	NTPC Gadarwara STPS, Unit-1	-	-	-	-	-	-	184	286	470
21	NTPC Gadarwara STPS, Unit-2	-	-	-	-	-	-	-	-	-
22	NTPC Lara STPS, Raigarh, Unit I	-	-	-	-	-	-	29	18	48
23	NTPC Lara STPS, Raigarh, Unit II	-	-	-	-	-	-	-	-	-
B	MP GENCO (THERMAL & HYDRO)	3,651	3,430	7,081	3,396	2,822	6,218	4,004	4,717	8,722

Sr. No	Particulars	Power Purchase Cost- MP State (Rs Crores)			FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
1	Amarkantak TPS Ph-III	272	270	541	223	284	506	229	285	514			
2	Satpura TPS Ph-II & III	339	307	646	381	55	436	378	185	563			
3	Satpura TPS Ph-IV	715	462	1,177	681	612	1,293	695	534	1,229			
4	SGTPS Ph-I & II	410	711	1,121	367	808	1,175	387	724	1,111			
5	SGTPS Ph-III	444	775	1,220	353	674	1,027	377	722	1,099			
6	Shri Singaji STPS, Ph-I	1,357	662	2,019	1,274	199	1,473	1,313	1,400	2,713			
7	Shri Singaji Phase-2, Unit-1	-	-	-	-	-	-	376	418	794			
8	Shri Singaji Phase-2, Unit-2	-	-	-	-	-	-	125	208	333			
9	Rani Awanti Bai Sagar, Bargi HPS	(0)	18	18	7	24	31	8	24	32			
10	Bansagar Ph I HPS (Tons)	51	88	139	55	75	130	60	84	144			
11	Bansagar Ph-II HPS (Silpara)	1	6	7	5	6	11	5	7	12			
12	Bansagar Ph-III HPS (Deolond)	9	9	18	10	12	22	9	12	21			
13	Bansagar Ph-IV HPS (Jhinna)	12	11	23	9	9	18	9	11	20			
14	Birsinghpur HPS	5	5	10	3	7	11	3	6	9			
15	Marhikheda HPS	32	25	56	16	7	22	17	15	32			
16	Rajghat HPS	4	4	8	1	3	3	1	4	5			
17	Gandhisagar HPS	(9)	9	0	3	12	15	3	11	14			
18	Ranapratap Sagar & Jawahar Sagar HPS	-	56	56	-	27	27	-	56	56			
19	Pench HPS	10	11	21	9	8	17	9	11	20			
C	JV Hydel & Other Hydels	1,468	627	2,095	1,171	226	1,397	1,225	254	1,479			
1	NHDC Indira Sagar HPS	818	374	1,192	579	68	648	619	101	719			
2	NHDC Omkareshwar HPS	472	107	579	414	30	444	428	42	471			
3	Sardar Sarovar HPS	178	146	324	178	128	305	178	107	285			
4	Rihand HPS	-	-	-	-	-	-	-	3	3			
5	Matatila HPS	-	-	-	-	-	-	-	1	1			
D	DVC	520	392	911	380	405	785	-	-	-			
1	DVC (MTPS & CTPS)	403	348	752	364	391	755	-	-	-			
2	DVC DTPS, Unit 1& Unit 2	116	43	160	16	14	30	-	-	-			
E	IPPs	1,962	2,600	4,562	1,909	2,723	4,632	1,916	2,441	4,357			
1	Torrent Power	68	0	68	67	0	67	67	-	67			
2	BLA Power	19	4	23	6	-	6	10	7	18			
3	Jaypee Bina Power	485	48	533	442	72	514	458	50	509			
4	Lanco Amarkantak TPS Unit 1	283	300	583	279	231	510	281	238	519			
5	Reliance UMPP, Sasan	172	1,778	1,950	167	1,828	1,995	168	1,511	1,679			

Sr. No	Particulars	Power Purchase Cost- MP State (Rs Crores)			FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
6	Essar Power STPS	-	-	-	-	5	5	-	2	2	-	2	2
7	Jaiprakash Power STPS, Nigri	569	294	862	583	257	840	586	247	833	-	-	-
8	MB Power STPS	252	169	421	341	325	666	303	377	681	-	-	-
9	Jhabua Power STPS, Unit-1	116	6	122	24	-	24	42	-	42	-	-	-
10	Captive	-	-	-	-	5	5	-	8	8	-	-	-
F	Renewables	0	2,473	2,473	-	3,099	3,099	-	3,306	3,306	-	-	-
1	Solar	-	649	649	-	820	820	-	973	973	-	-	-
2	Other Mini Micro	-	4	4	-	4	4	-	13	13	-	-	-
3	Other than Solar	0	1,820	1,820	-	2,275	2,275	-	2,319	2,319	-	-	-
G	Gross Total	10,084	13,058	23,143	9,407	12,880	22,288	10,081	14,655	24,736	-	-	-

Table 35: Gross Power Purchase Cost for East Discom

Sr. No	Particulars	Power Purchase Cost- EAST DISCOM (Rs Crores)			FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
A	Central Sector	744	1,058	1,802	796	1,123	1,919	942	1,252	2,194	-	-	-
1	NTPC Korba	81	161	242	76	167	243	79	108	187	-	-	-
2	NTPC Korba III	25	27	51	25	23	47	26	21	47	-	-	-
3	NTPC Vidyachal I	81	124	205	79	159	238	83	170	253	-	-	-
4	NTPC Vidyachal II	46	112	159	49	114	163	51	114	165	-	-	-
5	NTPC Vidyachal III	65	95	160	59	99	158	60	93	153	-	-	-
6	NTPC Vidyachal IV	92	101	194	99	107	206	105	107	212	-	-	-
7	NTPC Vidyachal V Unit 1	43	51	94	51	55	106	52	53	105	-	-	-
8	NTPC Sipat I	106	113	219	104	109	213	109	101	210	-	-	-
9	NTPC Sipat II	64	66	130	56	65	121	58	68	127	-	-	-
10	NTPC Mouda I	62	11	73	74	49	123	78	45	122	-	-	-
11	NTPC Mouda II Unit 1	5	2	7	22	3	25	24	10	35	-	-	-
12	NTPC Mouda II Unit 2	-	-	-	13	-	13	24	10	35	-	-	-
13	NTPC Kawas GPP	31	14	45	27	22	49	29	20	48	-	-	-
14	NTPC Gandhar GPP	23	14	37	28	22	50	30	15	45	-	-	-
15	NTPC Kahalgaon 2	18	15	33	18	22	40	18	40	58	-	-	-

Sr. No	Particulars	Power Purchase Cost- EAST DISCOM (Rs Crores)								
		FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
16	KAPP Kakrapar	-	1	1	-	-	-	-	27	27
17	TAPP Tarapur	-	153	153	-	109	109	-	133	133
18	NTPC Solapur STPS, Unit-1	-	-	-	15	-	15	28	12	40
19	NTPC Solapur STPS, Unit-2	-	-	-	-	-	-	19	11	31
20	NTPC Gadarwara STPS, Unit-1	-	-	-	-	-	-	59	87	146
21	NTPC Gadarwara STPS, Unit-2	-	-	-	-	-	-	-	-	-
22	NTPC Lara STPS, Raigarh, Unit I	-	-	-	-	-	-	9	5	15
23	NTPC Lara STPS, Raigarh, Unit II	-	-	-	-	-	-	-	-	-
B	MP GENCO (THERMAL & HYDRO)	1,094	1,019	2,113	1,059	884	1,943	1,156	1,364	2,520
1	Amarkantak TPS Ph-III	81	81	162	69	89	158	74	91	165
2	Satpura TPS Ph-II & III	102	93	194	119	19	138	121	54	175
3	Satpura TPS Ph-IV	215	137	352	212	191	403	223	171	394
4	SGTPS Ph-I & II	123	213	336	114	252	366	124	231	356
5	SGTPS Ph-III	133	233	366	110	210	320	121	232	353
6	Shri Singaji STPS, Ph-I	407	191	598	397	65	462	328	350	678
7	Shri Singaji Phase-2, Unit-1	-	-	-	-	-	-	94	105	199
8	Shri Singaji Phase-2, Unit-2	-	-	-	-	-	-	31	52	83
9	Rani Awanti Bai Sagar, Bargi HPS	(0)	5	5	2	7	10	3	8	10
10	Bansagar Ph I HPS (Tons)	15	26	41	17	23	40	19	27	46
11	Bansagar Ph-II HPS (Silpara)	0	2	2	2	2	3	2	2	4
12	Bansagar Ph-III HPS (Deolond)	3	3	5	3	4	7	3	4	7
13	Bansagar Ph-IV HPS (Jhinna)	4	3	7	3	3	6	3	4	7
14	Birsinghpur HPS	2	1	3	1	2	3	1	2	3
15	Marhikheda HPS	9	8	17	5	2	7	5	5	10
16	Rajghat HPS	1	1	2	0	1	1	0	1	2
17	Gandhisagar HPS	(3)	3	0	1	4	5	1	4	5
18	Ranapratap Sagar & Jawahar Sagar HPS	-	16	16	-	8	8	-	18	18
19	Pench HPS	3	3	6	3	3	5	3	4	7
C	JV Hydel & Other Hydels	439	189	628	365	70	435	393	82	475
1	NHDC Indira Sagar HPS	245	112	357	180	21	201	198	32	231
2	NHDC Omkareshwar HPS	141	32	174	129	9	138	137	14	151
3	Sardar Sarovar HPS	53	44	98	56	39	95	57	34	91
4	Rihand HPS	-	-	-	-	-	-	-	1	1
5	Matatila HPS	-	-	-	-	-	-	-	0	0

Sr. No	Particulars	Power Purchase Cost- EAST DISCOM (Rs Crores)			Fixed Charge	Variable Charge	Total	FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total				Fixed Charge	Variable Charge	Total
D	DVC	155	117	272	119	127	245	-	-	-
1	DVC (MTPS & CTPS)	120	104	225	114	122	236	-	-	-
2	DVC DTPS, Unit 1& Unit 2	35	13	48	5	5	10	-	-	-
E	IPPs	589	778	1,367	596	851	1,447	615	781	1,396
1	Torrent Power	20	0	20	21	0	21	22	-	22
2	BLA Power	6	1	7	2	-	2	3	2	6
3	Jaypee Bina Power	145	14	159	138	24	162	147	15	162
4	Lanco Amarkantak TPS Unit 1	85	90	175	87	73	160	90	77	167
5	Reliance UMPP, Sasan	52	532	583	52	570	622	54	485	539
6	Essar Power STPS	-	-	-	-	2	2	-	1	1
7	Jaiprakash Power STPS, Nigri	170	88	259	182	80	262	188	79	267
8	MB Power STPS	76	50	126	107	102	208	97	120	218
9	Jhabua Power STPS, Unit-1	36	2	37	7	-	7	13	-	13
10	Captive	-	-	-	-	1	1	-	3	3
F	Renewables	0	751	751	-	955	955	-	1,061	1,061
1	Solar	-	195	195	-	253	253	-	312	312
2	Other Mini Micro	-	1	1	-	1	1	-	4	4
3	Other than Solar	0	555	555	-	701	701	-	744	744
G	Gross Total	3,022	3,912	6,933	2,934	4,010	6,944	3,106	4,540	7,646

Table 36: Gross Power Purchase Cost for Central Discom

Sr. No	Particulars	Power Purchase Cost- CENTRAL DISCOM (Rs Crores)			Fixed Charge	Variable Charge	Total	FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total				Fixed Charge	Variable Charge	Total
A	Central Sector	827	1,175	2,002	747	1,052	1,799	871	1,164	2,034
1	NTPC Korba	90	179	268	71	156	227	73	100	173
2	NTPC Korba III	28	30	57	23	21	44	24	20	43
3	NTPC Vidyachal I	90	137	227	74	149	223	77	157	234
4	NTPC Vidyachal II	52	124	176	46	107	152	47	105	152
5	NTPC Vidyachal III	72	106	178	55	92	148	56	86	141
6	NTPC Vidyachal IV	103	113	215	93	101	194	97	99	196
7	NTPC Vidyachal V Unit 1	49	56	105	48	51	99	48	49	97

Sr. No	Particulars	Power Purchase Cost- CENTRAL DISCOM (Rs Crores)			FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
8	NTPC Sipat I	118	125	243	98	102	200	101	93	194			
9	NTPC Sipat II	71	73	144	53	61	113	54	63	117			
10	NTPC Mouda I	70	12	81	69	46	116	72	43	114			
11	NTPC Mouda II Unit 1	6	2	8	21	3	24	23	11	33			
12	NTPC Mouda II Unit 2	-	-	-	13	-	13	23	11	33			
13	NTPC Kawas GPP	35	15	50	26	20	46	27	18	45			
14	NTPC Gandhar GPP	26	15	41	26	20	47	27	14	42			
15	NTPC Kahalgaon 2	20	16	36	17	21	38	17	37	54			
16	KAPP Kakrapar	-	1	1	-	-	-	-	25	25			
17	TAPP Tarapur	-	170	170	-	102	102	-	123	123			
18	NTPC Solapur STPS, Unit-1	-	-	-	15	-	15	26	12	38			
19	NTPC Solapur STPS, Unit-2	-	-	-	-	-	-	18	11	29			
20	NTPC Gadarwara STPS, Unit-1	-	-	-	-	-	-	55	83	137			
21	NTPC Gadarwara STPS, Unit-2	-	-	-	-	-	-	-	-	-			
22	NTPC Lara STPS, Raigarh, Unit I	-	-	-	-	-	-	9	5	14			
23	NTPC Lara STPS, Raigarh, Unit II	-	-	-	-	-	-	-	-	-			
B	MP GENCO (THERMAL & HYDRO)	1,218	1,131	2,349	992	825	1,817	1,067	1,264	2,331			
1	Amarkantak TPS Ph-III	90	89	179	65	83	148	68	84	153			
2	Satpura TPS Ph-II & III	113	100	213	111	16	128	112	54	166			
3	Satpura TPS Ph-IV	239	151	390	199	178	378	206	158	365			
4	SGTPS Ph-I & II	136	233	369	107	236	343	115	214	329			
5	SGTPS Ph-III	148	259	407	103	196	299	112	214	326			
6	Shri Singaji STPS, Ph-I	453	217	670	372	59	431	302	322	624			
7	Shri Singaji Phase-2, Unit-1	-	-	-	-	-	-	86	96	183			
8	Shri Singaji Phase-2, Unit-2	-	-	-	-	-	-	29	48	77			
9	Rani Awanti Bai Sagar, Bargi HPS	(0)	6	6	2	7	9	2	7	9			
10	Bansagar Ph I HPS (Tons)	17	30	47	16	22	38	18	25	43			
11	Bansagar Ph-II HPS (Silpara)	0	2	2	1	2	3	1	2	4			
12	Bansagar Ph-III HPS (Deolond)	3	3	6	3	4	6	3	4	6			
13	Bansagar Ph-IV HPS (Jhinna)	4	4	8	2	3	5	3	3	6			
14	Birsinghpur HPS	2	2	3	1	2	3	1	2	3			
15	Marhikheda HPS	11	9	19	5	2	7	5	5	10			
16	Rajghat HPS	1	1	3	0	1	1	0	1	1			
17	Gandhisagar HPS	(3)	3	(0)	1	4	4	1	3	4			

Sr. No	Particulars	Power Purchase Cost- CENTRAL DISCOM (Rs Crores)								
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
18	Ranapratap Sagar & Jawahar Sagar HPS	-	19	19	-	8	8	-	17	17
19	Pench HPS	3	4	7	3	2	5	3	3	6
C	JV Hydel & Other Hydels	491	215	706	342	67	409	363	75	439
1	NHDC Indira Sagar HPS	274	127	401	169	20	189	183	30	213
2	NHDC Omkareshwar HPS	158	37	195	121	9	130	127	13	140
3	Sardar Sarovar HPS	59	51	110	52	38	90	53	32	84
4	Rihand HPS	-	-	-	-	-	-	-	1	1
5	Matatila HPS	-	-	-	-	-	-	-	0	0
D	DVC	174	128	302	111	118	229	-	-	-
1	DVC (MTPS & CTPS)	135	114	249	107	115	221	-	-	-
2	DVC DTPS, Unit 1& Unit 2	39	14	53	4	4	8	-	-	-
E	IPPs	657	862	1,519	559	795	1,354	568	723	1,291
1	Torrent Power	23	0	23	20	0	20	20	-	20
2	BLA Power	6	1	8	2	-	2	3	2	5
3	Jaypee Bina Power	162	16	178	129	21	150	136	14	150
4	Lanco Amarkantak TPS Unit 1	94	99	194	82	67	149	83	71	154
5	Reliance UMPP, Sasan	57	590	647	49	534	583	50	448	498
6	Essar Power STPS	-	-	-	-	2	2	-	1	1
7	Jaiprakash Power STPS, Nigri	190	98	289	170	75	245	174	73	247
8	MB Power STPS	84	56	140	100	96	196	90	111	201
9	Jhabua Power STPS, Unit-1	40	2	42	7	-	7	12	-	12
10	Captive	-	-	-	-	1	1	-	2	2
F	Renewables	0	832	832	-	900	900	-	981	981
1	Solar	-	215	215	-	239	239	-	289	289
2	Other Mini Micro	-	1	1	-	1	1	-	4	4
3	Other than Solar	0	615	615	-	660	660	-	688	688
G	Gross Total	3,367	4,342	7,709	2,751	3,756	6,507	2,869	4,207	7,076

Table 37: Gross Power Purchase Cost for West Discom

Sr. No	Particulars	Power Purchase Cost- WEST DISCOM (Rs Crores)								
		FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
A	Central Sector	913	1,304	2,217	1,009	1,429	2,438	1,123	1,520	2,643
1	NTPC Korba	100	196	297	96	211	307	94	129	223
2	NTPC Korba III	30	32	63	31	28	59	30	25	56
3	NTPC Vidyachal I	100	154	255	100	202	302	99	202	302
4	NTPC Vidyachal II	58	140	197	62	145	206	61	136	197
5	NTPC Vidyachal III	79	117	197	75	125	200	72	111	182
6	NTPC Vidyachal IV	113	125	239	126	137	262	125	128	253
7	NTPC Vidyachal V Unit 1	53	62	115	65	70	134	62	63	125
8	NTPC Sipat I	130	138	267	132	138	270	130	120	250
9	NTPC Sipat II	78	81	159	71	82	153	70	81	151
10	NTPC Mouda I	77	13	90	93	65	159	93	60	152
11	NTPC Mouda II Unit 1	7	2	9	28	4	31	29	15	44
12	NTPC Mouda II Unit 2	-	-	-	18	-	18	29	15	44
13	NTPC Kawas GPP	38	18	57	35	27	62	34	24	58
14	NTPC Gandhar GPP	29	18	46	36	27	63	35	18	54
15	NTPC Kahalgaon 2	22	19	40	23	28	51	22	48	69
16	KAPP Kakrapar	-	1	1	-	-	-	-	32	32
17	TAPP Tarapur	-	187	187	-	140	140	-	159	159
18	NTPC Solapur STPS, Unit-1	-	-	-	20	-	20	33	16	50
19	NTPC Solapur STPS, Unit-2	-	-	-	-	-	-	23	15	38
20	NTPC Gadarpura STPS, Unit-1	-	-	-	-	-	-	70	116	186
21	NTPC Gadarpura STPS, Unit-2	-	-	-	-	-	-	-	-	-
22	NTPC Lara STPS, Raigarh, Unit I	-	-	-	-	-	-	11	8	19
23	NTPC Lara STPS, Raigarh, Unit II	-	-	-	-	-	-	-	-	-
B	MP GENCO (THERMAL & HYDRO)	1,339	1,280	2,619	1,345	1,113	2,458	1,781	2,089	3,871
1	Amarkantak TPS Ph-III	100	100	200	88	112	200	88	109	197
2	Satpura TPS Ph-II & III	124	114	238	151	20	170	144	77	221
3	Satpura TPS Ph-IV	262	174	436	270	243	513	266	204	470
4	SGTPS Ph-I & II	151	264	416	146	320	465	148	278	426
5	SGTPS Ph-III	163	283	446	140	268	408	144	276	420
6	Shri Singaji STPS, Ph-I	497	255	752	505	75	580	683	728	1,411

Power Purchase Cost- WEST DISCOM (Rs Crores)										
Sr. No	Particulars	FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
7	Shri Singaji Phase-2, Unit-1	-	-	-	-	-	-	195	218	413
8	Shri Singaji Phase-2, Unit-2	-	-	-	-	-	-	65	108	173
9	Rani Awanti Bai Sagar, Bargi HPS	(0)	7	6	3	9	12	3	9	12
10	Bansagar Ph I HPS (Tons)	19	32	51	22	30	51	23	32	55
11	Bansagar Ph-II HPS (Silpara)	0	2	3	2	2	4	2	3	5
12	Bansagar Ph-III HPS (Deolond)	3	3	6	4	5	9	3	5	8
13	Bansagar Ph-IV HPS (Jhinna)	5	4	9	3	4	7	3	4	8
14	Birsinghpur HPS	2	2	4	1	3	4	1	2	3
15	Marhikheda HPS	12	9	20	6	3	9	6	6	12
16	Rajghat HPS	1	2	3	0	1	1	0	1	2
17	Gandhisagar HPS	(3)	3	0	1	5	6	1	4	5
18	Ranapratap Sagar & Jawahar Sagar HPS	-	21	21	-	11	11	-	21	21
19	Pench HPS	4	4	8	4	3	7	4	4	8
C	JV Hydel & Other Hydels	537	224	761	464	90	554	469	97	566
1	NHDC Indira Sagar HPS	300	134	434	230	27	257	237	39	275
2	NHDC Omkareshwar HPS	173	38	211	164	12	176	164	16	180
3	Sardar Sarovar HPS	65	51	116	70	51	121	68	41	109
4	Rihand HPS	-	-	-	-	-	-	-	1	1
5	Matatila HPS	-	-	-	-	-	-	-	0	0
D	DVC	191	147	337	150	160	310	-	-	-
1	DVC (MTPS & CTPS)	148	130	278	144	154	298	-	-	-
2	DVC DTPS, Unit 1& Unit 2	43	16	59	6	6	12	-	-	-
E	IPPs	716	960	1,676	754	1,077	1,831	733	937	1,670
1	Torrent Power	25	0	25	26	0	26	26	-	26
2	BLA Power	7	1	8	2	-	2	4	3	7
3	Jaypee Bina Power	178	18	196	175	28	203	175	21	196
4	Lanco Amarkantak TPS Unit 1	104	111	214	110	92	202	107	91	199
5	Reliance UMPP, Sasan	63	657	720	66	724	790	64	578	642
6	Essar Power STPS	-	-	-	-	2	2	-	1	1
7	Jaiprakash Power STPS, Nigri	208	107	315	230	102	332	224	94	319
8	MB Power STPS	92	63	156	134	128	262	116	146	262
9	Jhabua Power STPS, Unit-1	40	2	42	10	-	10	16	-	16
10	Captive	-	-	-	-	2	2	-	3	3

Power Purchase Cost- WEST DISCOM (Rs Crores)										
Sr. No	Particulars	FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
F	Renewables	0	890	890	-	1,245	1,245	-	1,265	1,265
1	Solar	-	239	239	-	329	329	-	372	372
2	Other Mini Micro	-	2	2	-	2	2	-	5	5
3	Other than Solar	0	650	650	-	914	914	-	887	887
G	Gross Total	3,696	4,805	8,501	3,722	5,114	8,836	4,106	5,908	10,014

The above costs after being adjusted for Surplus and MPPMCL cost are again distributed among the three Discoms according to the monthly energy requirement at state boundary for individual Discoms as shown below:

Table 38: Net Power Purchase Cost for MP State

MP STATE									
Particulars	FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
Gross Power Purchase Cost	10,084	13,058	23,143	9,407	12,880	22,288	10,081	14,655	24,736
Add: Purchase of Non Solar to Meet RPO Obligations	-	130	130	-	-	-	-	79	79
Less: Sale of Surplus Power including Surplus Sale of RPO	-	807	807	-	3,332	3,332	-	2,066	2,066
Add: MPPMCL Cost	(117)	-	(117)	(344)	-	(344)	(398)	-	(398)
Net Power Purchase Cost	9,968	12,381	22,349	9,063	9,548	18,612	9,683	12,668	22,351

Table 39: Net Power Purchase Cost for East Discom

EAST DISCOM									
Particulars	FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
Gross Power Purchase Cost	3,022	3,912	6,933	2,934	4,010	6,944	3,106	4,540	7,646
Add: Purchase of Non Solar to Meet RPO Obligations	-	40	40	-	-	-	-	26	26

Particulars	EAST DISCOM								
	FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
Less: Sale of Surplus Power including Surplus Sale of RPO	-	246	246	-	1,040	1,040	-	675	675
Add: MPPMCL Cost	(35)	-	(35)	(107)	-	(107)	(127)	-	(127)
Net Power Purchase Cost	2,987	3,705	6,692	2,827	2,971	5,798	2,979	3,890	6,869

Table 40: Net Power Purchase Cost for Central Discom

Particulars	CENTRAL DISCOM								
	FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
Gross Power Purchase Cost	3,367	4,342	7,709	2,751	3,756	6,507	2,869	4,207	7,076
<i>Add: Purchase of Non Solar to Meet RPO Obligations</i>	-	44	44	-	-	-	-	24	24
Less: Sale of Surplus Power including Surplus Sale of RPO	-	272	272	-	987	987	-	617	617
Add: MPPMCL Cost	(39)	-	(39)	(100)	-	(100)	(118)	-	(118)
Net Power Purchase Cost	3,328	4,114	7,441	2,651	2,769	5,420	2,751	3,613	6,365

Table 41: Net Power Purchase Cost for West Discom

Particulars	WEST DISCOM								
	FY 2016-17 (Provisional)			FY 2017-18 (Re-Estimated)			FY 2018-19 (Projected)		
	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
Gross Power Purchase Cost	3,696	4,805	8,501	3,722	5,114	8,836	4,106	5,908	10,014
<i>Add: Purchase of Non Solar to Meet RPO Obligations</i>	-	46	46	-	-	-	-	30	30
Less: Sale of Surplus Power including Surplus Sale of RPO	-	288	288	-	1,305	1,305	-	774	774
Add: MPPMCL Cost	(43)	-	(43)	(137)	-	(137)	(154)	-	(154)
Net Power Purchase Cost	3,653	4,562	8,215	3,585	3,809	7,394	3,952	5,165	9,117

6.4 Estimation of Other Power Purchase Cost

6.4.1 Inter State Transmission Charges

6.4.1.1 The Inter-State transmission charges to be paid by MP consist of charges to be paid for transmission system of Western Region and Eastern Region. The Petitioners have considered Inter-Transmission Charges for FY 2016-17 as per provisional figures from power purchase statement and for FY 2017-18 to FY 2018-19 based on CERC Order (Determination of Point of Connection (PoC) rates and transmission losses for the period of October to December, 2017 in accordance with Regulation 17(2) of Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 and amendments thereto.) dated 31st October 2017.

6.4.1.2 The provisional Interstate transmission charges for FY 2016-17 amounts to Rs 1,411.48 Crores and for FY 2017-18 & FY 2018-19 is estimated to be Rs. 1,813.49 Crores and Rs. 2,236.80 Crores respectively as shown below:

Table 42: Inter State Transmission Charges (Rs Crores)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
East Discom	422.08	567.70	717.46
Central Discom	468.17	530.47	667.63
West Discom	521.23	715.32	851.72
MP State	1,411.48	1,813.49	2,236.80

6.4.1.3 The same is allocated to Discom's based on energy allocation from Central Generating Stations and availability at State Boundary.

6.4.2 Intra-State Transmission Charges including SLDC Charges and Cash Outflow for Terminal Benefits

6.4.2.1 The Petitioners have considered Intra-State Transmission Charges including SLDC Charges for FY 2017-18 to FY 2018-19 as per the Tariff Order of the Hon'ble Commission in Petition no 70/2016 and 69/2016 dated 26th April 2017 i.e. Rs. 2,501.16 Crores and Rs. 2,716.59 Crores respectively as per the methodology adopted by the Hon'ble Commission in its previous Tariff Order's. For FY 2016-17, Intra-State Transmission Charges including SLDC Charges has been considered as per provisional expenses incurred by the Discom's i.e. Rs 3,000.14 Crores.

6.4.2.2 As per the provisions of the regulations, **the liability towards pension and other Terminal Benefits of the Pensioners and Personnel of the Board and its Successor Entities shall comprise of cash outflow in each fiscal year** for making payment to all the Pensioners including Existing Pensioners subject to the provision of Regulation 3 (8)

As per the regulations, the **aforementioned terminal benefits cash outflow has three parts:**

- For employees who have retired up to 01.06.2005 for services rendered up to 01.06.2005
- For employees who will retire after 01.06.2005 for services rendered up to 01.06.2005
- For employees who will retire after 01.06.2005 for services rendered after 01.06.2005

6.4.2.3 In the Multi Year Transmission Tariff for the control period FY 2016-17 to FY 2018-19 based on the tariff application filed by Madhya Pradesh Power Transmission Company Limited (MPPTCL), Jabalpur under Section 62 and 86(1)(a) of the Electricity Act, 2003, Hon'ble Commission has stated as below:

“The Commission has considered the current terminal benefits and pension expenses of Rs 1047.09 Crore, Rs 1177.90 Crore and Rs 1282.38 Crore for FY 2016-17 to FY 2018-19 respectively in this order on provisional basis and on ‘pay as you go’ principle as claimed by MPPTCL in the subject petition subject to true-up in each year on availability of the actual figures”

Table 43: Intra State Transmission Charges including SLDC (Rs Crores)

Particulars	FY 2016-17 (Provisional)	FY 2017-18 (Re-Estimate)	FY 2018-19 (Projected)
O&M Expenses	407.66	446.58	495.49
Expenses towards payment of PPP Licensee	37.80	37.80	37.80
Depreciation	320.14	324.22	345.84
Interest & Finance charges	121.33	131.26	143.12
Interest on working capital	61.63	67.33	73.40
Return on Equity	340.19	364.33	388.46
MPERC Fees & Taxes	1.22	1.33	1.47
Less Non- tariff income	(19.00)	(20.00)	(21.00)
MPPTCL charges approved by MPERC (excluding terminal benefits)	1,270.97	1,352.85	1,464.58
Terminal Benefits	1,047.09	1,177.90	1,282.38
MPPTCL charges as approved in Petition No 02/2016 including AKVN	2,318.06	2,530.75	2,746.96
MPPTCL charges as per Provisional for FY 2016-17 and approved in Petition No 69/2016 & 70/2016 for FY 2017-18 & FY 2018-19 for 3 Discom's	2,281.50	2,491.57	2,707.00
MPPTCL Charges	2,991.90	2,491.57	2,707.00
SLDC Charges	8.23	9.59	9.59
Total Intra-State Transmission Charges allocated to Discom's including SLDC	3,000.14	2,501.16	2,716.59
East Discom	905.06	747.33	811.71
Central Discom	945.49	796.12	864.69
West Discom	1,149.59	957.70	1,040.18

The same is allocated to Discoms based on energy availability at State Boundary.

6.5 MPPMCL Cost

Table 44: MPPMCL Cost Details and Discom Wise Allocation

Particulars	FY 17	FY 18	FY 19
Purchase of Power from Other Sources	193	-2	-2
Wheeling Charges for Banking of Power	27	29	32
Depreciation & Amortization Expenses	4	6	9
Interest & Finance Charges	62	51	39
Repairs & Maintenance	2	2	3
Employee Costs	60	69	71
Administration & General Expenses	35	38	42
Other Expenses	3	4	4
Expenses	385	198	197
Revenue Other Income	502	542	596
(Profit)/Loss for the Period	-117	-344	-398
East Discom	-35	-107	-127
Central Discom	-39	-100	-118
West Discom	-43	-137	-154
Total	-117	-344	-398

6.6 Total Power Purchase Cost

Based on the various cost components discussed above, the tables below detail the total power purchase cost for MP state and for each of the Discom's:

Table 45: Total Power Purchase Cost- MP State

Power Purchase Cost – MP State					
Sr. no.	Particulars	FY-17	FY-18	FY-19	
A	Ex-bus Units Purchased (MU)	61,382	59,308	67,449	
B	Fixed Cost (Rs. Crs.)	10,084	9,407	10,081	
C	Variable Cost (Rs. Crs.)	12,381	9,548	12,668	
D	MPPMCL costs (Rs. Crs.)	(117)	(344)	(398)	
E = B+C+D	Total Power Purchase Cost - Ex Bus (Rs. Crs.)	22,349	18,612	22,351	
F= (E/A)*10	Rate of Power Purchase (Rs. / kWh)	3.64	3.14	3.31	
G	External Losses (MU)	1,775	1,489	1,508	
H	Inter State Transmission Cost (Rs. Crs.)	1,411	1,813	2,237	
I = (A - G)	Units Purchased at State Periphery (MU)	59,607	57,819	65,941	
J = (E + H)	Total Power Purchase Cost at State Boundary (Rs. Crs.)	23,760	20,425	24,588	
K=(J/I)*10	Rate of Power Purchase at State Boundary (Rs. / kWh)	3.99	3.53	3.73	
L	Transmission Loss (MU)	1,615	1,567	1,787	

Power Purchase Cost – MP State					
Sr. no.	Particulars	FY-17	FY-18	FY-19	
M	Intra State Transmission Cost - MPTransco including SLDC (Rs. Crs.)	3,000	2,501	2,717	
N = I-L	Units Purchased at Discom Boundary (MU)	57,992	56,252	64,154	
O = J+M	Total Power Purchase Cost at Discom Interface (Rs. Crs.)	26,760	22,926	27,304	
P=(O/N)*10	Rate of Power Purchase at Discom Boundary (Rs. / kWh)	4.61	4.08	4.26	
Power Purchase Cost – EAST DISCOM					
Sr. no.	Particulars	FY 17	FY 18	FY 19	
A	Ex-bus Units Purchased (MU)	18,343	18,419	21,481	
B	Fixed Cost (Rs. Crs.)	3,022	2,934	3,106	
C	Variable Cost (Rs. Crs.)	3,705	2,971	3,890	
D	MPPMCL costs (Rs. Crs.)	(35)	(107)	(127)	
E = B+C+D	Total Power Purchase Cost - Ex Bus (Rs. Crs.)	6,692	5,798	6,869	
F= (E/A)*10	Rate of Power Purchase (Rs. / kWh)	3.65	3.15	3.20	
G	External Losses (MU)	534	463	481	
H	Inter State Transmission Cost (Rs. Crs.)	422	565	716	
I = (A - G)	Units Purchased at State Periphery (MU)	17,809	17,956	21,000	
J = (E + H)	Total Power Purchase Cost at State Boundary (Rs. Crs.)	7,114	6,363	7,585	
K=(J/I)*10	Rate of Power Purchase at State Boundary (Rs. / kWh)	3.99	3.54	3.61	
L	Transmission Loss (MU)	483	487	569	
M	Intra State Transmission Cost – MP Transco including SLDC (Rs. Crs.)	905	747	812	
N = I-L	Units Purchased at Discom Boundary (MU)	17,327	17,469	20,431	
O = J+M	Total Power Purchase Cost at Discom Interface (Rs. Crs.)	8,019	7,111	8,397	
P=(O/N)*10	Rate of Power Purchase at Discom Boundary (Rs. / kWh)	4.63	4.07	4.11	
Power Purchase Cost – CENTRAL DISCOM					
Sr. no.	Particulars	FY 17	FY 18	FY 19	
A	Ex-bus Units Purchased (MU)	20,407	17,299	19,952	
B	Fixed Cost (Rs. Crs.)	3,367	2,751	2,869	
C	Variable Cost (Rs. Crs.)	4,114	2,769	3,613	
D	MPPMCL costs (Rs. Crs.)	(39)	(100)	(118)	
E = B+C+D	Total Power Purchase Cost - Ex Bus (Rs. Crs.)	7,441	5,420	6,365	
F= (E/A)*10	Rate of Power Purchase (Rs. / kWh)	3.65	3.13	3.19	
G	External Losses (MU)	594	434	446	
H	Inter State Transmission Cost (Rs. Crs.)	468	529	663	
I = (A - G)	Units Purchased at State Periphery (MU)	19,814	16,865	19,505	
J = (E + H)	Total Power Purchase Cost at State Boundary (Rs. Crs.)	7,910	5,948	7,028	
K=(J/I)*10	Rate of Power Purchase at State Boundary (Rs. / kWh)	3.99	3.53	3.60	
	-	-	-	-	

Power Purchase Cost – MP State					
Sr. no.	Particulars	FY-17	FY-18	FY-19	
L	Transmission Loss (MU)	537	457	529	
M	Intra State Transmission Cost - MPTransco including SLDC (Rs. Crs.)	945	796	865	
N = I-L	Units Purchased at Discom Boundary (MU)	19,277	16,408	18,977	
O = J+M	Total Power Purchase Cost at Discom Interface (Rs. Crs.)	8,855	6,744	7,892	
P=(O/N)*10	Rate of Power Purchase at Discom Boundary (Rs. / kWh)	4.59	4.11	4.16	
Power Purchase Cost – WEST DISCOM					
Sr. no.	Particulars	FY 17	FY 18	FY 19	
A	Ex-bus Units Purchased (MU)	22,632	23,590	26,016	
B	Fixed Cost (Rs. Crs.)	3,696	3,722	4,106	
C	Variable Cost (Rs. Crs.)	4,562	3,809	5,165	
D	MPPMCL costs (Rs. Crs.)	(43)	(137)	(154)	
E = B+C+D	Total Power Purchase Cost - Ex Bus (Rs. Crs.)	8,215	7,394	9,117	
F= (E/A)*10	Rate of Power Purchase (Rs. / kWh)	3.63	3.13	3.50	
G	External Losses (MU)	648	592	581	
H	Inter State Transmission Cost (Rs. Crs.)	521	719	858	
I = (A - G)	Units Purchased at State Periphery (MU)	21,984	22,998	25,436	
J = (E + H)	Total Power Purchase Cost at State Boundary (Rs. Crs.)	8,737	8,114	9,975	
K=(J/I)*10	Rate of Power Purchase at State Boundary (Rs. / kWh)	3.97	3.53	3.92	
L	Transmission Loss (MU)	596	623	689	
M	Intra State Transmission Cost – MP Transco including SLDC (Rs. Crs.)	1,150	958	1,040	
N = I-L	Units Purchased at Discom Boundary (MU)	21,388	22,374	24,746	
O = J+M	Total Power Purchase Cost at Discom Interface (Rs. Crs.)	9,886	9,071	11,015	
P=(O/N)*10	Rate of Power Purchase at Discom Boundary (Rs. / kWh)	4.62	4.05	4.45	

The Petitioners hereby request the Hon'ble Commission to approve power purchase cost as shown above.

6.7 Reason for Increase in Power Purchase Cost

Power Purchase Costs contribute more than 80% of total ARR of the MP State. Any increase in power purchase cost directly gets reflected in the consumer tariff. The following table provides the details of source wise Average Power Purchase Cost excluding surplus sale for FY 2016-17:

Table 46: Power Purchase Cost for FY 2016-17 (Provisional)

Power Purchase Cost for FY 2016-17				
Sr. No.	Particulars	Quantum (MUs)	Total Cost (Rs Crores)	Avg. Cost (Paisa/kWh)
1	Central Generating Stations	18,814	6,020	320
2	MP Genco & Hydel	16,140	7,081	439
3	JV & Other Hydels	6,464	2,099	325
4	DVC	1,857	911	491
5	IPPs	16,702	4,562	273
6	Renewables	4,074	2,469	606
7	PGCIL	64,052	1,411	22
8	MP Transco including SLDC	64,052	3,000	47
9	Total	64,052	27,555	430

As per MPERC Regulations – RG 38 of 2012, the pension liability of the employees retired comes as part of the MP Transco Cost. The amount as shown in the above table is excluding this pension liability.

With new generating stations being added up in near future, power purchase costs shall increase further. The Average Power Purchase Cost has increased by 66% over last five years from Paisa 260 per kWh in FY 2011-12 to Paisa 430 per kWh in FY 2016-17. The year wise average power purchase cost is given as per the table below:

Table 47: Power Purchase Cost Trend in last few FYs

Power Purchase Cost Trend				
Sr. No.	Particulars	Quantum (MUs)	Total Cost (Rs Crores)	Avg. Cost (Paisa/kWh)
1	FY 2011-12	44,030	11,442	260
2	FY 2012-13	49,037	14,693	300
3	FY 2013-14	53,714	18,500	344
4	FY 2014-15	57,977	19,365	334
5	FY 2015-16	64,932	23,510	362
6	FY 2016-17	64,052	27,555	430

The reasons for the increase in average power purchase cost are shown in brief below:

- Growth in demand as expected is not commensurate with energy generation added.
- Most of the PPAs are cost plus basis, the rise in cost of fuel/transportation, taxation etc. is pass through to the buyer;
- Due to high surplus, scheduling of costlier power plants for less no. of days, whereas their fixed cost had to be paid for the entire entitlement;
- Addition of renewable energy to meet RPO targets;

The hurdles in reduction of power purchase cost are shown in brief below:

Some of the uncontrollable reasons which have been restricting MPPMCL from reduction of power purchase costs are as listed below:

- **Payment of Fixed Cost in case of Back down of Surplus Capacity:** It needs to be highlighted that the payment of fixed charges is required to be made for such generators in accordance with the PPAs even if the capacity is backed down. In FY 2015-16, a quantum of 17,130 MUs had to be backed down, having a fixed cost of around Rs. 2,158 Crores which rose to 28,379 MU's in FY 2016-17, having a fixed cost of around Rs. 3,598 Crores.
- **Increase in Renewable Capacity:** Renewable Capacity has doubled in the current year compared to the previous year. The per unit cost of Renewable Energy is Paisa 606 per kWh which is much higher than the APPC, thus contributing towards high Power Purchase Cost.
- **Contingent Liability payment to Sasan Power Ltd. and other thermal generators:** As per CERC order bills amounting to Rs 523 Crores were received for Electricity Duty and EDC (Energy Development Cess), Claim of excise duty, clean energy cess and royalty on coal charges of prior period for supply of power from M/s Sasan power.
 - As per APTEL's Order dtd. 31.03.2016 an amount of Rs.430 Crores has been due on account of acceptance of COD as 31.03.2013 in place of 16.08.2013, though the matter is being heard by Hon'ble Supreme Court and only Rs 29 Crores has been paid out of the billed amount.
 - Increase in duty, cess, royalty etc. on coal has increased the cost of all thermal power stations.

A7: INCOME/EXPENSES OF MPPMCL

The details of the MPPMCL expenses that have been allocated to Discom's for the MYT years are related to the various roles, responsibilities and administrative functions of MPPMCL. These expenses are allocated to the three Discom's based on the total energy requirement at state boundary.

As per item No.8 (ii) of State Govt. Notification No.2260-F-3-24-2009-XIII dt. 19/03/2013, M.P. Power Management Company Limited has been supplying power to the Discom's at the tariff determined/approved by MPERC and its own expenses are being distributed on actual basis in proportion to the energy drawn by respective Discom's.

MPPMCL has been operating on "No Profit and No Loss" basis. Therefore, till now at the end of each financial year, all the credits received by MPPMCL which formed the part of income of MPPMCL (shown as "other income" in Form S-1) were being passed on to the Discom's in proportion to the energy drawl by respective Discom's as a part of their Power Purchase Costs. The major components of Annual Revenue Requirement of MPPMCL are detailed in this section.

The details of these expenses are given in the table below:

Table 48: MPPMCL Cost (Rs Crores)

Sr. No	Particulars	FY 2016-17 (Prov.)	FY 2017-18 (RE)	FY 2018-19 (Proj.)
1	Revenue	502	542	596
a	Revenue from Operations including Revenue Subsidy	162	-	-
b	Other Income	340	542	596
2	Expenses	385	198	197
a	Purchase of Power from Other Sources	193	(2)	(2)
b	Wheeling Charges for Banking of Power	27	29	32
c	Depreciation & Amortization Expenses	4	6	9
d	Interest & Finance Charges	62	51	39
e	Repairs & Maintenance	2	2	3
f	Employee Costs	60	69	71
g	Administration & General Expenses	35	38	42
h	Other Expenses	3	4	4
3	(Profit)/Loss for the Period	(117)	(344)	(398)

7.1 Income of MPPMCL

7.1.1 Revenue from operations (including Revenue Subsidy)

The revenue from sale of electricity is taken by Discom's in their ARR therefore it is not taken in the ARR of M.P. Power Management Company Ltd. However, Deemed sale to Rajasthan of Rs 150.89 Crores and sale of surplus power to others of Rs 10.93 Crores has been taken in FY 2016-17 as the credit for the same could not be passed to the Discom's in the monthly bills. However, from FY 2017-18 it is assumed that the same would be passed to the Discom's in the regular monthly bills and thus revenue from operations is NIL from FY 2017-18 onwards.

7.1.2 Other Income

The other income of MPPMCL during FY 2016-17 was Rs 340.20 Crores .The major components which form part of other income are mainly the rebate received from the long term power suppliers against timely payment made and credit on account of short term & medium term open access received from PGCIL. The breakup of other income of MPPMCL during FY 2016-17 is given in table below.

Table 49: Other Income (Rs Crores)

Sr. No	Particulars	2016-17	2017-18	2018-19
(i)	Credit on A/c of open access share from long term transmission service providers (PGCIL)	147.76	162.54	178.79
(ii)	Rebate received on a/c of timely/prompt payments	129.29	340.00	374.00
(iii)	Generation based incentive	26.90	29.59	32.55
(iv)	Interest received (Includes interest on commitment advances)	2.06	2.27	2.49
(v)	Common Expense recoverable	27.66	-	-
(vi)	Other Income	6.53	7.18	7.90
TOTAL		340.20	541.58	595.73

It may be seen from the above table, the other income for FY 2016-17 includes an amount of Rs. 27.66 Crs. which has been written back due to court's decision in favour of company and this is a one-time income only.

From Sept'2017 onwards the company has started availing maximum rebate on power purchase bills as a result of increase in cash credit facilities in 2017. As a result the rebate received on account of timely/prompt payments is expected to increase from 129.29 Crs. in FY 2016-17 to about Rs. 340 Crs. in FY 2017-18. Rest all the other components of other income during FY 2016-17 have been escalated by 10% to work out the other income of FY 2017-18. Further the other income for FY 2018-19 has been worked out by increasing the income of FY-18 by 10%.

7.2 Expenses of MPPMCL

7.2.1 In the Discom-wise ARR, the Discom's have considered power purchase cost station-wise and their own O&M Expenses, Depreciation, Interest Charges etc. as per the provisions of MPERC regulations. However, there are certain costs pertaining to power purchase (as detailed below) which could not be considered by the Discom's being not in their control/action. Such costs are therefore included in the power purchase costs of Discom's as MPPMCL specific costs and are taken into consideration in the ARR of MPPMCL, the details of which are given hereunder:-

7.2.2 Energy Purchase

For FY 2016-17 it includes:

- Bills of power purchase & transmission charges of Rs. 201.52 Crores
- Liability for banking of energy of Rs (8.52) Crores
- Other Cost of Rs 0.04 Crores

7.2.2.1 Bills of Power Purchase:

FY 2016-17 includes bills of generators listed above, which could not be passed to Discoms through monthly bills. From FY 2017-18 onwards all the bills are likely to be passed through the monthly bills to the Discoms, hence will be considered in ARR of Discoms.

7.2.2.2 Liability for banking:

Beginning from the year 2007-08, MPPMCL has started the practice of exchange/banking of energy with third parties outside the State of Madhya Pradesh whereby during availability of surplus power in the state, energy is supplied to the parties facing shortage of power and in case of power deficit in the state the banked energy is taken by the Company. The Banking and Exchange transactions do not involve any payment or receipts in terms of money for the power transacted except the charges related to open access and trading margin payable to the party through which such transaction is facilitated.

7.2.2.3 Liability for Banking of energy of Rs. (8.52) Crores:

The Company has a liability to return 461.91 MUs of banked energy, received during 2016-17, which translates into a financial liability of about Rs 178.03 Crores considering cost per unit of Rs. 3.85 i.e. the average power purchase rate for 2016-17 calculated on the basis of total power purchase cost except banking for FY 2016-17. During FY 2016-17, the Company had returned 517.94 MUs of banked power received in 2015-16. This was translated into a financial liability of Rs. 186.55 Crores @ Rs 3.60 per unit which was the average cost of power purchase for the year 2015-16. Therefore, a net banking liability of Rs (8.52) Crores is booked in FY 2016-17. For FY 2016-17, the liability for banking of energy is calculated as follows:

Table 50: Other Income

Particulars	Rs Crores
Mus to be returned at the end of FY 2016-17	461.96
Mus to be returned at the end of FY 2017-18 (decreasing the units of FY 2016-17 by 10%)	415.76
Average purchase cost for F.Y. 2016-17	3.85
Average purchase cost for F.Y. 2017-18 (Increasing the rate of FY 2016-17 by 10%)	4.24
Total amount of Banking Liability for FY 2017-18	176.08
Credit for 461.96 MUs billed to Discom's in 2016-17 @ 3.85 Rs/unit	178.03
Net liability to be passed to Discom's for FY 2017-18	-1.95
For FY 18-19 (Decreasing cost for FY 2017-18 by 10%)	-2.15

7.2.2.4 Other Power Purchase Cost

From FY 2017-18 and onwards is taken by increasing the expenses of FY 2016-17 by 10%.

7.2.3 Wheeling Charges for Banking of Power:

It includes Open Access Charges for banking of power of Rs 26.73 Crores. The Wheeling Charges for FY 2017-18 and onwards is taken by increasing the expenses of FY 2016-17 by 10% per annum.

7.2.4 Intra-State Transmission (MP Transco Charges)

These charges are not included in the statement as these are in the ARR of the Discom's.

7.2.5 Power procurement cost:

Apart from the direct bill of power purchase as per REA/SEA and other heads under energy purchase, some other expenses like open access charges etc. on banking and short term power purchase & sale have been included under this head.

The demand supply gap on day to day basis is managed through short term power procurement and in case of surplus energy, the same is disposed off. Therefore, short term sale of power and short term purchase of power are important activities undertaken to meet the power demand of the State. Similarly, MPPMCL makes arrangements for energy banking with various utilities throughout the year to meet the uneven demand of power in the State during monsoon season and rabi period. Energy banking is a barter system, wherein units of energy are exchanged without any financial transaction between the partners in banking arrangement, although some operational expenses like trading margin, open access charges, RLDC/SLDC permission charges etc. are incurred. The charges towards "banking of energy" reflect the notional cost of the net liability of energy to be returned in the subsequent year and it is based on average power purchase cost of the financial year concerned.

For all such short time arrangements for arranging power and disposing off power, the cost of "open access charges" has also to be paid up to the delivery point.

All the above mentioned costs are included in the item 5 under the head "purchase of power from other sources and Inter State Transmission charges" in Form S-1 submitted herewith in respect of MPPMCL which contains relevant explanatory notes in respect of all the items shown therein.

7.2.6 Depreciation:

Depreciation is calculated as under:

Table 51: Depreciation

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Fixed assets			
(i) Tangible assets			
Gross Block	89.99	102.65	104.65
Depreciation*	3.26	4.26	5.26
(ii) Intangible assets			
Gross Block	2.15	22.05	22.05
Depreciation**	0.32	1.81	3.31
Total Depreciation (i + ii)	3.58	6.07	8.56

*In case of tangible assets, there is assumed to be an addition of Rs. 10.66 Crores on account of ERP Hardware in FY 2017-18. This addition is assumed to be in second half of FY 2017-18. Apart from this, an addition of Rs. 2 Crores depreciable @ 10% approx. is assumed for FY 2017-18 and onwards.

**In case of intangible assets, there is an addition of Rs. 19.90 Crs. on account of ERP development in FY 2017-18 in the second half of the year. For FY 2018-19, no addition is assumed

7.2.7 Interest and Finance charges for power procurement:

As per the existing power purchase agreements, facility of Letter of Credit is to be provided to power suppliers. The cost towards extending this facility of LC and other bank charges are covered under item "Interest & finance charges" in Form S-1.

Further, interest & Finance charges also include the financing cost towards instalment facility in case of power purchase bills, interest due to tariff revision, Bank charges, Guarantee Charges, commitment charges, Stamp duty, processing charges etc. FY 2016-17 these amount to Rs. 61.67 Crores.

Interest paid to NHDC in FY 2016-17 is Rs. 45.14 Crores. The total interest payable to NHDC as per the financial arrangement for FY 2017-18 and onwards is as below:-

- FY 2017-18 Rs. 32.72 Crores
- FY 2018-19 Rs. 18.97 Crores

The other interest and finance charges (other than interest to NHDC) for FY 2016-17 is Rs. 16.53 Crores (i.e. Rs. 61.67 Crores - Rs. 45.14 Crores). For FY 2017-18 and

onwards the interest and finance charges (other than interest to NHDC) are taken by increasing the expenses of FY 2016-17 by 10% p.a.

7.2.8 Repairs and Maintenance:

For FY 2016-17 Repairs and Maintenance expenses consist of expense of Rs. 2.08 Crores. The Repairs and Maintenance expenses for FY 2017-18 and onwards is taken by increasing the expenses of 2016-17 by 10% p.a.

7.2.9 Employee expenses:

The employee costs for FY 2016-17 is Rs. 60.05 Crores. For FY 2017-18, employee expenses are taken by increasing the expenses of FY 2016-17 by 15% due to wage revision under seventh pay commission. For FY2018-19 onwards the employee expenses are taken by increasing the expenses by 3%.

7.2.10 Administration and General Expenses:

It includes expenses on sale of power i.e. in case of short term sale of energy by MPPMCL to third parties, MPPMCL incurs:

- Open Access Charges to the point of delivery as per agreement.
- Prompt payment rebate to the purchasers as per PPA.

The total Administration and General Expenses for FY 2016-17 amounts to Rs 34.55 Crores. The administration expenses for FY 2017-18 and onwards is taken by increasing the expenses of FY 2016-17 by 10% p.a.

The Petitioner hereby prays to the Hon'ble Commission to approve MPPMCL cost as shown above.

A8: O&M EXPENSES - DISCOMS

Based on the provisions of the Tariff Regulation, 2015 the O&M expenses are as below:

8.1 Employee Costs

As per the provision of the Tariff Regulation, 2015 Clause 34.6 (b) (i), employee costs has been calculated as below:

Table 52: Employee Costs (Rs Crores)

Particular	East Discom			Central Discom			West Discom		
	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19
Employees Expenses excluding arrears, DA, terminal benefits and incentives	385	396	1,049	359	370	979	403	415	1,100
DA	505	550	94	471	514	88	529	577	99
Leave encashment	(0)	(0)	(0)	51	55	59	39	41	44
NPS Employer contribution	0	0	0	5	5	2	8	9	10
PF/CFA/GTIS/Annuity	75	80	85	6	6	7	7	7	8
Incentives	-	-	-	0	0	0	5	5	6
7th Pay DA Arrear	-	-	35	-	-	32	-	-	34
Expense Capitalized	31	-	-	(30)	-	-	27		
Total	934	1,026	1,263	922	951	1,167	964	1,055	1,301

Major assumptions considered for calculation of Employee Costs for three Discom's are:

- (a)** For the calculation of Employees Expenses excluding arrears, DA, terminal benefits and incentives, Basic salary notified in MPERC regulation has been multiplied to 2.57 for considering impact of 7th Pay for the year FY 19.

For computation of Dearness allowance, % increase has been considered as per 6th Pay for FY 17 & FY 18 and for FY 19 as per 7th Pay notification by MP Government for quarterly or half yearly for all three Discom's (every year in January and July). Based on this, the DA as a percentage of Basic Salary (approved by MPERC) is shown in the table below:

Table 53: Dearness Allowance Considered (%)

Particulars (As per 6 th Pay)	FY '17	FY '18	FY '19
DA as percentage of Basic for first quarter - Apr to June	125%	136%	
DA as percentage of Basic for 2nd and 3rd quarter - July to Dec	132%	139%	
DA as percentage of Basic for 4th quarter - Jan to March	136%	142%	
Particulars (As per 7 th Pay)	FY '17	FY '18	FY '19
DA as percentage of Basic for first quarter - Apr to June		4%	7%
DA as percentage of Basic for 2nd and 3rd quarter - July to Dec	2%	5%	9%
DA as percentage of Basic for 4th quarter - Jan to March	4%	7%	11%

Discom wise DA Arrears are considered here after impact of 7th Pay. For the arrears calculation for the impact on 7th Pay, all three Discoms has considered arrears totalling to Rs 494 Crores. The same is to be passed on to Discoms employees in 5 FYs starting from FY 19. As a result, the impact of arrears in employees would be Rs 99 Crores in each FY.

- (b) Incentive/ Bonus to be paid to the employees have been considered as per the previous trend in the Audited Accounts.
- (c) Leave Encashment and PF/CFA/GTIS/NPS:
- It is pertinent to mention that MPPTCL is providing fund to Discoms, only to meet out Terminal Benefits liability of Gratuity, Pension and Commutation of pension.
 - Other than these components, Discoms make payment of Leave Encashment and PF/CFA/GTIS/NPS. Hence, expenses incurred on account of Leave Encashment and PF/CFA/GTIS/NPS have been claimed separately in addition to the terminal benefits costs claimed as part of Intra-State Transmission Charges in the total Power Purchase Costs of Discoms.
- (d) The employee cost arising due to the eligibility of 3rd higher pay scale under assured career progression scheme cannot be ascertained at this stage. Hence expenditure on this account is not being considered in this petition. However, the same shall be accounted for in true-up petition.

8.2 Administrative & General Expenses

As per the provision of Tariff Regulation, 2015 34.6 (b) (ii), A&G expenses have been calculated as below:-

Table 54: Administrative & General Expenses (Rs Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19
A&G Expenses excluding MPERC fees and Taxes	168	179	192	96	103	110	129	138	147
Taxes payable to Government	4	4	4	-	-	-	14	15	16
MPERC Fees	0.52	0.36	0.41	0.58	0.33	0.39	0.64	0.45	0.50
Total	172	184	197	97	103	110	144	154	164

Major assumption considered for calculation of above A&G Expenses:

- a. As per the provision of the para 34.1 of the regulation, norms of A&G expenses notified in the regulation excludes Fees paid to the MPERC and Taxes payable to the government.
- b. In view of above, Fees paid to the MPERC and Taxes payable to the government are considered over & above the cost notified in the regulation.

8.3 Repair and Maintenance Expenses

As per the provision of Tariff Regulation, 2015 34.6 (a), R&M expenses have been calculated as below:

Table 55: Repair & Maintenance Expenses (Rs Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19
Opening GFA of FY year	4,143	4,856	5,594	5,915	6,634	7,372	5,494	5,912	6,374
R&M Expenses as 2.3% of GFA	95	112	129	136	153	170	126	136	147

8.4 Gist of O&M Expenses

The Gist of O&M expenses as per the provisions of the Tariff Regulation, 2015 is summarized as below:

Table 56: Gist of O&M Expenses (Rs Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19
Employee Cost (including arrears, DA and others)	934	1,026	1,263	922	951	1,167	964	1,055	1,301
A&G Expenses	172	184	197	97	103	110	144	154	164
R&M expenses	95	112	129	136	153	170	126	136	147
Total	1,201	1,322	1,589	1,154	1,207	1,447	1,234	1,345	1,611

The Petitioner hereby requests the Hon'ble Commission to approve O&M expenses as shown above.

A9: INVESTMENT PLAN – DISCOMS

9.1 Capital Investment Plan

For strengthening of the system and reduction of Distribution losses, all the three Discom's of the State are undertaking various projects in the forthcoming years. The focus is on creation of new 33/11 kV S/s, bifurcation of overloaded 33 kV feeders, feeder bifurcation of agricultural feeder at 11 kV level, Addl. / Aug of PTRs, Installation of DTRs, conversion of bare LT line into AB Cables and replacement of service lines etc.

The overall distribution loss of the system is a mix of Technical and Commercial losses. Technical losses are mainly due comparatively inadequate infrastructure as per the system demand which needs strengthening, renovation and up-gradation of the capacity of lines, Sub-stations and associated infrastructures. Whereas, the commercial losses are mainly due to commercial parameters like theft & pilferage of energy, presence of prominent nos. of stop & defective meters in the system, inadequate meter reading system etc. which can also be reduced to a large extent by re-engineering of the system which requires capital investment and directed efforts. Discom's are working on both the issues regularly, which have resulted in reduction in Distribution losses considerably over the past years but these reductions are not up to the normative loss levels which are more stringent at this level.

Scheme wise Capital Expenditure Plan of Discom's for FY'17 to FY'19 is given in table below:

Table 57: Capital expenditure Plan (Rs. Crores)

Name of Scheme	FY '17	FY '18	FY '19
EAST DISCOM			
ST&D (GoMP)	92	155	225
Feeder Separation Scheme	138	190	250
New Agricultural Pumps	0	0	0
Renovation of 33/11kV SS & DTR Metering	0	20	20
RAPDRP	0	0	20
RGGVY	92	125	220
DDUGVY	138	190	180
DDUGVY Phase II	0	0	0
IPDS	129	178	252
Coversion of TC to PC	332	422	568
Procurement of DTR against failure	0	0	0
Procurement of smart meters	0	0	0
Balance Urban Households Connections (147509 no) not covered elsewhere	0	0	0
Total	921	1,280	1,735
CENTRAL DISCOM			
SYSTEM STRENGTHING	-	-	-
FEEDER SEPARATION	99	209	53
NEW PUMP CONNECTION	99	288	312

Name of Scheme	FY '17	FY '18	FY '19
ADB-II	-	5	-
ADB-III	-	-	-
RGGVY	199	182	213
RAPDRP PART A	-	-	-
RAPDRP PART B	-	4	-
HUDCO	-	-	-
IPDS	149	184	67
DDUGJY	199	463	175
ST&D (GoMP)	50	143	138
Renovation of 33/11kv Sub-Stations & DTR metering (NEW SCHEME) TO BE POSED AS EAP)	99	99	109
Procurement of Distribution Transformers against Failure	50	66	86
Procurement of Smart Meters	50	21	23
Total	995	1,666	1,176
WEST DISCOM			
ADB	61	70	30
TSP and SCSP	77	79	122
GOMP Scheme	92	105	162
FSP - ADB Loan	-	-	-
Grant Scheme(Govt. Contribution)	-	-	-
New Agricultural pumps	-	-	-
Mukyamantri Sthai Krishi pump Connection Scheme	268	1,031	833
Conversion of Temporary Pump Connections to Permanent Pump Connections (Govt. Contribution)	-	-	-
Transformore failuer reduction Schenme	23	36	53
Procurement of Smart Meters	15	28	61
RAPDRP (GOI)	-	-	-
JBIC	-	-	-
Others (New EAP)	-	-	-
RGGVY	77	161	117
IPDS	100	123	175
DDUGVY	54	189	277
Central Govt. Assistance (FS)	-	-	-
REC(Departmental Works)	-	-	-
Equity for Nepa Ltd, Nepanagar	-	-	-
Total	766	1,822	1,830

9.2 Scheme Wise Capitalization

Following is the proposed scheme wise Capitalization Plan of Discom's:

Table 58: Scheme Wise Capitalization (Rs. Crores)

Name of Scheme	East Discom		
	FY '17	FY '18	FY '19
ST&D (GoMP)	71	85	88
Feeder Seperation Scheme	128	124	129
New Agricultural Pumps	-	-	-
Renovation of 33/11kV SS & DTR Metering	36	27	28
RAPDRP	21	16	16
RGGVY	86	101	105

Name of Scheme	East Discom		
	FY '17	FY '18	FY '19
DDUGVY	128	128	133
DDUGVY Phase II	-	-	-
IPDS	100	124	129
Coversion of TC to PC	143	132	137
Procurement of DTR against failure	-	-	-
Procurement of smart meters	-	-	-
Balance Urban Households Connections (147509 no) not covered elsewhere	-	-	-
Total	713	738	764
Name of Scheme	Central Discom		
	FY '17	FY '18	FY '19
SYSTEM STRENGTHING	108	111	114
FEEDER SEPERATION	72	74	76
NEW PUMP CONNECTION & MMSKPY	108	111	114
ADB-II	-	-	-
ADB-III	-	-	-
RGGVY	86	88	91
RAPDRP PART A	-	-	-
RAPDRP PART B	-	-	-
HUDCO	-	-	-
IPDS	72	74	76
DDUGJY	144	147	151
Others	-	-	-
ST&D (GoMP)	65	66	68
Renovation of 33/11kv Sub-Stations & DTR metering (NEW SCHEME) TO BE POSED AS EAP)	29	29	30
Procurement of Distribution Transformers against Failure	29	29	30
Procurement of Smart Meters	7	7	8
Total	719	737	757
Name of Scheme	West Discom		
	FY '17	FY '18	FY '19
ADB	13	14	14
TSP and SCSP	18	18	19
GOMP (Equity)	22	23	24
FSP - ADB Loan	-	-	-
Grant Scheme(Govt. Contribution)	-	-	-
New Agricultural pumps	-	-	-
Mukyamantri Sthai Krishi pump Connection Scheme (Govt. Contribution)	233	240	245
Conversion of Temporary Pump Connections to Permanent Pump Connections (Govt. Contribution)	-	-	-
Transformore failuer reduction Schenme	4	5	5
Procurement of Smart Meters	9	9	9
RAPDRP (GOI)	-	-	-
JBIC	-	-	-
Others (New EAP)	-	-	-

Name of Scheme	East Discom		
	FY '17	FY '18	FY '19
RGGVY	40	42	42
IPDS	36	37	38
DDUGVY	72	74	76
Central Govt. Assistance (FS)	-	-	-
REC(Departmental Works)	-	-	-
Equity for Nepa Ltd, Napanagar	-	-	-
Capitalization of opening CWIP	-	-	-
Total	449	462	472

9.3 Capital Work in Progress

Following table shows the year wise bifurcation of CWIP of the three Discom's.

Table 59: Discom Wise Capital Work in Progress (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19
Opening Balance of CWIP	1,249	1,457	1,999	322	597	1,525	2,035	2,353	3,713
Fresh Investment during the year	921	1,280	1,735	995	1,666	1,176	766	1,822	1,830
Investment capitalised	713	738	764	719	737	757	449	462	472
Closing Balance of CWIP	1,457	1,999	2,970	597	1,525	1,944	2,353	3,713	5,072

9.4 Fixed Assets Addition

The year wise fixed assets addition is as follows:

Table 60: Fixed Assets Addition (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19
Land & land rights	0	0	0	0	0	0	0	0	0
Buildings	1	1	1	2	2	2	1	1	2
Hydraulic works	0	0	0	0	0	0	0	0	0
Other civil works	1	1	1	0	0	0	1	1	1
Plant & machinery	254	267	275	128	134	137	146	157	161
Lines, cables, networks	387	398	414	264	269	282	169	173	176
Vehicles	2	2	2	0	0	0	1	1	1
Furniture & fixtures	0	0	0	0	0	0	1	1	1
Office equipments	68	69	71	14	14	14	7	7	7

Particulars	East Discom			Central Discom			West Discom		
	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19
RGGVY	0	0	0	262	267	270	112	111	113
Intangible Assets							9	9	10
Spervision assets				32	33	33			
Capital Stores & Spares				18	18	18			
Total	713	738	764	719	737	757	449	462	472

The Petitioner hereby requests the Hon'ble Commission to approve Capital Expenditure and Fixed Assets Addition as shown above.

A10: OTHER COSTS/INCOME - DISCOMS

10.1 Depreciation

As per Tariff Regulation, 2015 Clause 32, Depreciation needs to be calculated on value base of the capital cost as admitted by the Commission. The salvage value of the assets needs to be considered as 10% of Capital Cost and Depreciation shall be allowed up to maximum of 90% of the Capital Cost of the Asset.

According to the applicable norms, the Petitioner have developed detailed depreciation model based on rates specified by the Hon'ble Commission in Annexure-II of the Tariff Regulation, 2015.

The depreciation during the FY as worked out for FY 2016-17 to FY 2018-19 is shown below:

Table 61: Discom Wise Depreciation- As per Regulation (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19
Land under Lease	0	0	0	0	0	0	0	0	0
Building	2	2	2	2	2	2	3	3	3
Hydraulic Works	0	0	0	0	0	0	0	0	0
Other Civil Works	0	0	0	95	48	72	0	0	0
Plant & Machinery	139	98	99	0	0	0	78	94	99
Line Cable Networks etc.	135	193	197	118	120	126	92	105	110
Vehicles	0	0	0	0	0	0	0	0	0
Furniture & fixtures	0	0	0	0	0	0	0	0	0
Office Equipments	14	5	5	8	8	8	7	3	3
RGGVY	0	0	0	20	19	19	44	30	30
Intangible Assets							5	3	3
Supervision assets				12	12	12			
Capital Stores & Spares				14	14	14	13	0	0
Total	291	298	303	271	223	254	242	238	247

10.2 Interest and Finance Charges

10.2.1 Interest on Project Loans

As per Tariff Regulation, 2015 Clause 31 provides the method of calculation of interest and finance charges on loan capital. The repayment of loan for each FY should be equal to depreciation as allowed for the respective FY. The interest rate shall be the weighted average rate of interest rate as calculated on the basis of actual loan portfolio at the beginning of the each FY applicable to the project.

The same methodology as adopted by the Hon'ble Commission for calculating Interest and Finance charges on project loan in Tariff Order FY 2017-18 has been adopted for projecting the interest and finance charges on project loan. The details are elaborated in following table:

Table 62: East Discom Interest on Project Loan - As per Regulation (Rs. Crores)

Particulars	MYT 2016-17 to 2018-19		
	2016-17	2017-18	2018-19
FY 14			
Debt identified with GFA as on 1st April 2013 (as per True Up Order for FY 2012-13)	1,052	1,052	1,052
70% of addition to net GFA considered as funded through Loan net of consumer contribution	555	555	555
Debt repayment (Equal to depreciation allowed in the Tariff Order for FY 2013-14)	157	157	157
Total debt associated with GFA as on 31st March 2014	1,450	1,450	1,450
FY 15			
Debt identified with GFA as on 1st April 2014	1,450	1,450	1,450
70% of addition to net GFA considered as funded through Loan net of consumer contribution	397	397	397
Debt repayment (Equal to depreciation)	204	204	204
Total debt associated with GFA as on 31st March 2015	1,643	1,643	1,643
FY 16			
Debt identified with GFA as on 1st April 2015	1,643	1,643	1,643
70% of addition to net GFA considered as funded through Loan net of consumer contribution	62	62	62
Debt repayment (Equal to depreciation)	265	265	265
Total debt associated with GFA as on 31st March 2016	1,440	1,440	1,440
FY 17			
Debt identified with GFA as on 1st April 2016	1,440	1,440	1,440
70% of addition to net GFA considered as funded through Loan net of consumer contribution	332	332	332
Debt repayment (Equal to depreciation)	291	291	291
Total debt associated with GFA as on 31st March 2017	1,481	1,481	1,481
FY 18			
Debt identified with GFA as on 1st April 2017		1,481	1,481
70% of addition to net GFA considered as funded through Loan net of consumer contribution		411	411
Debt repayment (Equal to depreciation)		298	298
Total debt associated with GFA as on 31st March 2018		1,594	1,594
FY 19			-
Debt identified with GFA as on 1st April 2018			1,594
70% of addition to net GFA considered as funded through Loan net of consumer contribution			424
Debt repayment (Equal to depreciation)			303

Particulars	MYT 2016-17 to 2018-19		
	2016-17	2017-18	2018-19
Total debt associated with GFA as on 31st March 2019			1,714
Average of Loan Balance	1,460	1,537	1,654
Weighted average rate of interest (%) (as per Interest on Project Loans)	8%	7%	7%
A. Interest and Finance charges on Project Loans	118	103	108
B. Cost of Raising finance	15	17	18
Total	133	119	126

Table 63: Central Discom Interest on Project Loan - As per Regulation (Rs. Crores)

Particulars	MYT 2016-17 to 2018-19		
	2016-17	2017-18	2018-19
In Rs Crores			
1. Addition to GFA during the year	719	737	757
2. Consumer contribution during the year	31	17	24
3. Net addition to GFA during the year (1-2)	688	720	733
4. 30% of addition to net GFA considered as funded through equity(4=3*30%)	206	216	220
5. Balance addition to net GFA during the year funded through debt(5=3-4)	482	504	513
6. Debt Repayment due during the year (equal to the depreciation claim)	271	223	254
7. Debt associated with GFA as per tariff order FY 14-15 (Rs. 1634.34 crore as on 31st March 2014 +addition in GFA funded through loan - debt repayment)and for subsequent years projected as per method adopted in tariff order of FY 13-14	1,919	2,200	2,460
8. Weighted average rate of interest % on all loans	11%	7%	7%
9.Total Interest on project loans(9=7*8)	210	164	180
10. Finance Charges	18	20	22
Total	228	183	202

Table 64: West Discom Interest on Project Loan - As per Regulation (Rs. Crores)

Particulars	MYT 2016-17 to 2018-19		
	2016-17	2017-18	2018-19
FY 15			
Debt identified with GFA as on 1st April 2014	685	685	685
70% of addition to net GFA considered as funded through Loan net of consumer contribution	222	222	222
Debt repayment (Equal to depreciation)	191	191	191
Total debt associated with GFA as on 31st March 2015	716	716	716
FY 16	-	-	-
Debt identified with GFA as on 1st April 2015	716	716	716
70% of addition to net GFA considered as funded through Loan net of consumer contribution	103	103	103

Particulars	MYT 2016-17 to 2018-19		
	2016-17	2017-18	2018-19
Debt repayment (Equal to depreciation)	220	220	220
Total debt associated with GFA as on 31st March 2016	599	599	599
FY 17	-	-	-
Debt identified with GFA as on 1st April 2016	599	599	599
70% of addition to net GFA considered as funded through Loan net of consumer contribution	240	240	240
Debt repayment (Equal to depreciation)	243	243	243
Total debt associated with GFA as on 31st March 2017	596	596	596
FY 18	-	-	-
Debt identified with GFA as on 1st April 2017	-	596	596
70% of addition to net GFA considered as funded through Loan net of consumer contribution	-	150	150
Debt repayment (Equal to depreciation)	-	238	238
Total debt associated with GFA as on 31st March 2018	-	509	509
FY 19	-	-	-
Debt identified with GFA as on 1st April 2018	-	-	509
70% of addition to net GFA considered as funded through Loan net of consumer contribution	-	-	191
Debt repayment (Equal to depreciation)	-	-	247
Total debt associated with GFA as on 31st March 2019	-	-	452
Average of Loan Balance	598	552	480
Weighted average rate of interest (%) (as per Interest on Project Loans)	12%	6%	7%
Interest and Finance charges on Project Loans	69	36	33
Cost of Raising finance	8	9	10
Total	78	44	43

10.2.2 Interest on Working Capital

As per Tariff Regulation, 2015 Clause 36 provides the method of calculation of interest on working capital, wherein the total Working Capital shall consist of expenses towards working capital for the supply activity and wheeling activity. The parameters considered for computation of working capital for wheeling and supply activity have also been specified. Rate of interest on working capital shall be equal to the State Bank Advance Rate as on 01st April of the relevant year.

Table 65: East Discom Interest on Working Capital- As per Regulation (Rs. Crores)

Sl. No.	Particulars	MYT 2016-17 to 2018-19		
		FY17	FY18	FY19
I	WHEELING			
A	1/6th of annual requirement of inventory for 1% GFA of previous year	7	8	9

Sl. No.	Particulars	MYT 2016-17 to 2018-19		
		FY17	FY18	FY19
B	O&M expenses			
	R&M expenses	95	112	129
	A&G expenses	172	184	197
	Employee expenses	934	1026	1263
B(i)	Total of O&M expenses	1201	1322	1589
B(ii)	1/12th of total	100	110	132
C	Receivables			
C(i)	Annual Revenue from wheeling charges**	0	0	0
C(ii)	Receivables equivalent to 2 months average billing of wheeling charges	0	0	0
D	Total Working capital {A + B(ii) + C(ii)}	107	118	141
E	Rate of Interest *	14.05%	13.85%	13.75%
F	Interest on Working capital (Wheeling)	15	16	13
II	RETAIL SUPPLY			
A	1/6th of annual requirement of inventory for previous year	0	0	0
B	Receivables			
B(i)	Annual Revenue from Tariff and charges**	9,908	9,142	10,765
B(ii)	Receivables equivalent to 2 months average billing	1,651	1,524	1,794
C	Power Purchase expenses	6,727	5,905	6,996
C(i)	1/12th of power purchase expenses	561	492	583
D	Consumer Security Deposit	646	508	532
E	Total Working capital {A + B(ii) - C(i) - D}	445	524	679
F	Rate of Interest *	14.05%	13.85%	13.75%
G	Interest on Working capital (Retail Supply)	63	73	93
	Total Interest on Working Capital (Wheeling + Retail Supply)	78	89	107

Table 66: Central Discom Interest on Working Capital- As per Regulation (Rs. Crores)

Sl. No.	Particulars	MYT 2016-17 to 2018-19		
		FY17	FY18	FY19
I	WHEELING			
A	1/6th of annual requirement of inventory for 1% GFA of previous year	7	8	9
B	O&M expenses			
	R&M expenses	136	153	170
	A&G expenses	97	103	110
	Employee expenses (incl. terminal benefits)	922	951	1,167
B(i)	Total of O&M expenses	1,154	1,207	1,447
B(ii)	1/12th of total	96	101	121

Sl. No.	Particulars	MYT 2016-17 to 2018-19		
		FY17	FY18	FY19
C	Receivables			
C (i)	Annual Revenue from wheeling charges**	4	0	1
C(ii)	Receivables equivalent to 2 months average billing of wheeling charges	1	0	0
D	Total Working capital {A + B(ii) + C(ii)}	104	108	130
E	Rate of Interest *	14.05%	13.85%	13.75%
F	Interest on Working capital (Wheeling)	15	15	18
II	Retail Supply			
A	1/6th of annual requirement of inventory for previous year	2	2	2
B	Receivables			
B(i)	Annual Revenue from Tariff and charges**	10,743	8,605	10,098
B(ii)	Receivables equivalent to 2 months average billing	1,791	1,434	1,683
C	Power Purchase expenses	7,480	5,520	6,483
C(i)	1/12th of power purchase expenses	623	460	540
D	Consumer Security Deposit	774	850	926
E	Total Working capital {A + B(ii) - C(i) - D}	395	126	219
F	Rate of Interest *	14.05%	13.85%	13.75%
G	Interest on Working capital (Retail Supply)	56	17	30
III	Total Interest on Working Capital (Wheeling + Retail Supply)	70	32	48

Table 67: West Discom Interest on Working Capital- As per Regulation (Rs. Crores)

Sl. No.	Particulars	MYT 2016-17 to 2018-19		
		FY17	FY18	FY19
I	Wheeling			
A	1/6th of annual requirement of inventory for previous year	7	8	8
B	O&M expenses	-	-	-
	R&M expenses	126	136	147
	A&G expenses	121	154	164
	Employee expenses	964	1,055	1,301
B(i)	Total of O&M expenses	1,211	1,345	1,611
B(ii)	1/12th of total	101	112	134
C	Receivables	-	-	-
C(i)	Annual Revenue from wheeling charges**	3	1	1
C(ii)	Receivables equivalent to 2 months average billing of wheeling charges	1	0	0
D	Total Working capital {A + B(ii) + C(ii)}	109	120	143
E	Rate of Interest *	14.05%	13.85%	13.75%
F	Interest on Working capital (Wheeling)	15	17	20
II	Retail Supply			

Sl. No.	Particulars	MYT 2016-17 to 2018-19		
		FY17	FY18	FY19
I	Wheeling			
A	1/6th of annual requirement of inventory for previous year	2	2	2
B	Receivables			
B(i)	Annual Revenue from Tariff and charges**	11,711	10,971	13,229
B(ii)	Receivables equivalent to 2 months average billing	1,952	1,829	2,205
C	Power Purchase expenses	8,259	7,531	9,270
C(i)	1/12th of power purchase expenses	688	628	773
D	Consumer Security Deposit	915	1,016	1,117
	Net Consumer Security Deposit	915	1,016	1,117
E	Total Working capital {A + B(ii) – C(i) – D}	351	187	318
F	Rate of Interest *	14.05%	13.85%	13.75%
G	Interest on Working capital (Retail Supply)	49	26	44
	Summary			
1	For wheeling activity	15	17	20
2	For Retail Sale activity	49	26	44
III	Total Interest on working Capital	65	43	63

10.2.3 Interest on Consumer Security Deposit

As per Tariff Regulation, 2015 Interest on consumer security deposit has to be paid to the consumers according to the Hon'ble Commission's regulation for security deposit. The Petitioner has computed the interest on consumer security deposit as per the norms of the Tariff Regulations at RBI latest Bank Rate of 6.25% (<https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/01T1112172772145499C9477C9346939016316F6A.PDF>) and calculated the same for FY 2017-18 & FY 2018-19 as shown in the table below:

Table 68: Discom Wise Interest on Consumer Security Deposit- As per Regulation (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY	FY	FY	FY	FY	FY	FY	FY	FY
	'17	'18	'19	'17	'18	'19	'17	'18	'19
Interest on Consumer Security Deposit	40	32	33	55	53	58	57	63	70

10.2.4 Return on Equity

As per Tariff Regulation, 2015 Clause 36 provides the methodology for computation of Return of Equity, wherein it is stated that RoE should be computed on pre-tax basis @ 16%. The paragraphs under the interest and finance charges in this Petition explain the approach for identification of debt and equity component related with completed assets. This approach results in the total equity identified with GFA as at the end of

FY 2018-19. The return on equity is then determined by allowing the specified rate of 16% on the total equity identified which is allocated in proportion to GFA. The detail calculation is shown as below:

Table 69: East Discom Return on Equity- As per Regulation (Rs. Crores)

Particulars	MYT 2016-17 to 2018-19		
	FY17	FY18	FY19
FY 2013-14			
Equity identified with GFA as on 1st April 2013 (as per True Up Order for FY 2012-13)	930	930	930
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	142	142	142
Total Equity associated with GFA as on 31st March 2014	1,072	1,072	1,072
FY 2014-15			
Equity identified with GFA as on 1st April 2014	1,072	1,072	1,072
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	170	170	170
Total Equity associated with GFA as on 31st March 2015	1,242	1,242	1,242
FY 2015-16			
Equity identified with GFA as on 1st April 2015	1,242	1,242	1,242
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	26	26	26
Total Equity associated with GFA as on 31st March 2016	1,268	1,268	1,268
FY 2016-17			
Equity identified with GFA as on 1st April 2016	1,268	1,268	1,268
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	142	142	142
Total Equity associated with GFA as on 31st March 2016	1,410	1,410	1,410
FY 2017-18			
Equity identified with GFA as on 1st April 2017		1,410	1,410
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year		176	176
Total Equity associated with GFA as on 31st March 2016		1,587	1,587
FY 2018-19			
Equity identified with GFA as on 1st April 2018			1,587
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year			182
Total Equity associated with GFA as on 31st March 2016			1,768
Average Equity	1,339	1,499	1,678
Rate of Return	16%	16%	16%
Return on Equity	214	240	279

Table 70: Central Discom Return on Equity- As per Regulation (Rs. Crores)

Sl.No.	Particulars	MYT 2016-17 to 2018-19		
		FY17	FY18	FY19
A	Gross Fixed Assets at the beginning of year (net of consumer contributions)	5,915	6,634	7,372
A1	Opening balance of GFA identified as funded through equity	1,386	1,602	1,823
A2	Opening balance of GFA identified as funded through debt	-1	-	5,160
B	Proposed capitalization of assets as per the investment plan (net of consumer contribution)	719	737	757
B1	Proportion of capitalized assets funded out of equity, internal reserves	860	597	366
B2	Balance Proportion of capitalized assets funded out of project loans	-141	140	391
C1	Normative additional equity	216	221	227
C2	Normative additional debt	503	516	530
D1	Excess / shortfall of additional equity over normative	645	376	139
D2	Excess / shortfall of additional debt over normative	-645	-376	-139
E	Equity eligible for Return, whichever is lower	1,494	1,712	1,936
	Return on Equity (16%)	239	274	310

Table 71: West Discom Return on Equity- As per Regulation (Rs. Crores)

Particulars	2016-17	2017-18	2018-19
FY 2014-15			
Equity identified with GFA as on 1st April 2014	930	930	930
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	95	95	95
Total Equity associated with GFA as on 31st March 2015	1,025	1,025	1,025
FY 2015-16	-	-	-
Equity identified with GFA as on 1st April 2015	1,025	1,025	1,025
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	44	44	44
Total Equity associated with GFA as on 31st March 2016	1,069	1,069	1,069
FY 2016-17	-	-	-
Equity identified with GFA as on 1st April 2016	1,069	1,069	1,069
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	103	103	103
Total Equity associated with GFA as on 31st March 2017	1,172	1,172	1,172
FY 2017-18	-	-	-
Equity identified with GFA as on 1st April 2017	-	1,172	1,172
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	-	64	64
Total Equity associated with GFA as on 31st March 2018	-	1,236	1,236
FY 2018-19	-	-	-
Equity identified with GFA as on 1st April 2018	-	-	1,236
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	-	-	82
Total Equity associated with GFA as on 31st March 2019	-	-	1,318
Average Equity	1,120	1,204	1,277
Rate of Return	16%	16%	16%
Return on Equity	179	193	204

10.3 Provision for Bad & Doubtful Debts

As per Tariff Regulation, 2015 Clause 35 provides the methodology for computation of Provision for Bad & Doubtful Debts, wherein it is stated that it is to be allowed to the maximum of 1% of FY revenue. The detail calculation of the same is shown below:

Table 72: Discom Wise Provision for Bad & Doubtful Debts- As per Regulation (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19
Bad and Doubtful Debts	74	88	103	73	85	97	103	115	126

10.4 Other Income & Non-Tariff Income

The main components of Non-Tariff Income are meter rent, wheeling charges, supervision charges, sale of scrap and miscellaneous charges from consumers as per Tariff Regulations, 2015 and as per the schedule of Miscellaneous and General Charges under MPERC (Details to be furnished and fee payable by licensee or generating company for determination of tariff and manner of making application) Regulations, 2004 and amendments issued therein. The meter rent and miscellaneous charges have been projected as a percentage of tariff income. The Petitioner have projected their Other Income & Non-Tariff Income for FY 2017-18 & FY 2018-19 based on the provisional average 3 FYS income received during the previous Fys (except West Discom wherein it has been considered based on line wise expenditure approach) excluding UDAY impact as can be verified in FY 2016-17 provisional accounts prepared under IND-AS. UDAY's impact as in consideration in Non-Tariff Income is actually not a source of financial income/revenue but a onetime accounting adjustment with a liability write off. The Petitioner has made the projections for FY 2017-18 and FY 2018-19 as per the Regulatory Requirement specified under the Tariff Regulations, 2015 and other applicable Regulations.

Accordingly, the Other Income & Non-Tariff Income is shown below:

Table 73: Other Income & Non-Tariff Income (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19	FY '17	FY '18	FY '19
Income from Investment, Fixed & Call Deposits	11	12	13	40	42	44	31	27	27
Interest on loans and Advances to staff	0	0	0	0	0	0	0	0	0
Interest on Advances to Suppliers / Contractors	12	13	14	0	0	0	0	5	5
Income/Fee/Collection against staff welfare activities	0	0	0	0	0	0			
Miscellaneous receipts	9	10	11	0	0	0	13	14	16
Misc. charges from consumers (meter rent, etc)	44	48	53	42	47	51	62	68	75
Deferred Income (Consumer	0	0	0	0	0	0	0	0	0

Particulars	East Discom			Central Discom			West Discom		
	FY ‘17	FY ‘18	FY ‘19	FY ‘17	FY ‘18	FY ‘19	FY ‘17	FY ‘18	FY ‘19
Contribution)									
Wheeling charges	0	0	0	4	0	1	3	1	1
Income from Trading other than Power (i.e sale of scrape, tender form)							10	10	10
Supervision charges							14	16	18
Recovery from theft	7	8	9	0	0	0	0	0	0
Others	59	65	71	115	108	113			
Total	143	157	172	201	198	210	133	141	151

A11: AGGREGATE REVENUE REQUIREMENT

11.1 Aggregate Revenue Requirement of MPPMCL

The table below details the Aggregate Revenue Requirement of MPPMCL. The net expenses are included as a part of Power Purchase Costs of Discom's

Table 74: Summary of ARR for MPPMCL (Rs. Crore)

Particulars	FY 17	FY 18	FY 19
Purchase of Power from Other Sources	193	(2)	(2)
Wheeling Charges for Banking of Power	27	29	32
Depreciation & Amortization Expenses	4	6	9
Interest & Finance Charges	62	51	39
Repairs & Maintenance	2	2	3
Employee Costs	60	69	71
Administration & General Expenses	35	38	42
Other Expenses	3	4	4
Expenses	385	198	197
Revenue Other Income	502	542	596
(Profit)/Loss for the Period	(117)	(344)	(398)

11.2 Aggregate Revenue Requirement of Discom's

The summary of the Aggregate Revenue Requirement, Revenue from Sale of Power & Revenue (Gap)/Surplus of the Discom's calculated on the basis of provisions of the regulation (including the impact of MPPTCL True up of FY 2015-16 and MPPGCL True up for FY 2015-16) is detailed in the table below:

Table 75: Summary of ARR, Revenue and (Gap)/Surplus (Rs. Crores)

Particular	Unit	FY 17				FY 18				FY 19			
		MP State	East	Central	West	MP State	East	Central	West	MP State	East	Central	West
Revenue													
Revenue from sale of power at current Tariffs	Rs Crs.	24,990	7,397	7,325	10,268	28,808	8,842	8,478	11,488	32,704	10,326	9,739	12,639
Expenditure													
Purchase of Power	Rs Crs.	22,465	6,727	7,480	8,259	18,956	5,905	5,520	7,531	22,749	6,996	6,483	9,270
MPPMCL Cost	Rs Crs.	(117)	(35)	(39)	(43)	(344)	(107)	(100)	(137)	(398)	(127)	(118)	(154)
Inter-State Transmission charges	Rs Crs.	1,411	422	468	521	1,813	565	529	719	2,237	716	663	858
Intra-State Transmission (MP Transco) Charges and SLDC Charges	Rs Crs.	3,000	905	945	1,150	2,501	747	796	958	2,717	812	865	1,040
R&M Expense	Rs Crs.	358	95	136	126	400	112	153	136	445	129	170	147
Employee Expenses Including 7th Pay & Arrears	Rs Crs.	2,819	934	922	964	3,032	1,026	951	1,055	3,731	1,263	1,167	1,301
A&G Expense	Rs Crs.	413	172	97	144	441	184	103	154	471	197	110	164
Depreciation and Related debits	Rs Crs.	803	291	271	242	760	298	223	238	804	303	254	247
Interest & Finance Charges	Rs Crs.	803	251	353	199	659	240	269	150	750	266	308	176
Other Debits, Write-offs (Prior period and bad debts)	Rs Crs.	250	74	73	103	288	88	85	115	327	103	97	126
Total Expenses	Rs Crs.	32,207	9,836	10,706	11,665	28,506	9,059	8,528	10,919	33,833	10,658	9,999	13,176
RoE	Rs Crs.	633	214	239	179	706	240	274	193	793	279	310	204
Total Expenses Including RoE	Rs Crs.	32,839	10,050	10,945	11,844	29,213	9,298	8,802	11,112	34,626	10,937	10,308	13,380
Other income	Rs Crs.	477	143	201	133	495	157	198	141	534	172	210	151
Total ARR	Rs Crs.	32,363	9,908	10,743	11,711	28,717	9,142	8,605	10,971	34,092	10,765	10,098	13,229
Revenue Gap	Rs Crs.	7,372	2,511	3,418	1,443	(91)	300	126	(517)	1,388	438	360	590
Impact of True Up - Transco- FY	Rs Crs.									330	99	105	126

Particular	Unit	FY 17				FY 18				FY 19			
		MP State	East	Central	West	MP State	East	Central	West	MP State	East	Central	West
2015-16													
Impact of True Up-Genco-FY 2015-16	Rs Crs.									(412)	(135)	(108)	(169)
Total Revenue Gap (including true up)	Rs Crs.									1,306	402	357	546
Total ARR including true up	Rs Crs.	32,363	9,908	10,743	11,711	28,717	9,142	8,605	10,971	34,010	10,729	10,096	13,185
Average cost of supply excluding true up	Rs./kWh	7.48	7.39	8.73	6.67	6.14	6.30	6.40	5.84	6.33	6.26	6.42	6.32
Average cost of supply including true up	Rs./kWh	7.48	7.39	8.73	6.67	6.14	6.30	6.40	5.84	6.31	6.24	6.42	6.30

A12: TARIFF PROPOSAL FOR FY 2018-19

12.1 Revenue at Current & Proposed Tariffs

- 12.1.1 It is submitted that there has not been any substantial tariff hike for the years FY 2013-14 and FY 2014-15 in the state of Madhya Pradesh which has severely affected the financial health of the Discom's. For FY 2015-16 to FY 2017-18, the Hon'ble Commission had approved an average tariff hike of 9.83%, 8.40% and 9.48% respectively. However the Discom's are finding it extremely difficult to sustain its operations at the present tariff levels because of intrinsic rise in expenditure due to inflationary pressures, and consistent rise in power and energy demands, an ambitious normative loss reduction trajectory and benchmarks set by the Hon'ble Commission, and obligations to be met under the policy objectives of the State and Central governments.
- 12.1.2 The state of MP has a total installed capacity of approx. 18655 MW as on 30th September 2017. With a vision of 24x7 electricity supply for all the consumers in the state and keeping in view the expected increase in demand, the state has planned capacity additions in advance. However, the demand has not kept pace due to various reasons like Open Access, Railways exercising it right under a deemed distribution licensee status, slow industrial growth due to reasons well known, etc. over the last few years, resulting in a situation where most of the states (particularly in Western Region) including M.P. are saddled with surplus capacity which is not getting utilized
- 12.1.3 Due to this situation, it is essential to highlight that as per the current capacity available to state, the thermal plants form almost 80% of the scheduling. Further, MPPMCL follows the Merit Order Dispatch principle as prescribed by Hon'ble Commission. It is important to mention that Renewable, Nuclear and major part of hydel have a must-run status and therefore all the backing down has to be on thermal power stations. The surplus situation has led to back down of the available capacity as the prices in the exchange also are not attractive and also due to capacity constraint for inter-regional power transfer. However, the payment of fixed charges is required to be made for such generators in accordance with the PPAs. In the previous years it was observed that heavy quantum of power had to be backed down and the petitioners ended up in paying the fixed costs to the generators against power which was not availed just because the petitioners had to respect the power purchase agreements entered with such generators. Going by absolute numbers
- In FY 2014-15 a quantum of 7,099 MUs had to be backed down, having a fixed cost of around Rs. 870 Crores and;
 - In FY 2015-16, a quantum of 17,130 MUs had to be backed down, having a fixed cost of around Rs. 2,158 Crores which rose to 28,379 MU's in FY 2016-17, having a fixed cost of around Rs. 3,598 Crores.

- 12.1.4 With the current realization from short-term sale being lesser than the average power purchase cost, there is a need for comprehensive strategy for dealing with surplus power. As a first step to manage the surplus power, the Discom's have decided to foreclose the PPA with DVC for 400 MW from DVC (MTPS & CTPS) and 100 MW (DTPS) w.e.f. 01st March 2018 & 15th May 2017 respectively. Further, a proposal to surrender MPs share in NTPC Mouda Stage I, ATPS Chachai –Ph 1 & Ph 2, NTPC Kawas and NTPC Gandhar is underway. The proposal has already been sent to GoI and until these capacities are allocated to a willing state/utility, the state of MP has to bear the fixed cost. It is relevant to mention here that, about 15 states have also requested MoP for cancellation of their respective share in the above stations.
- 12.1.5 Moreover, in order to increase its sales base and bring in new consumers under its ambit, several rounds of discussions have been held with Captive and Open Access consumers. The price of electricity, both in absolute and in relative terms, is an important factor in the competitiveness of industry. All Captive and Open Access Consumers have mentioned that to retain the competitiveness the power is sourced from options other than Discom's. If the Discom can provide competitive power, they will be willing to shift their demand to Discom's. With the increase in availability of power in the State, it is necessary to increase the sale also. Hence, in the current petition several rebates have been introduced to encourage Captive and Open Access Consumers to shift their demand to Discom's. MPPMCL assumes that if rebates are provided many Captive and OA consumers will show an intent to shift their demand to Discom's. It is important to mention that increase in the consumer base would have a ripple effect on the entire consumer base of the Discom as the costs get spread over and the revenue of Discom's increases.
- 12.1.6 Furthermore, discussions have been held with Railways to bring them back to the Discom. Accordingly, rebates have been proposed for Railways in the current petition, if the same intends to buy power from Discom's.
- 12.1.7 In view of the above submission, the Petitioners are proposing rebates for Railways, Captive and Open Access consumers. It is believed that it would not be possible for the Discom's to maintain its operational viability without increasing its sale and also obtaining an appropriate hike in the retail tariff sought through this petition.
- 12.1.8 Therefore, it is necessary for the licensee to seek an appropriate hike in the tariff, up to the level as proposed and detailed in this petition. It is submitted to the Hon'ble Commission that the Petitioners have proposed sale of surplus energy at the prevailing IEX rates. The current rates are reflective of the ongoing demand-supply scenario in the country, however, in case these rates improve during the ensuing years, the Petitioners would leverage the opportunity to increase their revenue from sale of surplus power by better rates and increased sale. The petitioners have always tried to reduce the costs incurred by them to serve the consumers in its license area. The costs as mentioned in this tariff proposal petition for the year FY 2018-19 are already on

the lower side and is based on the normative loss levels as specified by Hon'ble Commission in the Tariff Regulations, 2015. The Petitioners submit that the actual costs run higher based on the actual loss levels experienced in its distribution network and the external network.

12.1.9 In view of the above submission, the Petitioners are proposing a hike of 3.99%. It would just not be possible for the Discom's to maintain its operational viability at the least, without an appropriate hike in the retail tariff sought through this petition.

12.1.10 A summary of the proposed tariff hike and resultant additional revenue is given in the table below:

Table 76: Summary of proposed tariff for FY 2018-19 (Rs. Crores)

Formulae	Particulars	MP State	East Discom	Central Discom	West Discom
A	Total ARR excluding True-Up Impact	34,092	10,765	10,098	13,229
B	True-Up Impact	(82)	(36)	(3)	(44)
C=A+B	Total ARR including True-Up Impact	34,010	10,729	10,096	13,185
D	Revenue at Existing Tariffs	32,704	10,326	9,739	12,639
E=C-D	Gap to be recovered	1,306	402	357	546
F	Average Cost of Supply	6.31	6.24	6.42	6.30
G	Additional Revenue from Proposed Tariffs	1,306	402	357	546
H=G+D	Total Revenue at Proposed Tariff	34,010	10,729	10,096	13,185
I=H-C	Remaining revenue Gap	-	-	-	-

12.1.11 The Discom's request the Hon'ble Commission to consider and approve the said tariff proposal for FY 2018-19 to recover the costs for the ensuing year for the State as a whole.

The detailed category-wise tariff proposal is being submitted in the tariff schedules as part of the current petition. The impact on category-wise revenue due to the proposed tariff is given below:

Table 77: Category-wise proposed revenue for FY 2018-19 (Rs. Crores)

Sales Category	MP State		East Discom		Central Discom		West Discom	
	Revenue at current tariffs	Revenue at proposed tariffs	Revenue at current tariffs	Revenue at proposed tariffs	Revenue at current tariffs	Revenue at proposed tariffs	Revenue at current tariffs	Revenue at proposed tariffs
LT CATEGORIES								
LV-1: Domestic	8,782	8,985	3,239	3,311	2,914	2,984	2,629	2,691
LV-2: Non-Domestic	2,729	2,769	896	912	851	861	982	996
LV 3: Public Waterworks and Street Light	864	929	320	344	223	240	320	344
LV 4: LT Industry	1,185	1,134	392	381	267	248	526	506
LV 5.1: Agriculture	11,573	12,489	3,342	3,603	2,991	3,232	5,239	5,655
LV 5.3: Other allied agricultural use	9	9	5	5	3	3	1	1
Total LT	25,141	26,315	8,193	8,556	7,251	7,567	9,698	10,193
HT CATEGORIES								
HV1: Railway Traction	22	22	11	11	11	11	-	-
HV 2: Coal Mines	370	379	351	358	20	21	-	-
HV 3.1: Industrial Use	4,663	4,724	1,223	1,244	1,676	1,699	1,763	1,780
HV 3.2: Non-Industrial	913	919	219	220	358	360	336	339
HV 3.3: Shopping Mall	77	80	6	7	22	23	48	50
HV 3.4: Power Intensive Industries	708	752	57	62	138	148	512	542
HV 4 Seasonal & Non Seasonal	22	22	7	7	2	2	12	12
HV 5.1: PWW Works	453	453	68	68	149	149	236	236
HV 5.3: Other Agricultural	23	23	10	10	6	6	7	7
HV 6: Bulk Residential Users	307	316	181	186	106	109	20	21
HV 7: REC's/Start Up/Generator Connected to Grid	6	6	0	0	0	0	5	5
Total HT	7,563	7,695	2,134	2,173	2,488	2,529	2,942	2,993
Total (LT+HT)	32,704	34,010	10,326	10,729	9,739	10,096	12,639	13,185

12.2 Salient Features of the Tariff Proposal

The licensees have proposed increase in tariff rates along with certain changes in general terms and conditions of LT and HT tariff. The proposed schedule of the Retail Tariff for FY 2018-19 is enclosed with this petition.

The salient features of the proposed changes are as elaborated below:

12.2.1 Increase in rebate for Prepaid Connections in LV 1 & LV 2 Categories

Reasons for proposed changes:

In case of prepaid consumers, a rebate of 25 paisa per unit from 20 paisa per unit in order to encourage the prepaid connections in domestic and non-domestic categories an increase in rebate of 5paisa per unit has been proposed.

12.2.2 Introduction of Category LV 2.3 for Government Primary Schools and Government Middle Schools with connected load up to 1 kW

Reasons for proposed changes:

It is proposed that Government Primary Schools and Government Middle Schools with connected load up to 1 kW shall be considered under a new separate category LV 2.3, which will be billed on a Flat rate of Rs 600 per month per connection for Urban and Rs 400 per month per connection for Rural. The connections provided to such schools will strictly exclude use of heating/welding loads. This is being done to prepare one consolidated bill of all such schools which will facilitate in the provisioning of funds by the education department and immediate realization of revenue for the Discoms.

12.2.3 Special Terms and conditions for Temporary Connections under LV 1

Reasons for proposed changes:

It is proposed that in case of temporary purpose, 10% of sanctioned load is allowed to be used for lighting purpose and actual load for welding/grinding purpose for the renovation/upgradation of house from the existing metered permanent domestic connection on the same tariff applicable for permanent connection. This is being done keeping in mind that most of the Domestic connections comes under connected load up to 3 KW while the load for Welding and grinding activities may go up to 5 KW and so to incorporate this requirement change has been proposed.

12.2.4 Rebate to all consumers having contract demand up to 25 HP

Reasons for proposed changes:

It is proposed that all LT consumers falling under LV4 category having contract demand up to 25 HP shall be given a rebate of 30% in the energy charges for the

month, provided that the Maximum demand does not exceed the contract demand for 25 HP. This is being done so as to promote sales consumption. Also to bring the contract demand at par with the limit before the Tariff order FY 2017-18, in which it was revised by the Hon'ble Commission.

12.2.5 No Minimum Consumption for LV 4 category

Reasons for proposed changes:

It is proposed that there is no binding of minimum consumption in the LV 4 category so as to enhance the no of Consumers in this category and to promote the Small scale industrialization in the State.

12.2.6 Merging of category LV 5.1 and LV 5.2 of TO FY 2017-18

Reason for proposed changes:

The tariff structure for both the sub-categories was similar and there was a marginal difference between the tariffs of the two categories. Also, the nature of business under both the categories belonged to Agriculture use. Thus, in order to make the tariff structure simpler, the two categories are proposed to be merged.

12.2.7 Enhancement of Connected Load for Demand based tariff in LV 5.2

Reasons for proposed changes:

It is proposed that the connected Load for Demand Based tariff be increased to 150 HP as given in Tariff Schedule of LV 5.3 category mentioned at page no. 165 of Retail Supply Tariff Order FY 2017-18. The earlier 5.3 Category would now be LV 5.2 after the merger of LV 5.1 & 5.2 as mentioned above. The petitioner proposes this change to bring the limits mentioned here at par with the limits mentioned under point 8(a) other terms and conditions at page no. 173 of Retail Supply Tariff Order FY 2017-18 and Supply Code 2013 as amended from time to time under clause 3.4.

12.2.8 Revision of Basis of energy audit and accounting for categories LV 5.3

Reasons for proposed changes:

The Hon'ble Commission had last increased the normative units for permanent agriculture consumers in the Tariff Order for FY 2014-15 from 1200 Units to 1500 Units per HP per Annum. Till FY 2013-14, agriculture pump consumers were being supplied with 8 Hrs of electricity per day in groups. From FY 2014-15, feeder separation work started and as a result 10 Hours of electricity was supplied on daily basis on separated feeders to agriculture consumers whereas for mixed feeders it was on 24 Hours supply. On mixed feeders there are many agriculture pump connections that are being supplied by more than 20 Hours of supply.

In the past four years, the Agriculture sector has grown for over 20% per annum in the State. The overall area under cultivation has increased, instead of the traditional 2 Crops per Year cycle, the farmers are now cultivating up to three-four crops a year.

With an extraordinary increase in the cultivation of water-intensive crops like Paddy and Green Grams (Moong), the area used for Kharif crop cultivation too has increased by almost 50%. Accordingly, the electricity consumption by irrigation pumps has also increased. Some districts have seen tremendous increase in the Agriculture load due to this phenomenon. Further, due to decrease in groundwater levels regions like Malwa, the average head for pumps has increased, leading to increase in electricity consumption. All these factors have been key contributors to additional consumption. Hence, in the months from April to September, the consumption of pump connections is more than the normative units thus leading to increase in Distribution and AT&C losses.

To overcome these issues, it has been proposed to increase the normative units for permanent agricultural pump connections from 1500 Units/ HP / Annum and 1560 Units / HP / Annum to 1680 Units /HP / Annum and 1740 Units / HP / Annum for Rural and Urban Connections respectively. The monthly distribution of these Units is proposed as furnished below:

Time period (months)	Single Phase/Three Phase	Rural		Urban	
		Existing units per HP per month	Proposed units per HP per month	Existing units per HP per month	Proposed units per HP per month
April to September	3 Phase	80	110	90	120
October to March	3 Phase	170	170	170	170
April to September	1 Phase	90	110	90	120
October to March	1 Phase	180	180	180	180

12.2.9 Billing of Agriculture consumers in urban area

Reasons for proposed changes:

The agriculture consumers in urban area connected to a feeder other than separated agriculture feeder will be billed through meter as per metered tariff. Unmetered consumers may be billed as per flat rate till meters are installed.

12.2.10 Rebate to all LT consumers for online payment of bills

Reasons for proposed changes:

It is proposed that all LT consumers shall be given a rebate of 0.5% on the total bill amount maximum up to Rs 20 and minimum of Rs 5 for making online payment of bill through modes of Payment Gateway, Net Banking, Debit/Credit Cards, MP Online (only through MP Online's web Portal), SBI Collect (For HT consumers only), Smart Bijli (Mobile App), Other similar modes of online payments as approved by individual Discom time to time. This is to promote the usage of online/ Cashless transactions as a part of digital India Campaign. This will also help in quick realization of demand.

12.2.11 Urban Tariff for Industrial township/ area which are developed/ recognized/approved by the government of Madhya Pradesh.

Reasons for proposed changes:

The Petitioner proposes that the Consumers situated in Industrial Growth Centres, Industrial Parks, Industrial Clusters or any other Industrial township/area which are developed/recognized/approved by the government of Madhya Pradesh or any of its Agencies, shall be billed under urban tariff. This change is proposed keeping in mind that a 24 hours power supply is provided to such institutions which is an ideal scenario for urban category and so they should be billed as per urban tariff. (Retail Supply Tariff Order FY 2017-18, Page No.175, Point n)

12.2.12 Rebate in energy charges for new Railway traction connections

Reasons for propose changes:

Railways were once a proud consumer for the petitioners. However, after the Railways were determined deemed distribution licensees, the petitioners have witnessed the loss of Railways as a consumer from its supply areas. Consumers like Railways are prime for any distribution licensee since they are bulk consumers and draws power at HT voltage level. Railways consumed close to 2300MU annually from the petitioners and was a significant contributor to the revenue (to the extent of INR 700 Crores) from sale of power for the petitioners.

It is a misfortune that the railways have moved out and this have had tremendous impact on the financials of the already ailing petitioners. The petitioners has hence contemplated to offer a rebate to the consumption by railway consumers primarily for the following reasons –

- A. To ensure an attractive tariff for the railways encouraging competition.
- B. To effectively address the power surplus situation and encourage consumption of power within the state itself.

In order to give impetus to electrification of Railway network in the State, The petitioners are proposing a rebate of 15% in energy charges for new Railway traction connections shall be allowed for a period of five years from the date of connection for such new connections for which agreements for availing supply from licensee are commenced during FY 2018-19.

12.2.13 Addition of new consumer category in HV 3.1

Reasons for proposed changes:

With the growth of Agriculture sector in MP many cold storages are coming up in urban and rural areas. Therefore, in order to provide clarity on billing for Cold Storages industry, it is recommended to include this industry in Category HV 3.1

12.2.14 Rebate for incremental consumption under HV 3 category

Reasons for proposed changes:

It is proposed that a rebate of 60 paisa per unit on energy charges be provided to HV 3 tariff category consumers for incremental month consumption w.r.t consumption of FY 2015-16 same month to promote consumption of Units under this category.

12.2.15 Rebate for new HT connections under HV 3 category

Reasons for proposed changes:

It is proposed to provide a rebate of Rs 1 per unit in energy charges for new connection for the consumption recorded. The rebate shall be allowed from the date of commencement of HT agreement for a period of five years or up to FY 2021-22 whichever is earlier for such new projects for which agreements for availing supply from licensee are commenced during FY 2016-17, FY 2017-18 and FY 2018-19. Provided these connections are served to “new” projects only and no rebate is applicable for new connections obtain by virtue of change in ownership in existing connection.

This benefit is provided to support the economic development of the state and also to encourage the HT consumers to consume more energy at reduced prices.

12.2.16 Rebate on enhancement of contract demand by HT Connection

Reasons for proposed changes:

It is proposed that if the HT consumers have increased their contract demand after 31st March 2016, at least by 250 kVA or 25% of the existing contract demand, whichever is lower, a rebate of Rs. 1/Unit is applicable on energy charge on corresponding consumption during the month, provided that such enhanced contract demand is maintained during the corresponding month. This is being done so as to promote sales consumption among the HT consumers. This rebate shall be applicable from the effective date of commencement of the tariff period.

12.2.17 Rebate for captive consumers

Reasons for proposed changes:

The petitioners are proposing a rebate of Rs 2 per unit for the incremental consumption and corresponding reduction in generation by the captive consumers, recorded during any month of the current year compared to the corresponding month of the last year.

The petitioners are proposing a rebate to the captive consumers, in order to encourage consumption of electricity from the petitioners. This rebate is being proposed to make competitive power available to such consumers and to promote them to consume power from Discoms on account of attractive rates.

12.2.18 Rebate for Open Access Consumers, including Group Captive consumers:

Reasons for introduction of this rebate:

The Petitioners are proposing a rebate of Rs. 1 per unit to the Open Access consumers including Group Captive consumers, in order to promote competition and encourage consumption of electricity from the distribution licensees. This rebate is being proposed to make competitive power available to such consumers and to promote them to consume power from Discoms on account of attractive rates.

12.2.19 Conversion of LT Industrial/Non domestic connection to corresponding HT connection

Reasons for proposed changes:

A rebate of Rs. 1 per unit in the energy charges shall be provided to those LT consumers who convert to HV 3.1/ HV 3.2 category during FY 2018-19. This rebate would be applicable for the units billed only after the commencement of HT Agreement.

12.2.20 Revising of name of the category HV 7 to ‘REQUIREMENT OF POWER FOR GENERATORS CONNECTED TO THE GRID’

Reasons for proposed changes:

The petitioners propose a change in the name of HV 7 category to “REQUIREMENT OF POWER FOR GENERATORS CONNECTED TO THE GRID”. The petitioners submit that the tariff category shall be applicable to those generators who are connected to the grid and seek to avail power for synchronization or breakdown or start up or maintenance with the grid.

12.2.21 Temporary supply at HT

Reasons for proposed changes:

Petitioners are proposing changes in calculation of fixed charges for excess demand and energy charges for consumption corresponding to excess demand. If the actual recorded demand is higher than the sanctioned demand, then demand recorded in excess of sanctioned demand shall be treated as excess demand. For billing purpose such excess demand if any in any month shall be charged at **1.2 times** of the normal fixed and energy charges of temporary connection instead of **1.5 times**, for benefit of consumers. The credit of guaranteed minimum consumption will be applicable as permanent consumers.

12.2.22 Rebate for online bill payment by HT consumers

Reasons for proposed changes:

In order to encourage online bill payment by HT consumers it is proposed that a Rebate of 0.5% on the total bill amount maximum up to Rs 1000 will be allowed for making online payment of bill through Payment Gateway, Net Banking, Debit/Credit Cards, MP Online (only through MP Online’s web Portal), SBI Collect (For HT consumers only), Smart Bijli (Mobile App) and Other similar modes of online payments as approved by individual Discom time to time. This is to promote the usage of online/ Cashless transactions as a part of digital India Campaign. This will also help in quick realization of demand.

A13: VOLTAGE WISE COST OF SUPPLY

13.1 Commissions Directives

The Hon'ble MPERC has directed the Discom's of MP to determine the voltage wise cost of supply vide its letter dated 25th October 2013 with memo no. MPERC/RE/2013/2780 and in its previous Tariff Order's. The Hon'ble Commission referred to the judgment passed by Appellate Tribunal for Electricity (APTEL) in Appeal No. 103 of 2010 & IA Nos. 137 & 138 of 2010 regarding determination of voltage level wise Cost of Supply.

Until 100% DTR Meterization is complete, the computation of losses for 11kV and LT system separately is a very cumbersome task. However it is submitted that for determination of Voltage wise cost of supply, the judgment passed by Appellate Tribunal for Electricity (APTEL) in Appeal No. 103 of 2010 & IA Nos. 137 & 138 of 2010 may please be perused.

The extract of APTEL's order is elaborated as below.

Extract of APTEL's order

“32. Ideally, the network costs can be split into the partial costs of the different voltage level and the cost of supply at a particular voltage level is the cost at that voltage level and upstream network. However, in the absence of segregated network costs, it would be prudent to work out the voltage-wise cost of supply taking into account the distribution losses at different voltage levels as a first major step in the right direction. As power purchase cost is a major component of the tariff, apportioning the power purchase cost at different voltage levels taking into account the distribution losses at the relevant voltage level and the upstream system will facilitate determination of voltage wise cost of supply, though not very accurate, but a simple and practical method to reflect the actual cost of supply.

33. The technical distribution system losses in the distribution network can be assessed by carrying out system studies based on the available load data. Some difficulty might be faced in reflecting the entire distribution system at 11 KV and 0.4 KV due to vastness of data. This could be simplified by carrying out field studies with representative feeders of the various consumer mix prevailing in the distribution system. However, the actual distribution losses allowed in the ARR which include the commercial losses will be more than the technical losses determined by the system studies. Therefore, the difference between the losses allowed in the ARR and that determined by the system studies may have to be apportioned to different voltage levels in proportion to the annual gross energy consumption at the respective voltage level. The annual gross energy consumption at a voltage level will be the sum of energy consumption of all consumer categories connected at that voltage plus the technical distribution losses corresponding to that voltage level as worked out by system studies. In this manner, the total losses allowed in the ARR can be apportioned to different voltage levels including the EHT consumers directly connected to the transmission system of GRIDCO.

The cost of supply of the appellant's category who are connected to the 220/132 KV voltage may have zero technical losses but will have a component of apportioned distribution losses due to difference between the loss level allowed in ARR (which includes commercial losses) and the technical losses determined by the system studies, which they have to bear as consumers of the distribution licensee.

34. *Thus Power Purchase Cost which is the major component of tariff can be segregated for different voltage levels taking into account the transmission and distribution losses, both commercial and technical, for the relevant voltage level and upstream system. As segregated network costs are not available, all the other costs such as Return on Equity, Interest on Loan, depreciation, interest on working capital and O&M costs can be pooled and apportioned equitably, on pro-rata basis, to all the voltage levels including the appellant's category to determine the cost of supply. Segregating Power Purchase cost taking into account voltage-wise transmission and distribution losses will be a major step in the right direction for determining the actual cost of supply to various consumer categories. All consumer categories connected to the same voltage will have the same cost of supply. Further, refinements in formulation for cost of supply can be done gradually when more data is available.”*

It is most humbly submitted, that the above mentioned order of APTEL has been challenged in the Hon'ble Supreme Court of India by the Respondents in the case and the matter is under consideration before the Apex Court. However, as per the directives of the Hon'ble Commission the Discom's submit the details of calculation of the voltage wise cost of supply as per the methodology provided by the APTEL.

13.2 **Voltage-wise Losses**

It is submitted that the MPERC Tariff Regulations do not provide segregation of normative losses for the Distribution Licensees into voltage wise normative losses in respect of technical and commercial losses. Therefore, the Petitioners face difficulty in segregation of normative losses in voltage level wise technical and commercial losses.

Determination of voltage-wise losses would require detailed technical studies of the Distribution network of the three Discom's. For the purposes of illustrative computation of voltage-wise Cost of Supply, the petitioners have assumed voltage-wise losses, the data therein is not verified and so should not be relied upon.

13.3 **Methodology**

The Discom's have proposed the methodology for Voltage-wise Cost of Supply computation for three categories, namely:

- ✓ EHT System (400 kV, 220 kV and 132 kV)
- ✓ 33 KV System
- ✓ 11 KV + LT System

For determination of Voltage-wise Cost of Supply, the proposed methodology involved the following steps:

- ✓ Determine the voltage-wise Sales for three voltage levels.
- ✓ Projection of voltage-wise loss levels based on historical numbers. It is pertinent to mention here that the loss levels so determined are on assumption basis and it would require a detailed technical study of the Distribution Network for the technical verification of the same. The Inter-state PGCIL and Intra-state MPPTCL losses are allocated to the EHT System (400 kV, 220 kV and 132 kV).
- ✓ It may also be noted that the percentage of EHT losses allocated to the three Discom's are different due to the fact that different generating stations are assigned to the different Distribution company and each draws its power from different 132 kV substation.
- ✓ Determine the voltage-wise energy input based on sales and the losses. The sales numbers have been escalated by the T&D loss% of the current voltage level as well as the next higher voltage level.
- ✓ Since the breakup of technical and commercial losses at 11 kV +LT system is not available, 50% of the total loss at this voltage level has been assumed as purely technical loss and remaining 50% loss has been assumed as commercial loss which has been loaded to various voltage levels in the proportion of their sales.
- ✓ The total Power Purchase Costs of each Discom is allocated to the three voltage levels based on the voltage-wise input energy. All other costs of the Discom are allocated based on the sales to each voltage-level.
- ✓ Non-tariff income has been assumed to be part of the revenue from 11 kV + LT, 33kV and EHT voltage levels.
- ✓ Sum of total costs (less non-tariff income) divided by net energy input gives the voltage wise cost of supply for the respective voltage level.

13.4 Calculation

The calculation for Voltage wise Cost of Supply for MP State and Discom's is as shown below:

Table 78: Cost of Supply Calculation for MP State for FY19

Sr. No	Particulars	UoM	Formulae	EHT System (400 kV, 220 kV & 132 kV)	33 KV System	11 KV + LT System	Total
A	MP State						
1	Sales	MUs		3,117	6,543	44,198	53,858
2	Loss %	%		4.89%	5.91%	13.14%	20.15%
3	Energy Input	MUs		3,278	7,312	56,860	67,449
4	Energy Lost (Technical upto 33 kV voltage & 11 kV +LT technical and Commercial)	MUs	4=3-1	160	768	12,662	
5	Commercial Loss assumed as 50% of 11 kV and LT overall losses	MUs				6,331	
6	Balance 50% Commercial loss for all voltage in proportion to Sales	MUs		366	769	5,195	
7	Net Energy Input	MUs	7=1+4+6	3,644	8,081	55,724	67,449
8	Power Purchase Costs - allocated based on voltage-wise losses	Rs Cr		1,475	3,271	22,558	27,304
9	Other costs - allocated based on voltage-wise sales	Rs Cr		419	880	5,941	7,240
10	Less: Other income - allocated based on voltage-wise sales	Rs Cr		31	65	438	534
11	Total Costs (ARR requirement)	Rs Cr	11=8+9-10	1,863	4,086	28,061	34,010
12	Average Cost of Supply	Rs/kWh	12=11/1*10	5.98	6.24	6.35	6.31

Table 79: Cost of Supply Calculation for East Discom for FY19

Sr. No	Particulars	UoM	Formulae	EHT System (400 kV, 220 kV & 132 kV)	33 KV System	11 KV + LT System	Total
A	East Discom						
1	Sales	MUs		1,172	1,372	14,656	17,199
2	Loss %	%		4.89%	6.62%	11.74%	19.93%
3	Energy Input	MUs		1,232	1,545	18,705	21,481
4	Energy Lost (Technical upto 33 kV voltage & 11 kV +LT technical and Commercial)	MUs	4=3-1	60	173	4,049	
5	Commercial Loss assumed as 50% of 11 kV and LT overall losses	MUs				2,024	

Sr. No	Particulars	UoM	Formulae	EHT System (400 kV, 220 kV & 132 kV)	33 KV System	11 KV + LT System	Total
6	Balance 50% Commercial loss for all voltage in proportion to Sales	MUs		138	161	1,725	
7	Net Energy Input	MUs	7=1+4+6	1,370	1,706	18,405	21,481
8	Power Purchase Costs - allocated based on voltage-wise losses	Rs Cr		535	667	7,194	8,397
9	Other costs including true up adjustment - allocated based on voltage-wise sales	Rs Cr		171	200	2,134	2,505
10	Less: Other income - allocated based on voltage-wise sales	Rs Cr		12	14	147	172
11	Total Costs (ARR requirement)	Rs Cr	11=8+9-10	694	853	9,182	10,729
12	Average Cost of Supply	Rs/kWh	12=11/1*10	5.93	6.22	6.26	6.24

Table 80: Cost of Supply Calculation for Central Discom for FY19

Sr. No	Particulars	UoM	Formulae	EHT System (400 kV, 220 kV & 132 kV)	33 KV System	11 KV + LT System	Total
A	Central Discom						
1	Sales	MUs		1,214	2,129	12,393	15,735
2	Loss %	%		4.89%	6.09%	14.80%	21.13%
3	Energy Input	MUs		1,276	2,383	16,292	19,952
4	Energy Lost (Technical upto 33 kV voltage & 11 kV +LT technical and Commercial)	MUs	4=3-1	62	255	3,899	
5	Commercial Loss assumed as 50% of 11 kV and LT overall losses	MUs				1,950	
6	Balance 50% Commercial loss for all voltage in proportion to Sales	MUs		150	264	1,536	
7	Net Energy Input	MUs	7=1+4+6	1,427	2,647	15,878	19,952
8	Power Purchase Costs - allocated based on voltage-wise losses	Rs Cr		564	1,047	6,281	7,892
9	Other costs - allocated based on voltage-wise sales	Rs Cr		186	326	1,901	2,414
10	Less: Other income - allocated based on voltage-wise sales	Rs Cr		16	28	165	210
11	Total Costs (ARR requirement)	Rs Cr	11=8+9-10	734	1,345	8,016	10,096
12	Average Cost of Supply	Rs/kWh	12=11/1*10	6.05	6.32	6.47	6.42

Table 81: Cost of Supply Calculation for West Discom for FY19

Sr. No	Particulars	UoM	Formulae	EHT System (400 kV, 220 kV & 132 kV)	33 KV System	11 KV + LT System	Total
A	West Discom						
1	Sales	MUs		732	3,043	17,149	20,924
2	Loss %	%		4.88%	5.47%	12.74%	19.57%
3	Energy Input	MUs		770	3,384	21,863	26,016
4	Energy Lost (Technical upto 33 kV voltage & 11 kV +LT technical and Commercial)	MUs	4=3-1	38	341	4,714	
5	Commercial Loss assumed as 50% of 11 kV and LT overall losses	MUs				2,357	
6	Balance 50% Commercial loss for all voltage in proportion to Sales	MUs		82	343	1,932	
7	Net Energy Input	MUs	7=1+4+6	852	3,727	21,437	26,016
8	Power Purchase Costs - allocated based on voltage-wise losses	Rs Cr		361	1,578	9,077	11,015
9	Other costs - allocated based on voltage-wise sales	Rs Cr		81	338	1,903	2,322
10	Less: Other income - allocated based on voltage-wise sales	Rs Cr		5	22	124	151
11	Total Costs (ARR requirement)	Rs Cr	11=8+9-10	437	1,893	10,855	13,185
12	Average Cost of Supply	Rs/kWh	12=11/1*10	5.97	6.22	6.33	6.30

A14: CROSS SUBSIDY SURCHARGE AND ADDITIONALS SURCHARGE

14.1 Cross Subsidy Surcharge

The Tariff Policy provides for the determination of cross- subsidy surcharge for various categories of consumers. It is pertinent to mention here that Discoms have employed Merit-order dispatch while scheduling power from various stations so as to procure the cheapest power available. Also the Petitioners have also considered backing down of units/stations where variable cost is more than Rs 2.60 per unit as decided by MPPMCL to ensure that power procured from cheaper sources is fully utilized and to avoid procurement of power from costlier sources. The resultant benefit of reduced power procurement cost is in turn being passed on to the consumers, along with back down of few stations.

Hence, in light of above, the petitioners submit that the basis for determination of the aforementioned cross-subsidy surcharge to be taken as per **provisions of National Tariff Policy 2016**.

The Hon'ble Commission has determined the average tariff based on the power purchase cost as per previous year's available data. Any variation on account of such change in fuel cost is also passed on to the consumer through FCA, which will result in an increase in average tariff by FCA amount. Therefore, it will be appropriate to **increase the cross subsidy surcharge to the extent of FCA charges payable** for a particular period.

14.2 Additional Surcharge

The National Tariff Policy 2016 also provides for the determination of additional surcharge to be levied from consumers who are permitted open access.

The Petitioner would like to submit that financial position of the Discom's are getting constrained due to eligible consumers opting for open access. There has been an increase in quantum and number of consumers opting for open access over the last few years. With this shift of consumers to open access, the power remains stranded and the Discom's have to bear the additional burden of capacity charges of stranded power to comply with its Universal Supply Obligation.

The Petitioner would like to submit that in other states also, separate orders for levy of additional surcharges have been passed by respective Commission after considering the impact of shift by open access consumers and based on other data with due prudence check.

In light of the provisions specified in the clause 5.8.3 of the National Electricity Policy, Section 42(4) of the Electricity Act 2003 besides relevant clause 13.1 of MPERC (Term & conditions for Open Access in MP) Regulations, 2005 and determined additional

surcharge on a yearly basis for Open Access consumers of the State in addition to levy of Cross subsidy surcharge specified in Tariff policy 2016 on the basis of latest data for previous 12 months commencing from September 2016 to August 2017.

The Petitioner has computed the additional surcharge by considering the weighted average monthly fixed rate of surrendered power, which is based on daily weighted fixed rate of the generating station in the surrendered power. The Petitioner worked-out additional surcharge is shown in the table below:

Table 82: Additional Surcharge for FY 2018-19

	Month	Energy entitlement (Crores Unit)	Energy Scheduled in (Crores Unit)	Energy Surrendered (Crores Unit)	Effective Fixed Cost Applied	OA Units (Crores Units)	Cost of Back Energy Surrendered due to Open Access (Rs. Crores)
1	2	3=4+5	4	5	6	7	8=(7*6)
1	Sep-16	760.66	510.62	250.03	1.04	8.80	9.13
2	Oct-16	833.57	548.67	284.90	1.01	8.36	8.44
3	Nov-16	771.72	582.13	189.59	1.14	9.20	10.52
4	Dec-16	750.53	613.34	137.20	1.00	11.73	11.77
5	Jan-17	781.66	596.99	184.68	1.17	11.94	13.98
6	Feb-17	723.75	545.14	178.61	1.11	9.43	10.47
7	Mar-17	763.48	567.14	196.33	0.75	6.02	4.52
8	Apr-17	778.70	578.61	200.09	0.87	4.24	3.67
9	May-17	603.91	603.91	0.00	0.99	9.08	9.03
10	Jun-17	750.91	518.16	232.75	0.90	4.36	3.90
11	Jul-17	716.25	497.75	218.50	0.61	5.74	3.50
12	Aug-17	794.99	544.96	80.09	1.40	3.72	5.20
Total		9030.13	6707.41	2152.77		92.64	94.13
Additional Surcharge on OA Consumers (Rs./Unit) = (8/7)							1.02

The Petitioner has thus determined the additional surcharge of Rs 1.02 per unit on the power drawn by the Open Access consumers from the date of issuance or applicability of this Retail Supply Tariff Order by the Hon'ble Commission. The detail calculation of additional surcharge along with the other details are attached as a separate Annexure along with this Petition.

A15: TERMINAL BENEFITS (PENSION, GRATUITY AND LEAVE ENCASHMENT) PROVISION

The Terminal Benefit of the employees have been calculated as per the provisions of “MPERC (Terms and Conditions for allowing pension and terminal benefits liabilities of personnel of Board and successor entities) regulations, 2012 (G-38 of 2012)” notified in the MP gazette notification dated 20th April 2012. In view of provisions of the MPERC (Terms and Conditions for allowing pension and terminal benefits liabilities of personnel of Board and successor entities) regulations, 2012, Discom’s claim both provision as per the rate prescribed in actuary report & actual cash out flow on account of terminal benefits.

According to actuarial valuation the liability as on 31st March 2009 for the three Discom’s was determined. In addition to this liability, the Actuary valuation has prescribed the following percentage for the future contribution rate (as a % age of Basic Pay + Grade pay + DA) required to be made by the three Discom’s for meeting the liabilities arising due to future service:

Table 83: Future Contribution rate of liability on account of Actuary (%)

Assumption	East Discom				Central Discom				West Discom			
	Pension	Gratuity	Leave Encashment	Total	Pension	Gratuity	Leave Encashment	Total	Pension	Gratuity	Leave Encashment	Total
Contribution rate	21.73%	4.95%	0.77%	27.45%	20.15%	4.56%	0.54%	25.52%	20.28%	4.67%	0.59%	25.54 %
Discount rate	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%

According to the above prescribed methodology, liability for FY 2016-17 to FY 2018-19 has been worked out and this liability is pertaining to all the employees of licensee, eligible for such benefits. Terminal Benefits Provisions calculations are provided in table below:

Table 84: Calculation of Terminal Benefits Provisions (Rs. Crores)

Particular	East Discom				West Discom				Central Discom				MP State			
	Pension	Gratuity	Leave encashment	Total	Pension	Gratuity	Leave encashment	Total	Pension	Gratuity	Leave encashment	Total	Pension	Gratuity	Leave encashment	Total
Provision as on 31.03.2016	1,401	282	66	1,749	965	204	68	1,238	1,213	199	71	1,483	3,579	685	205	4,470
Discount @7%	98	20	5	122	68	14	5	87	85	14	5	104	251	48	14	313

Particular	East Discom				West Discom				Central Discom				MP State			
	Pension	Gratuity	Leave encashment	Total	Pension	Gratuity	Leave encashment	Total	Pension	Gratuity	Leave encashment	Total	Pension	Gratuity	Leave encashment	Total
Current Service cost	193	44	7	244	189	44	5	238	167	38	4	210	550	125	17	692
Total Provision for FY 17	292	64	11	367	257	58	10	325	252	52	9	313	800	173	31	1,005
Provision as on 31.03.2017	1,693	346	77	2,116	1,222	262	78	1,562	1,465	251	80	1,796	4,380	859	236	5,475
Discount @7%	118	24	5	148	86	18	5	109	103	18	6	126	307	60	17	383
Current Service cost	206	47	7	260	201	46	6	253	178	40	5	223	585	133	18	736
Total Provision for FY 18	324	71	13	408	287	65	11	363	281	58	10	349	892	194	34	1,120
Provision as on 31.03.2018	2,017	417	90	2,524	1,509	327	90	1,925	1,746	309	91	2,145	5,271	1,052	271	6,594
Discount @7%	141	29	6	177	106	23	6	135	122	22	6	150	369	74	19	462
Current Service cost	248	57	9	314	243	56	7	306	215	49	6	269	707	161	22	889
Total Provision for FY 19	390	86	15	490	349	79	13	441	337	70	12	420	1,076	235	41	1,351

The Discom's are mandated to contribute an annual contribution towards the Trust for the purpose of Terminal Benefits. An amount of Rs. 4,470 Crores is expected to have got accumulated until FY 2017. However, the Discom's have not been able to contribute the same towards the Trust as the Hon'ble Commission has not allowed any amount for the same. The table given below indicates the actual provisions that are to be made by the Discom's against this liability in the annual accounts of the company from FY 2009-10 till FY 2016-17 and projected for FY 2017-18 and FY 2018-19.

Table 85: Terminal Benefits Provisions Liability for Discom's (Rs. Crores)

FY	East Discom				Central Discom				West Discom				MP State			
	Pension	Gratuity	Leave Encashment	Total Liability	Pension	Gratuity	Leave Encashment	Total Liability	Pension	Gratuity	Leave Encashment	Total Liability	Pension	Gratuity	Leave Encashment	Total Liability
Past Service Liability as determined by actuary (From 1.6.2005 to 31.3.2009)	362	58	21	441	326	53	21	400	349	52	20	421	1,037	163	62	1,262
2009-10	101	21	4	126	103	17	7	127	102	23	3	128	306	61	14	381
2010-11	119	25	5	149	80	13	5	98	74	17	2	93	273	55	12	340
2011-12	139	30	6	175	78	13	5	96	79	18	2	99	296	61	13	370
2012-13	157	34	6	197	90	15	6	111	83	20	10	113	330	69	22	421
2013-14	185	40	7	232	170	26	11	207	90	23	12	126	445	89	30	565
2014-15	205	44	8	257	190	39	7	236	94	25	11	130	489	108	26	623
2015-16	133	30	9	172	176	23	9	208	96	25	7	128	405	78	25	508
Total up to 2017	1,401	282	66	1,749	1,213	199	71	1,483	965	204	68	1,238	3,579	685	205	4,470
2016-17	292	64	11	367	257	58	10	325	252	52	9	313	800	173	31	1,005
2017-18	324	71	13	408	287	65	11	363	281	58	10	349	892	194	34	1,120
2018-19	390	86	15	490	349	79	13	441	337	70	12	420	1,076	235	41	1,351
Total up to 2019	2,406	503	105	2,668	1,857	406	103	1,937	2,083	379	103	2,347	6,347	1,287	311	6,952

A16: POWER PURCHASE COST ADJUSTMENT (PPCA)

The Hon'ble Commission in Tariff Order for FY'18 has specified formula for deriving Fuel Cost Adjustment ("FCA") for recovery/adjustment of un-controllable costs due to increase or decrease in the cost of fuel in case of coal, oil, and gas for generating plants only. The petitioners in their last year petition also submitted that the then existing PPCA calculation mechanism did not cover the recovery of incremental power purchase, which includes shortage in supply from identified power supply sources in the tariff order requiring distribution licensee to purchase power at higher price from the power market or other sources to meet the demand.

Distribution licensee has to meet the power demand of the consumers, as per the relevant provisions of the Electricity Act, 2003 under the obligation to supply. Therefore, quantum of power purchase may not be restricted on the basis of normative loss levels. Under any given operating conditions of the power system, the quantum of energy and the power demand are more or less uncontrollable variables. For the purpose of tariff determination, the average power purchase cost per unit based on the prudent cost may be considered. This means that the cost based on the average power purchase cost per unit on the quantum of power based on normative loss should be passed on to the consumer and any cost in excess of that shall be borne by the licensee. In any case, the full fixed cost element of the power purchase cost should also be passed on to the consumer as a legitimate cost. This methodology shall maintain proper balance between the interests of the consumers and the licensee, as it is based on overall averaging method, so that impact of all the factors over an annual cycle are covered and distributed equitably.

The Commission however on the analysis of the same has come out with the following formula

$$FCA \text{ for billing quarter } \left(\frac{p}{u} \right) = \frac{IVC \text{ (Rs. in Cr.)} \times 1000}{\text{Normative Sale (MUs)}}$$

Where,

IVC = sum of – (a) difference in per unit variable cost actually billed by each long term coal or gas based power generator and variable cost as allowed in the Tariff Order, multiplied by (b) units availed from each such generating station in the preceding quarter. Variable costs of Hydel Generating Stations shall not be considered for the purpose of working out the increase in variable Cost of Power Purchase.

Preceding Quarter = the period of preceding three months excluding the period of two months immediately preceding to the billing quarter,

Billing Quarter : the period of three months for which FCA is to be billed and shall be a period commencing on first day to last day of quarter for the quarter commencing from 1st April ending 30th June and so on

Normative Sale: the sale grossed down from the total actual ex-bus drawl from all sources (Generators + Other sources) during preceding quarter by the normative PGCIL, transmission and distribution losses for the months of the preceding quarter provided in the tariff order.

However the petitioners feel that the average power purchase cost should be considered instead of the variable costs only. Hence, the Distribution Licensee, in line with the above provision resubmits the following formula for computation of Power Purchase Cost Adjustment (PPCA) factor for Hon'ble Commission's kind consideration:

$$\text{PPCA for billing quarter } \left(\frac{p}{u} \right) = \frac{\text{APPC (Rs. in Cr.)} \times 1000}{\text{Normative Sale (MUs)}}$$

Wherein,

“APPC” shall mean Average Power Purchase Cost which is sum of – (a) difference in per unit average cost actually billed by each power generator/sources and as allowed in the tariff order, multiplied by (b) units availed from each such generating station in the preceding quarter.

“Preceding Quarter” means period of preceding three months excluding the period of two months immediately preceding to the billing quarter.

“Billing quarter” means the period of three months for which PPCA is to be billed and shall be a period commencing on first day to last day of quarter for the quarter commencing from 1st April ending 30th June and so on.

“Normative Sale” means the sale grossed down from the total actual ex-bus drawl from all sources (Generators + Other sources) during preceding quarter by the normative PGCIL, transmission and distribution losses for the months of the preceding quarter as provided in the tariff Order.

The PPCA charge shall be in the form of paisa per unit (kWh) rounded off to the nearest integer. For this purpose, fraction up to 0.5 shall be ignored and fraction higher than 0.5 shall be rounded off to the next higher integer. This charge shall be added to or deducted from, as the case may be, the energy charges as per the existing tariff for the energy billed to every consumer and shall be treated as part of energy charge.

The PPCA charge shall be uniformly applicable to all categories of consumers of the Distribution Companies in the State. The PPCA charge shall also be uniformly

applicable to all categories of open access consumers for the quantum of such supply as is availed by them from the Distribution Companies.

The National Tariff Policy 2016 prescribes the following formula for determination of cross- subsidy surcharge for various categories of consumers.

“8.5 Cross-subsidy surcharge and additional surcharge for open access

Surcharge formula:

$$S = T - [C / (1-L/100) + D + R]$$

Where,

S is the surcharge

T is the Tariff payable by the relevant category of consumers, including reflecting the Renewal Purchase Obligation;

C is the per unit Weighted average cost of power purchase by the Licensee, including meeting the Renewal Purchase Obligation

D is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level

L is the aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level

R is the per unit cost of carrying regulatory assets

Since on PPCA charge is a part of energy charge and uniformly applicable to all categories of consumers, therefore average tariff will change to the tune of applicable PPCA charge. Therefore it will be more appropriate to add per unit PPCA rate in the formula for determination of cross subsidy surcharge for various categories of consumers under the term “T”.

The M.P. Power Management Co. Ltd., Jabalpur is a holding company and has been authorized by the Distribution Companies to procure power on behalf of them for retail supply to consumers. The responsibility of working out the rate of PPCA every quarter shall rest with the M.P. Power management Co. Ltd., Jabalpur.

The M.P. Power management Co. Ltd., Jabalpur shall workout change in average cost of power purchase during the preceding quarter based on the bills received by them from the Generators. The information shall be prepared in the manner as decided by Commission in the Tariff Order for every month of the “preceding quarter” and summated thereafter for the quarter.

The M.P. Power management Co. Ltd., Jabalpur shall workout “normative sale”. For this purpose normative PGCIL, transmission and distribution loss (percentage /quantum) for the months of preceding quarter, as provided in the Tariff Orders, shall be subtracted from the total ex-bus power drawn during the preceding quarter to arrive at normative sale.

PPCA charge shall be worked out by the M.P. Power management Co. Ltd., Jabalpur based on the formula provided by the Commission. The Distribution Companies of the State shall be advised by them from time to time to incorporate the PPCA charge for billing purposes for the billing quarter. This exercise should be completed at least 15 days before the commencement of the billing quarter. The M.P. Power management Co. Ltd., Jabalpur shall simultaneously submit all relevant details of calculations along with supporting details to the Commission within 7 days of the completion of the exercise.

If the Commission finds after reviewing the details submitted by the M.P. Power management Co. Ltd. Jabalpur, any over or under recovery of PPCA charge, it may direct the M.P. Power management Co. Ltd., Jabalpur and the Distribution Companies of the State to make required changes in PPCA charge billing and any further adjustments in consumer bills that it may consider appropriate.

The Distribution Companies of the State shall commence billing of PPCA charge from the first day of the billing quarter.

Following illustration is given for the purpose of understanding:

If the “billing quarter” is say “July to Sept”, then the “preceding quarter” shall mean the period “Feb to April” and the period of May and June months is allowed to collect the data/ details and finalization of PPCA charge.

The details of the normative losses for PGCIL System and MPPMCL System and normative distribution losses may be provided by the Commission in the Tariff Orders.

A17: COMPLIANCE OF DIRECTIVES

The response of Discoms on the directives issued by Hon'ble Commission in the Retail Supply Tariff Order for FY 2017-18 is given below:

17.1 Meterization of Unmetered Connections

Commission's Directive:

The Commission has noted the submission of Discoms. East & West Discoms have still not submitted the definite timeline for 100% meterization of Agricultural DTRs. The Commission directs them to submit the timeline for 100% meterization of predominant Agricultural DTRs within 3 months. The Commission also directs all discoms to send the quarterly progress report of meterization.

Petitioners Compliance to Directive:

East Discom Reply: The Petitioner hereby submits that the quarterly progress report of Meterization is being regularly submitted before the Hon'ble Commission. The latest submission of the report has been done vide letter no. Discom/EZ/WS/2880 dated September 20th 2017.

Central Discom Reply: The Petitioner hereby submits that the quarterly progress report of Meterization is being regularly submitted before the Hon'ble Commission. The reports for quarter ending Jun.17 & Sept.17 have already been submitted vide letter No.416 & 506 respectively.

West Discom Reply: The quarterly progress report of Meterization is being regularly submitted before the Hon'ble Commission. Further, Discom has submitted the Meterization plan of Pre-Dominant Agricultural DTRs vide Letter Number: MD/WZ/05/Comm/TRAC/17124 submission dated 25th Aug'2017.

17.2 Issue of tariff card with first bill based on new tariff

Commission Directive:

The Commission has noted the submission of Discoms and directs that the practice of providing tariff cards should be continued.

Petitioner Compliance to Directive:

East Discom Reply: The Petitioner hereby submits that information related to tariff of different categories for FY 2017-18 has been provided to the consumers through tariff cards for LT Consumers and Tariff schedule booklets for all HT Consumers.

Central Discom Reply: The Petitioner hereby submits that information related to tariff of different categories for FY 2017-18 has been provided to the consumers through tariff cards for LT Consumers and Tariff schedule booklets for all HT Consumers.

West Discom Reply: The Petitioner hereby submit that the detail information related to tariff of different LT categories for FY 2017-18 was provided to the consumers. Further, tariff schedule booklets for all HT Consumers were provided to the consumers.

17.3 Accounting of Rebates/Incentives/Surcharges

Commission Directive:

The Commission has noted the submission of Discom's on rebates/incentives/surcharge for HT and LT consumers and directs Discom's to submit a comprehensive report to the Commission with the next tariff petition filing.

Petitioner Compliance to Directive:

East Discom Reply: The Petitioner hereby submits that a comprehensive report on this issue has already been submitted to the Hon'ble Commission via email dated 18th December 2017.

Central Discom Reply: The Petitioner hereby submits that a comprehensive report on this issue has already been submitted to the Hon'ble Commission dated 14th December 2017 via letter no MD/CZ/Comml-III/1555.

West Discom Reply: The Petitioner hereby submits that a comprehensive report on this issue has been submitted to the Hon'ble Commission dated 12th December 2017 via letter no MD/WZ/05/COM/TRAC/24011.

17.4 Technical studies of the Distribution network to ascertain voltage-wise cost of supply

Commission Directive:

The Commission noted the submission of Discoms. The Commission directs the Discoms to submit the report on the subjected study along with the next tariff petition.

Petitioner Compliance to Directive:

East Discom/ Central Discom / West Discom Reply: The Petitioners hereby submit that detailed technical study of distribution network to ascertain voltage wise cost of supply is associated with the study of segregation of technical and commercial losses. The study of technical and commercial losses is very cumbersome and exhaustive task. However, a preliminary study has been conducted considering sample feeders to ascertain the methodology of segregation of technical and commercial losses. Further,

in this regard, a comprehensive study will be taken up and then the study of voltage wise cost of supply can be submitted to Hon'ble Commission.

17.5 Impact assessment study for switching from KWh billing to KVAh billing

Commission Directive:

The Commission noted the submission of Discoms. The Commission directs the Discoms to submit the comprehensive study report referring to other States where KVAH billing is prevalent with the next tariff petition.

Petitioner Compliance to Directive:

East Discom/ Central Discom / West Discom Reply: The Petitioners have conducted a study through consultant, who have suggested the methodology. The petitioners are analysing the recommendations of the consultant and will submit a detailed report separately, within a period of one month.

17.6 Impact assessment of billing of tariff minimum consumption.

Commission Directive:

The Commission directs the Petitioners to carry out impact assessment of billing of tariff minimum consumption for each category and submit report within three months.

Petitioner Compliance to Directive:

East Discom/ Central Discom / West Discom Reply: The Petitioners have conducted a study through consultant, who have suggested the methodology. The petitioners are analysing the recommendations of the consultant and will submit a detailed report separately, within a period of one month.

17.7 Segregation of Technical & Commercial Losses

Commission Directive:

The Commission is not convinced with the submissions of Discoms and directs them carry out a detailed study with representative sample size along with next tariff filing.

Petitioner Compliance to Directive:

East Discom/ Central Discom / West Discom Reply: The Petitioner hereby submits that detail study of technical and commercial losses is very cumbersome task and can be done by the simulation techniques only. A preliminary study has been conducted considering sample feeders to ascertain the methodology of segregation of technical and commercial losses. Further, a comprehensive study in this regard will be taken up and the results would be submitted before the Hon'ble Commission shortly.

17.8 Trading Margin Petition

Commission Directive:

The Commission is not convinced with the submission of MPPMCL and directs them to file the petition for determination of Trading Margin with appropriate Commission before next filing of the Tariff Petition for FY 2018-19.

Petitioner Compliance to Directive:

As per item No.8 (ii) of State Govt. Notification No.2260-F-3-24-2009-XIII dt. 19/03/2013, M.P. Power Management Company Limited has been supplying power to the Discoms at the tariff determined/approved by MPERC and its own expenses are being distributed on actual basis in proportion to the energy drawn by respective Discoms.

MPPMCL has been operating on “No Profit and No Loss” basis. Therefore, till now at the end of each financial year, all the credits received by MPPMCL which formed the part of income of MPPMCL (shown as “other income” in Form S-1 of MPPMCL formats) were being passed on to the Discoms in proportion to the energy drawl by respective Discoms as a part of their Power Purchase Costs.

MPPMCL has signed “Management and Corporate Functions Agreement” on 5th June 2012, with the three Discoms of the State, wherein it has been agreed that the MPPMCL shall perform inter alia the following functions of common nature for the Discoms:

- In consultation with Discoms, undertake long-term/ medium-term/short-term planning and assessment of the power purchase requirements for the three Discoms and explore opportunities for power procurement as per the regulations of MPERC;
- The expenses of MPPMCL have been considered to be included as part of power purchase cost of the Discoms.

As per the agreement between MPPMCL and three Discoms on dated 5th June 2012, all expenses of MPPMCL are included as part of power purchase cost of the Discoms. Therefore, till now at the end of each financial year, all the credits received by MPPMCL which formed the part of income of MPPMCL were being passed on to the Discoms in proportion to the energy drawl by respective Discoms. Thus, MPPMCL has been operating on no profit no loss basis in case of power supply to Discoms.

As stated above, MPPMCL is operating on ‘No Profit No Loss’ basis therefore the computation of Trading Margin would not be rational.

17.9 Separate record for Consumer wise sales

Commission Directive:

The Commission directs the Petitioners to keep a separate record of increase in consumer-wise sales and submit the same for FY 2016-17 to the Commission with the next tariff petition filing.

Petitioner Compliance to Directive:

East Discom Reply: The category wise data for FY 2015-16 (Provisional) and FY 2016-17 is submitted here as mentioned below:

TC	Category	Sales (MU)		
		FY 2015-16	FY 2016-17	Increment
LV 1	Domestic	3,422.58	3,766.11	343.53
LV 2	Non-Domestic	827.18	1,043.15	215.97
LV 3.1	WW & Street Light	290.29	423.52	133.22
LV 4	LT Industrial	294.28	392.55	98.27
LV 5.1	Agriculture Irrigation Pumps	5,229.32	4,832.15	(397.17)
LV 5.2	Agriculture related Use	5.75	5.14	(0.61)
Total (LT)		10,069.40	10,462.62	393.22
HV 1	Railway Traction	442.60	-	(442.60)
HV 2	Coal Mines	468.77	460.02	(8.75)
HV 3.1	Industrial	2,291.36	1,853.72	(437.65)
HV 3.2	Non-Industrial	228.10	245.16	17.06
HV 4	Seasonal	7.92	7.41	(0.50)
HV 5.1	HV irrigation	3.43	4.50	1.07
HV 5.2	HV Other Agriculture	14.61	13.98	(0.63)
HV 5.1	HV water works	81.40	81.13	(0.27)
HV 6	Bulk Residential Users	283.49	279.90	(3.59)
HV 7	Synchronization & Start Up Power	0.14	0.45	0.32
Total (HT)		3,821.83	2,946.28	(875.55)
TOTAL LT+HT		13,891.23	13,408.90	(482.33)

Central Discom Reply: The category wise data for FY 2015-16 (Provisional) and FY 2016-17 is submitted here as mentioned below:

TC	Category	Sales (MU)		
		FY 2015-16	FY 2016-17	Increment
LV 1	Domestic	3,453.53	3,503.39	49.86
LV 2	Non-Domestic	766.57	825.77	59.20
LV 3.1	WW & Street Light	305.44	325.89	20.45
LV 4	LT Industrial	238.79	252.88	14.10
LV 5.1	Agriculture Irrigation Pumps	6,047.04	4,345.97	(1,701.06)
LV 5.2	Agriculture related Use	125.10	4.04	(121.06)
Total (LT)		10,936.46	9,257.95	(1,678.52)
HV 1	Railway Traction	732.46	-	(732.46)
HV 2	Coal Mines	34.51	30.95	(3.57)
HV 3.1	Industrial	2,281.47	2,262.06	(19.41)
HV 3.2	Non-Industrial	389.97	404.85	14.89
HV 4	Seasonal	1.72	1.65	(0.07)
HV 5.1	HV irrigation	3.01	2.82	(0.19)

TC	Category	Sales (MU)		
		FY 2015-16	FY 2016-17	Increment
HV 5.2	HV Other Agriculture	7.32	7.72	0.40
HV 5.1	HV water works	163.16	180.29	17.13
HV 6	Bulk Residential Users	161.57	160.38	(1.19)
HV 7	Synchronization & Start Up Power	0.45	0.47	0.01
	Total (HT)	3,775.64	3,051.19	(724.45)
	TOTAL LT+HT	14,712.11	12,309.14	(2,402.97)

West Discom Reply: The category wise data for FY 2015-16 (Provisional) and FY 2016-17 is submitted here as mentioned below:

TC	Category	Sales (MU)		
		FY 2015-16	FY 2016-17	Increment
LV 1	Domestic	3,582.37	3,690.36	107.99
LV 2	Non-Domestic	893.38	962.66	69.28
LV 3.1	WW & Street Light	379.69	432.76	53.07
LV 4	LT Industrial	546.97	561.69	14.73
LV 5.1	Agriculture Irrigation Pumps	7,357.70	7,995.96	638.26
LV 5.2	Agriculture related Use	1.60	1.31	(0.29)
	Total (LT)	12,761.72	13,644.75	883.03
HV 1	Railway Traction	366.02	-	(366.02)
HV 2	Coal Mines	-	-	-
HV 3.1	Industrial	2,881.40	2,956.87	75.47
HV 3.2	Non-Industrial	398.90	417.13	18.23
HV 4	Seasonal	11.46	11.37	(0.09)
HV 5.1	HV irrigation	80.30	88.54	8.24
HV 5.2	HV Other Agriculture	6.74	6.98	0.24
HV 5.1	HV water works	370.51	403.21	32.70
HV 6	Bulk Residential Users	30.63	30.85	0.22
HV 7	Synchronization & Start Up Power	0.45	5.49	5.04
	Total (HT)	4,146.41	3,920.44	(225.97)
	TOTAL LT+HT	16,908.13	17,565.19	657.06

17.10 Transfer of Funds to Pension & Terminal Benefit Trust Fund

Commission Directive:

The Commission has directed the Petitioners to file within 3 months the mechanism along with detailed conditions with regards to management of funds.

Petitioner Compliance to Directive:

The regulation 3 (1) of the MPERC (Terms and Conditions for Allowing Pension & Terminal Benefits Liabilities of Personnel of Board and Successor Entities) Regulations'2012 (G-38 of 2012) as under

“the funding of pension and other terminal benefits in respect of personnel including existing pensioners of the Board and the Pensioners of its Successor entities shall be allowed in the manner provided in these Regulations through tariff to be determined by the Commission for the Successor entities from time to time.”

Further regulation 3((3) provides that

“the liabilities referred to in sub-clause (2)(i) above related to the existing pensioners namely those who have retired from service up to 01-06-2005 onwards on a year to year basis as per the actuarial analysis undertaken by the Madhya Pradesh Power Transmission Co. Ltd. from time to time as per the directions of the Commission.”

Thus the Commission in the above manner has safeguarded the interests of all the personnel including existing pensioners of the Board and the Pensioners of its Successor entities. The regulation of the Commission is taking care of all the employees and there has been no default till date.

Further, since all the three Discoms of MP are in state of financial loss and the regular terminal benefits of all the employees are met through the retail tariff, it would not be rational to fund the TBT by further burdening the retail consumers. Any additional contribution on this part would be borrowed at higher interest rate and at the same time it would yield nominal interest by investing the funds of TBT.

Thus, whenever the companies will be in a state of financial surplus the aforesaid directive of the Commission shall be complied with by contributing funds to the TBT.

PROPOSED TARIFF SCHEDULES FOR LOW TENSION CONSUMERS

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TARIFF SCHEDULE – LV-1

DOMESTIC:

Applicability:

This tariff is applicable for light, fan and power for residential use only. Dharamshalas, Gaushalas, old age homes, day care centres for senior citizens, rescue houses, orphanages, places of worship and religious institutions will also be covered under this category.

Tariff:

LV 1.1 (Consumers having sanctioned load not more than 100 watts (0.1 kW) and consumption not more than 30 units per month)

(a) Energy Charge and Fixed Charge – For metered connection

Monthly Consumption (units)	Energy Charge (paisa per unit)		Monthly Fixed Charge	
	Urban and Rural			
	Existing	Proposed	Existing	Proposed
Up to 30 units	310	310	NIL	NIL

(b) Minimum Charges: Rs.40 per connection per month as minimum charges is applicable to this category of consumers.

LV 1.2

(i) Energy Charge and Fixed Charge – For metered connection

Monthly Consumption Slab (units)	Energy Charge with telescopic benefit (paisa per unit) Urban / Rural areas		Monthly Fixed Charge (Rs)			
	Existing	Proposed	Existing		Proposed	
			Urban areas	Rural areas	Urban areas	Rural areas
Up to 50 units	385	385	50 per connection	35 per connection	50 per connection	35 per connection
51 to 100 units	470	480	90 per connection	65 per connection	90 per connection	70 per connection
101 to 300 units	600	620	100 for each 0.5KW of authorized load	85 for each 0.5KW of authorized load	105 for each 0.5 kW of authorized load	90 for each 0.5 kW of authorized load
Above 300 units	630	650	110 for each 0.5KW of authorized load	105 for each 0.5KW of authorized load	115 for each 0.5 kW of authorized load	110 for each 0.5 kW of authorized load

Minimum Charges: Rs. 60 per connection per month as minimum charges towards energy charges are applicable for above categories.

Note: The Authorized Load shall be as defined in the Madhya Pradesh Electricity Supply Code, 2013, as amended from time to time. (Every 75 units of consumption per month or part thereof shall be considered equal to 0.5 kW of authorised load. Example: If consumption during the month is 125 units, then the authorised load will be taken as 1 kW. In case the consumption is 350 units then the authorised load will be taken as 2.5 kW.)

Temporary/ DTR meter connection	Energy Charge (Paisa per unit) – Urban and Rural Area		Monthly Fixed Charge(Rs)			
			Existing		Proposed	
	Existing	Proposed	Urban areas	Rural areas	Urban areas	Rural areas
Temporary connection for construction of own house (max. up to one year).	830	830	390 for each one kW of sanctioned or connected or recorded load, whichever is the highest	350 for each one kW of sanctioned or connected or recorded load, whichever is the highest	300 for each one kW of sanctioned or connected or recorded load, whichever is the highest	250 for each one kW of sanctioned or connected or recorded load, whichever is the highest
Temporary connection for social/ marriage purposes and religious functions.	830	830	70 for each one kW of sanctioned or connected or recorded load whichever is highest for each 24 hours duration or part thereof	55 for each one KW of sanctioned or connected or recorded load whichever is highest for each 24 hours duration or part thereof	70 for each one kW of sanctioned or connected or recorded load, whichever is highest for each 24 hours duration or part thereof	55 for each one kW of sanctioned or connected or recorded load, whichever is the highest for each 24 hours duration or part thereof
Supply through DTR meter for clusters of Jhuggi/Jhopadi till individual meters are provided	330	330	NIL	NIL	NIL	NIL

Minimum Charges: Rs. 1000/- per connection per month is applicable towards energy charges for temporary connection and no minimum charges are applicable for supply through DTR meter for clusters of Jhuggi/Jhopadi.

(ii) Energy Charge and Fixed Charge for un-metered rural domestic connections having connected load up to 500 watts:

Particulars	Units and Energy Charge to be billed per month for unmetered connections (Paise per Unit)		Monthly Fixed Charge (Rs)	
	Existing	Proposed	Existing	Proposed
Un-metered connection in Rural area having connected load more than 300 watt and up to 500 watt	75 units @ 430 per unit	75 units @ 440 per unit	75 per connection	80 per connection
Un-metered connection in Rural area having connected load more than 200 watt and up to 300 watt (With two	60 units @ 417 per unit	60 units @ 430 per unit	50 per connection	55 per connection

Particulars	Units and Energy Charge to be billed per month for unmetered connections (Paise per Unit)		Monthly Fixed Charge (Rs)	
	Existing	Proposed	Existing	Proposed
rooms and having television)				
Un-metered connection in Rural area having connected load up to 200 watt (Up to two rooms and without television)	50 units @ 310 per unit	50 units @ 320 per unit	45 per connection	45 per connection

Note: 1. Minimum charges: No minimum charges are applicable to this category of consumers.

Specific Terms and Conditions for LV-1 category:

- a) The Energy Charges corresponding to consumption recorded in DTR meter shall be equally divided amongst all consumers connected to that DTR for the purpose of billing. The Distribution Licensee will obtain consent of such consumers for billing as per above procedure.
- b) In case Energy Charges for actual consumption are less than minimum charges, minimum charges shall be billed towards energy charges. All other charges, as applicable, shall also be billed.
- c) Other terms and conditions shall be as specified under General Terms and Conditions for Low Tension Tariff.
- d) In case of prepaid consumers, a rebate of 25 paisa per unit is applicable on the basic energy charges, all other charges should be calculated on the Tariff applicable after rebate. A consumer opting for prepaid meter shall not be required to make any security deposit for the energy charge.
- e) In case of temporary purpose, 10% of sanctioned load is allowed to be used for lighting purpose and actual load for welding/grinding purpose for the renovation/upgradation of house from the existing metered permanent domestic connection on the same tariff applicable for permanent connection.

Saubhagya Scheme

The Government of India on 25th September 2017, launched Pradhan Mantri Sahaj Bijli Har Ghar Yojana, (Saubhagya), to provide electricity connections to over 40 million families in India's rural and urban areas by 31st December 2018. The scheme funds the cost of last-mile connectivity to willing households to help achieve the goal of lighting every household by 31st December 2018.

Madhya Pradesh, one of the forward looking states in power sector is participating with great enthusiasm in the Government of India scheme for connecting every household within the State, so that the last mile connectivity can be achieved before

the target date.

The DISCOMs have domestic consumer base of 97 Lakh till September 2017. With a target to connect additional 42 lakhs consumers under the Saubhagya scheme which includes remote and far flung areas, the DISCOMs are currently developing a detailed strategy to meet the deadline. Infact, over the last three months the DISCOMs have already provided connections to around 2.25 lakhs consumers. One of the key challenge for the Discom is to ensure proper Meterization to every consumers which gets connected. As this would involve large scale procurement of meters which has long lead time. However, DISCOMs are committed to install meters including prepaid meters. The DISCOMs are also committed to meet the Distribution Loss targets as mandated by the Hon'ble Commission in Tariff Regulations, 2015.

As mentioned above, since the strategy for this massive work is still being finalized, we seek indulgence of Hon'ble Commission to allow us to file additional proposal in future if any for LV 1 Category

TARIFF SCHEDULE – LV-2

NON-DOMESTIC:

LV 2.1

Applicability:

This tariff is applicable for light, fan and power to Schools / Educational Institutions including workshops and laboratories of Engineering Colleges / Polytechnics/ITIs (which are registered with /affiliated/ recognized by the relevant Govt. body or university), Hostels for students or working women or sports persons (run either by Govt. or individuals).

Tariff:

Tariff shall be as given in the following table:

Sub category	Energy Charge (paise/unit)		Monthly Fixed Charge (Rs.)			
	Urban/ Rural areas		Existing		Proposed	
	Existing	Proposed	Urban Area	Rural Area	Urban Area	Rural Area
Sanctioned load based tariff (only for connected load up to 10KW)	610	620	130 per kW	100 per kW	130 per kW	100 per kW
Mandatory Demand Based Tariff for contract demand above 10 kW	610	620	240 per kW or 192 per kVA of billing demand	200 per kW or 160 per KVA of billing demand	245 per kW or 196 per kVA of billing demand	205 per kW or 164 per KVA of billing demand

LV 2.2

Applicability:

This tariff is applicable for light, fan and power to Railways (for purposes other than traction and supply to Railway Colonies/water supply), Shops/showrooms, Parlours, All Offices, Hospitals and medical care facilities including Primary Health Centres, clinics, nursing homes belonging to either Govt. or public or private organisations, public buildings, guest houses, Circuit Houses, Government Rest Houses, X-ray plant, recognized Small Scale Service Institutions, clubs, restaurants, eating establishments, meeting halls, places of public entertainment, circus shows, hotels, cinemas, professional's chambers (like Advocates, Chartered Accountants, Consultants, Doctors etc.), bottling plants, marriage gardens, marriage houses, advertisement services, advertisement boards/ hoardings, training or coaching institutes, petrol pumps and service stations, tailoring shops, laundries, gymnasiums, health clubs, telecom towers for mobile communication and any other establishment (except those which are covered in LV 2.1),

who is required to pay Goods and Service Tax/Commercial tax/service tax/value added tax (VAT)/entertainment tax/luxury tax under any Central/State Acts.

Tariff:

Tariff shall be as given in the following table:

Sub category	Energy Charge (paise/unit)		Monthly Fixed Charge (Rs.)			
	Urban/Rural areas		Urban areas	Rural areas	Urban areas	Rural areas
	Existing	Proposed	Existing		Proposed	
On all units if monthly consumption is not more than 50 units	620	630	70 per kW	55 per kW	70 per kW	55 per kW
On all units in case monthly consumption exceeds 50 units	740	750	115 per kW	100 per kW	120 per kW	105 per kW
Mandatory Demand based tariff: For contract demand above 10 KW	640	640	260 per kW or 208 per KVA of billing demand	190 per kW or 152 per KVA of billing demand	265 per kW or 212 per KVA of billing demand	200 per kW or 160 per KVA of billing demand
Temporary connections including Multi point temporary connection at LT for Mela *	850	850	220 per kW or part thereof of sanctioned load or connected or recorded load whichever is highest	190 per kW or part thereof of sanctioned load or connected or recorded load whichever is highest	300 per kW or part thereof of sanctioned load or connected or recorded load whichever is highest	250 per kW or part thereof of sanctioned load or connected or recorded load whichever is highest
Temporary connection for marriage purposes at marriage gardens or marriage halls or any other premises covered under LV 2.1 and 2.2 categories	850 (Minimum consumption charges shall be billed @ 6 Units per kW or part thereof of sanctioned or connected or recorded load, whichever is the highest for each 24 hours duration or part thereof subject to a minimum of Rs. 500)	850 (Minimum consumption charges shall be billed @ 6 Units per kW or part thereof of sanctioned or connected or recorded load, whichever is the highest for each 24 hours duration or part thereof subject to a minimum of Rs. 500)	85 for each kW or part thereof of sanctioned or connected or recorded load whichever is the highest for each 24 hours duration or part thereof	65 for each kW or part thereof of sanctioned or connected or recorded load whichever is the highest for each 24 hours duration or part thereof	85 for each kW or part thereof of sanctioned or connected or recorded load whichever is the highest for each 24 hours duration or part thereof	65 for each kW or part thereof of sanctioned or connected or recorded load whichever is the highest for each 24 hours duration or part thereof
For X-Ray plant	Additional Fixed Charge (Rs. per machine per month)					
	Existing			Proposed		

Single Phase	540	540
Three Phase	760	760
Dental X-ray machine	120	120

* In case permission for organizing Mela is granted by Competent Authorities of the Government of Madhya Pradesh.

LV 2.3

Applicability:

This tariff is applicable exclusively for lighting, fan/cooler loads to Government Primary Schools and Government Middle Schools with connected load up to 1 kW and will strictly exclude use of heating/welding loads.

Sub Category	Area	Flat Rate Tariff Payable (Rs/Connection/Month)
For loads up to 1 kW	Urban	Rs 600 per connection per month
For loads up to 1 kW	Rural	Rs 400 per connection per month

Note: For energy audit and accounting purpose assessed consumption of 80 and 50 units per consumer per month will be considered in respective urban and rural areas.

Specific Terms and Conditions for LV-2 category:

- a) **Minimum consumption:** The consumer shall guarantee a minimum annual consumption of 240 units per kW or part thereof in urban areas and 180 units per kW or part thereof in rural areas of **sanctioned load or contract demand (in case of demand based charges)**. However, the load of X-Ray unit shall be excluded while considering the load of the consumer for calculation of minimum consumption. The method of billing minimum consumption shall be as given in General Terms and Conditions of Low Tension tariff.
- b) **Additional Charge for Excess demand:** Shall be billed as given in General Terms and Conditions of Low Tension tariff.
- c) Other terms and conditions shall be as specified under General Terms and Conditions of Low Tension Tariff.
- d) **For LV-2.1 and LV-2.2:** For the consumers having connected load in excess of 10 kW, demand based tariff is mandatory. The Distribution Licensee shall provide Trivector /Bivector Meter capable of recording Demand in kVA/kW, kWh, kVAh.
- e) In case of prepaid consumers, a rebate of 25 paisa per unit is applicable on the basic energy charges, all other charges should be calculated on the Tariff applicable after rebate. A consumer opting for prepaid meter shall not be required to make any security deposit for the energy charge.

TARIFF SCHEDULE – LV-3

PUBLIC WATER WORKS AND STREET LIGHTS

Applicability:

The tariff **LV-3.1** is applicable for Public Utility Water Supply Schemes, Sewage Treatment Plants, Sewage Pumping Installations run by P.H.E. Department or Local Bodies or Gram Panchayats or any other organization authorised by the Government to supply/ maintain public water works / sewerage installations and shall also be applicable to electric crematorium maintained by local bodies/trusts.

Note: Private water supply scheme, water supply schemes run by institutions for their own use/employees/townships etc. shall not fall in this category. These shall be billed under the appropriate tariff category to which such institution belongs. In case water supply is being used for two or more different purposes then entire consumption shall be billed for purpose for which the tariff is higher.

The tariff **LV-3.2** is applicable to traffic signals and lighting of public streets or public places including parks, town halls, monuments and its institutions, museums, public toilets, public libraries, reading rooms run by the Government or Local Bodies, and Sulabh Shochalaya.

Tariff:

Tariff shall be as given in the following table:

Category of consumers/area of applicability	Energy Charge		Monthly Fixed Charge		Minimum charges(Rs)
	(Paise per unit)		(Rs per KW)		
LV 3.1 Public Water Works	Existing	Proposed	Existing	Proposed	
Municipal Corporation/ Cantonment board	520	560	240	260	No minimum charges
Municipality/ Nagar Parishad	500	540	230	250	
Gram Panchayat	490	525	100	110	
Temporary supply	1.3 times the applicable tariff				
LV 3.2 Street light					
Municipal Corporation/ Cantonment board	520	560	350	370	No Minimum charges
Municipality/ Nagar Parishad	500	540	320	340	
Gram Panchayat	490	525	100	110	

Specific Terms and Conditions for LV-3 category:

(a) Incentives for adopting Demand Side Management:

An **incentive** equal to 5 % of Energy Charges shall be given on installation and use of energy saving devices (such as ISI energy efficient motors for pump sets and programmable on-off/ dimmer switch with automation for street lights). **Incentive** will be admissible only if full bill is paid within due dates failing which all consumed units will be charged at normal rates. Such incentive will be admissible

from the month following the month in which energy saving devices are put to use and are verified by a person authorized by the Distribution Licensee. This incentive will continue to be allowed till such time these energy saving devices remain in service. The Distribution Licensee is required to arrange wide publicity of above incentive.

- (b) Other terms and conditions shall be as specified under General Terms and Conditions of Low Tension Tariff.

TARIFF SCHEDULE – LV-4**LT INDUSTRIAL****Applicability:**

Tariff **LV-4** is applicable to light, fan and power for operating equipment used by printing press and any other industrial establishments and workshops (where any processing or manufacturing takes place including tyre re-treading). These tariffs are also applicable to cold storage, gur (jaggery) making machines, flour mills, Masala Chakkies, hullers, khandsari units, ginning and pressing units, sugar cane crushers (including sugar cane juicing machine), power looms, dal mills, besan mills, and ice factories and any other manufacturing or processing units (excluding bottling plant) producing/processing food items or processing agriculture produce for preservation/increasing its shelf life and Dairy units (where milk is processed to produce other end products of milk other than chilling, pasteurization etc.)

Tariff:

	Category of consumers	Monthly Fixed Charge (Rs.)				Energy Charge (paise per unit)	
		Existing		Proposed		Urban/Rural area	
		Urban Areas	Rural Areas	Urban Areas	Rural Areas	Existing	Proposed
4.1	Non seasonal consumers						
4.1a	Demand based tariff (Contract demand up to 150HP / 112KW)	285 per kW or 228 per KVA of billing demand	180 per kW or 144 per KVA of billing demand	290 per kW or 232 per KVA of billing demand	190 per kW or 152 per KVA of billing demand	630	630
4.1 b	Temporary connection	1.3 times of the applicable tariff					

***In case of consumers having contract demand up to 25 HP, the energy charges and fixed charges shall be billed at a rate 30% less than the charges shown in above table for tariff category 4.1a.**

Note: For consumers where contract demand is up to 25HP but the recorded maximum demand is more than 25 HP, rebate of 30% shall not be applicable for that particular month.

4.2 Seasonal Consumers (period of season shall not exceed 180 days continuously). If the declared season or off-season spreads over two tariff periods, then the tariff for the respective period shall be applicable.				
4.2 a	During season	Normal tariff as for Non seasonal consumers	Normal tariff as for non-seasonal consumers	Normal tariff as for non-seasonal consumers
4.2 b	During Off - season	Normal tariff as for Non Seasonal Consumers on 10% of contract demand or actual recorded demand whichever is more	Normal tariff as for Non Seasonal Consumers on 10% of contract demand or actual recorded demand whichever is more	120 % of normal tariff as for Non-seasonal consumers

Terms and Conditions:

- (a) The maximum demand of the consumer in each month shall be reckoned as four times the largest amount of kilovolt ampere hours delivered at the point of supply of the consumer during any continuous fifteen minutes in that month.
- (b) Demand based tariff is mandatory for all the LT industrial consumers and the licensee shall provide Tri vector/ Bi vector Meter capable of recording Demand in kVA/ kW, kWh, kVAh and Time of Use consumption..
- (c) **Minimum Consumption:** There is no binding of minimum consumption in this category.
- (d) **Additional Charge for Excess Demand:** Shall be billed as given in the General Terms and Conditions of Low Tension Tariff.
- (e) Other terms and conditions shall be as specified under General Terms and Conditions of Low Tension Tariff.
- (f) Other Terms and conditions for **seasonal consumers:**
 - i. The consumer has to declare months of season and off season for the financial year 2018-19 within 60 days of issue of tariff order and inform the same to the Distribution Licensee. If the consumer has already declared the period of season and off-season during this financial year prior to issue of this order, same shall be taken into cognizance for the purpose and accepted by the Distribution Licensee.
 - ii. The seasonal period once declared by the consumer cannot be changed during the financial year.
 - iii. This tariff is not applicable to composite units having seasonal and other category of loads.
 - iv. The consumer will be required to restrict his monthly off season consumption to 15% of the highest of average monthly consumption during the preceding three seasons. In case this limit is exceeded in any off season month, the consumer will be billed under Non seasonal tariff for the whole financial year as per the tariff in force.
 - v. The consumer will be required to restrict his maximum demand during off season up to 30 % of the contract demand. In case the maximum demand recorded in any month of the declared off season exceeds 31.5% of CD (105% of 30% of CD), the consumer will be billed under Non seasonal tariff for the whole financial year as per the tariff in force.

TARIFF SCHEDULE – LV-5

AGRICULTURE AND ALLIED ACTIVITIES

Applicability:

The tariff **LV-5.1** shall apply to connections for permanent agricultural pump, chaff cutters, threshers, winnowing machines, seeding machines and irrigation pumps of lift irrigation schemes including water drawn by agriculture pumps for use by cattle, nurseries, farms growing flowers/ plants/saplings/ fruits, mushroom and grasslands.

The tariff **LV-5.2** shall apply to connections for fisheries ponds, aquaculture, sericulture, hatcheries, poultry farms, cattle breeding farms and those dairy units only where extraction of milk and its processing such as chilling, pasteurization etc. is done.

The tariff **LV- 5.3** shall apply to connections for permanent agricultural pump, chaff cutters, threshers, winnowing machines, seeding machines and irrigation pumps of lift irrigation schemes including water drawn by agriculture pumps for use by cattle to whom flat rate tariff is applicable.

Tariff:

S. No.	Sub-Category	Monthly Fixed charges (Rs.)	Energy charges (Paise per unit)	Monthly Fixed charges (Rs.)	Energy charges (Paise per unit)
		Existing		Proposed	
LV- 5.1					
a)(i)	First 300 units per month	35	430	45	460
(ii)	Above 300 units up to 750 units in the month	45	515	45	560
(iii)	Rest of the units in the month	45	545	45	590
b)	Temporary connections	45	559	45	598
c)	DTR metered group consumers	NIL	390	NIL	420
LV-5.2					
a)	Up to 25 HP in urban areas	90 per HP	490	95 per HP	520
b)	Up to 25 HP in rural areas	70 per HP	470	80 per HP	500
c)	Demand based tariff (Contract demand and connected load up to 150 HP) in urban areas	230 per kW or 184 per kVA of billing demand	580	230 per kW or 184 per kVA of billing demand	580

d)	Demand based tariff (Contract demand and connected load up to 150 HP) in rural areas	110 per kW or 88 per kVA of billing demand	580	185 per kW or 148 per kVA of billing demand	580
LV 5.3		Existing	Proposed		
	Agriculture flat rate exclusive of subsidy *	Charges payable by the consumer in Rs per HP (for period of 6 months) from April to September	Charges payable by the consumer in Rs per HP (for period of 6 months) from October to March	Charges payable by the consumer in Rs per HP (for period of 6 months) from April to September	Charges payable by the consumer in Rs per HP (for period of 6 months) from October to March
a)	Three phase- urban	700	700	700	700
b)	Three phase- rural	700	700	700	700
c)	Single phase urban	700	700	700	700
d)	Single phase rural	700	700	700	700

*see para 1.2 of terms and conditions

Note: The agriculture consumers in urban area connected to a feeder other than separated agriculture feeder will be billed through meter as per metered tariff. Unmetered consumers may be billed as per flat rate till meters are installed.

Terms and Conditions:

1.1 Billing of consumers under tariff schedule LV 5.1:

Billing to the consumers covered under tariff schedule LV 5.1 shall be done on a monthly basis based on the consumption recorded in the meter. Unmetered temporary connection under this schedule shall be billed on the basis of assessment of consumption provided under condition 1.3 (iii) of this schedule.

1.2 Billing of consumers under tariff schedule LV 5.3:

Rates payable by the consumer under tariff schedule LV 5.3 are exclusive of subsidy. The bill for the consumer covered under the tariff schedule LV 5.3 shall be calculated at the rates specified under the tariff schedule LV 5.1 based on norms for assessment of units per HP specified under condition 1.3 of this schedule. The consumer shall be required to pay at the rates specified under tariff schedule LV 5.3 and the balance amount of the bill shall be paid by the State Govt. as advance subsidy to the Distribution licensee.

1.3 Basis of energy audit and accounting for categories LV 5.1 and LV 5.3:

- i) For energy audit and accounting purposes, actual billed consumption of metered consumers covered under tariff schedule LV 5.1 and LV 5.3 shall be considered.
- ii) For unmetered agriculture consumers under LV 5.3 category, assessed

consumption shall be as per following norms:

Particulars	Proposed No. of units per HP of sanctioned load per month			
	Urban Area		Rural Area	
Type of pump Motor	April to Sept	Oct to March	April to Sept	Oct to March
Three Phase	120	170	110	170
Single Phase	120	180	110	180

iii) For unmetered temporary agriculture consumers under LV 5.1 category, assessed consumption shall be as per following norms:

Particulars	Proposed No. of units per HP of sanctioned load per month	
	Urban Area	Rural Area
Type of pump Motor		
Three Phase	220	195
Single Phase	230	205

- 1.4 Agricultural consumers opting for temporary supply shall have to pay the charges in advance for three months including those who request to avail connection for one month only subject to replenishment from time to time for extended period and adjustment as per final bill after disconnection. Regarding temporary connection for the purpose of threshing the crops, temporary connection for a period of one month can be served at the end of Rabi and Kharif seasons only with payment of one month's charges in advance.
- 1.5 Following **incentive*** shall be given to the metered agricultural consumers on installation of energy saving devices –

S. No.	Particulars of Energy Saving Devices	Rate of rebate
1.	ISI / BEE star labeled motors for pump sets	15 paise per unit
2.	ISI / BEE star labeled motors for pump sets and use of frictionless PVC pipes and foot valve	30 paise per unit
3.	ISI / BEE star labeled motors for pump sets and use of frictionless PVC pipes and foot valves along with installation of shunt capacitor of appropriate rating	45 paise per unit

* Incentive shall be allowed on the consumer's contribution part of the normal tariff (full tariff minus amount of Govt. subsidy per unit, if any) for installation of energy saving devices under demand side management. This incentive will be admissible only if full bill is paid within due dates failing which all consumed units will be charged at normal rates. Incentive will be admissible from the month following the month in which Energy Saving Devices are put to use and its verification by a person authorized by the Distribution Licensee. The Distribution Licensee is required to arrange wide publicity to above incentive in rural areas. The licensee is required to place quarterly information regarding incentives provided on its web site.

1.6 Minimum consumption

- (i) **For Metered agricultural consumers (LV-5.1):** The consumer shall guarantee a minimum consumption of 30 units per HP or part thereof of connected load per month for the months from April to September and 90 units per HP or part thereof of connected load per month for the months from October to March irrespective of whether any energy is consumed or not during the month.
- (ii) **For other than agricultural use (LV-5.2):**
 - 1. The consumer will guarantee a minimum annual consumption (kWh) based on 180 units/HP or part thereof of contract demand in notified rural areas and 360 units/HP or part thereof of contract demand in urban areas irrespective of whether any energy is consumed or not during the year.
 - 2. The consumer shall be billed monthly minimum 15 units per HP per month in rural area and 30 units per HP per month in urban area in case the actual consumption is less than monthly minimum consumption (kWh).
 - 3. **Method of billing of minimum consumption** shall be as given in the General Terms and Conditions of Low Tension Tariff.
- 1.7 **Additional Charge for Excess Demand:** Shall be billed as given in the General Terms and Conditions of Low Tension Tariff.
- 1.8 **Delayed payment surcharge** in case of agriculture consumers on LV - 5.3 flat rate tariff shall be levied @ of Rs 1 every month for each block or part thereof of arrears of Rs.100/. For other sub categories of this Tariff Schedule, the delayed payment surcharge shall be billed as specified under General Terms and Conditions of Low Tension Tariff.
- 1.9 **Specific conditions for DTR metered consumers:**
 - a. All the consumers connected to the DTR shall pay the energy charges for the units worked out based on their actual connected load.
 - b. The Distribution Licensee will obtain consent of such connected consumers for billing as per procedure specified in (a) above.
- 1.10 One CFL/ LED lamp up to 20W is permitted at or near the pump in the power circuit.
- 1.11 The use of three phase agriculture pump by installing external device during the period when the supply is available on single phase, shall be treated as illegal extraction of energy and action as per prevailing rules and Regulations shall be taken against the defaulting consumer.
- 1.12 Other terms and conditions shall be as specified under General Terms and Conditions of Low Tension Tariff.

GENERAL TERMS AND CONDITIONS OF LOW TENSION TARIFF

1. **Rural Areas** mean those areas notified by the GoMP vide notification no. 2010/F13/05/13/2006 dated 25th March 2006 as may be amended from time to time. **Urban areas** mean all areas other than those notified by the GoMP as Rural Areas.
 2. Rounding off: All bills will be rounded off to the nearest rupee i.e. up to 49 paisa shall be ignored and 50 paisa upwards shall be rounded off to next Rupee.
 3. Billing Demand: In case of demand based tariff, the billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 90% of the contract demand, whichever is higher. The billing demand shall be rounded off to the nearest integer number i.e. fraction of 0.5 or above will be rounded to next higher integer and the fraction of less than 0.5 shall be ignored.
 4. Fixed charges billing: Unless specified otherwise, fractional load for the purposes of billing of fixed charges shall be rounded off to nearest integer i.e. fraction of 0.5 or above will be rounded to next higher integer and the fraction of less than 0.5 shall be ignored. However for loads less than one kW/HP, it shall be treated as one kW/HP.
5. **Method of billing of minimum consumption:**
- a. **For metered agricultural consumers and other than agricultural consumer's horticulture activity - LV 5.1:** The consumer shall be billed minimum monthly consumption (kWh) specified for his category for the month in which his actual consumption is less than prescribed minimum consumption.
 - b. **For other consumers where applicable:**
 - a. The consumer shall be billed one twelfth of guaranteed annual minimum consumption (kWh) specified for his category each month in case the actual consumption is less than above mentioned minimum consumption.
 - b. During the month in which actual cumulative consumption equals or is greater than the annual minimum guaranteed consumption, no further billing of monthly minimum consumption shall be done in subsequent months of the financial year and only actual recorded consumption shall be billed.
 - c. Tariff minimum consumption shall be adjusted in the month in which cumulative actual or billed monthly consumption exceeds cumulative monthly prorated minimum annual guaranteed consumption. If actual cumulative consumption does not get fully adjusted in that month, adjustment shall continue to be provided in subsequent months of the financial year. The following example illustrates the procedure for monthly billing of consumption where prorated monthly minimum consumption is 100 kWh based on annual consumption of 1200 kWh.

Month	Actual cumulative consumption (kWh)	Cumulative minimum consumption (kWh)	Higher of 2 and 3 (kWh)	Already billed in the year (kWh)	To be billed in the month = (4-5) (kWh)
1	2	3	4	5	6
April	95	100	100	0	100
May	215	200	215	100	115
June	315	300	315	215	100
July	395	400	400	315	85
Aug	530	500	530	400	130
Sept	650	600	650	530	120
Oct	725	700	725	650	75
Nov	805	800	805	725	80
Dec	945	900	945	805	140
Jan	1045	1000	1045	945	100
Feb	1135	1100	1135	1045	90
March	1195	1200	1200	1135	65

6. **Additional Charge for Excess connected load or Excess Demand:** Shall be billed as per following procedure:

- a) **For demand based tariff:** The consumers availing supply at demand based tariff shall restrict their actual maximum demand within the contract demand. However, in case the actual maximum demand recorded in any month exceeds 115% of the contract demand, the tariff in this schedule shall apply to the extent of 115 % of the contract demand only. The consumer shall be charged for demand recorded in excess of 115% of contract demand (termed as Excess Demand) at the following rates: -
- Energy charges for Excess Load:** No extra charges are applicable on the energy charges due to the excess demand or excess connected load
 - Fixed Charges for Excess Demand:** These charges shall be billed as per following:
 - Fixed Charges for Excess Demand when the recorded maximum demand is up to 130% of the contract demand:** Fixed Charges for Excess Demand over and above the 115 % of contract demand shall be charged at 1.3 times the normal rate of Fixed Charges.
 - Fixed Charges for Excess Demand when the recorded maximum demand exceeds 130% of contract demand:** In addition to Fixed Charges in 1 above, recorded demand over and above 30 % of the contract demand shall be charged at 2 times the normal rate of Fixed Charges.

- b) **For connected load based tariff:** The consumers availing supply at connected load based tariff shall restrict their actual connected load within the sanctioned load. However, in case the actual connected load in any month exceeds 115% of the sanctioned load, the tariff in this schedule shall apply to the extent of 115 %

of the sanctioned load only. The consumer shall be charged for the connected load found in excess of 115% of the sanctioned load (termed as Excess Load) at the following rates:-

- i. **Energy charges for Excess Load:** No extra charges are applicable on the energy charges due to the excess demand or excess connected load
- ii. **Fixed Charges for Excess load:** These charges shall be billed as per following, for the period for which the use of excess load is determined in condition i) above:
 1. **Fixed Charges for Excess load when the connected load is found up to 130% of the sanctioned load:** Fixed Charges for Excess load over and above the 115 % of sanctioned load shall be charged at 1.3 times the normal rate of Fixed Charges.
 2. **Fixed Charges for Excess load when the connected load exceeds 130% of sanctioned load:** In addition to Fixed Charges in 1 above, connected load found over and above 30 % of the sanctioned load shall be charged at 2 times the normal rate of Fixed Charges.
- c) The above billing for Excess connected Load or Excess Demand, applicable to consumers is without prejudice to the Distribution Licensee's right to ask for revision of agreement and other such rights that are provided under the Regulations notified by the Commission or under any other law.

The maximum demand of the consumer in each month shall be reckoned as four times the largest amount of kilovolt ampere hours delivered at the point of supply of the consumer during any continuous fifteen minutes in that month.

7. Incentives/Rebates:

- (a) **Rebate on advance payment:** For advance payment made before commencement of consumption period for which bill is prepared, a rebate of 1 % per month on the amount (excluding security deposit) which remains with the Distribution Licensee at the end of calendar month shall be credited to the account of the consumer after adjusting any amount payable to the Distribution Licensee.
- (b) **Incentive for prompt payment:** An incentive for prompt payment @0.25% of the bill amount (excluding arrears, security deposit, meter rent and Government levies viz. Electricity Duty and Cess etc.) shall be given in case the payment is made at least 7 days in advance of the due date of payment where the current month billing amount is equal to or greater than Rs. One Lakh. The consumers in arrears shall not be entitled for this incentive.
- (c) **Rebate for online bill payment:** Rebate of 0.5% on the total bill amount

maximum up to Rs 20 and minimum of Rs 5 will be applicable for making online payment of bill. The following modes will be the online payment avenues available to the consumers for making online payment:-

- i. Payment Gateway
- ii. Net Banking
- iii. Debit/Credit Cards
- iv. MP Online (only through MP Online's web Portal);
- v. SBI Collect (For HT consumers only);
- vi. Smart Bijli (Mobile App); &

Other similar modes of online payments as approved by individual Discom time to time.

(d) **Load Factor incentive:** Following slabs of incentive shall be allowed for consumers billed under demand based tariff:

Load factor	Concession in energy charges
For load factor above 25% and up to 30 % load factor on contract demand	12 paisa per unit concession on the normal energy charges for all energy consumption over and above 25% load factor during the billing month.
For load factor above 30% and up to 40 % load factor on contract demand	In addition to load factor concession available up to 30% Load factor, concession at the rate of 24 paise per unit on the normal energy charges for all energy consumption over and above 30 % load factor during the billing month.
For load factor above 40% load factor on contract demand	In addition to load factor concession available up to 40% load factor, concession at the rate of 36 paise per unit on the normal energy charges for all energy consumption over and above 40% load factor during the billing month

The **load factor** shall be calculated as per the following formula:

$$\text{Load factor (\%)} = \frac{\text{Monthly consumption}}{\text{No. of hours in the billing month} \times \text{Demand (KW)}} \times 100$$

- i. Monthly consumption shall be units (kWh) consumed in the month excluding those received from sources other than Licensee.
- ii. No. of Hours in billing month shall exclude period of scheduled outages in hours.
- iii. Demand shall be maximum demand recorded or contract demand whichever is higher.

Note: The Load Factor (%) shall be rounded off to the nearest lower integer. The billing month shall be the period in number of days between the two

consecutive dates of meter readings taken for the purpose of billing to the consumer for the period under consideration as a month.

(e) Power Factor Incentive:

If the average monthly power factor of the consumer is equal to or more than 85%, incentive shall be payable as follows:

Power Factor	Percentage incentive payable on billed energy charges
Above 85% up to 86%	0.5
Above 86% up to 87%	1.0
Above 87% up to 88%	1.5
Above 88% up to 89%	2.0
Above 89% up to 90%	2.5
Above 90% up to 91%	3.0
Above 91% up to 92%	3.5
Above 92% up to 93%	4.0
Above 93% up to 94%	4.5
Above 94% up to 95%	5.0
Above 95% up to 96%	6.0
Above 96% up to 97%	7.0
Above 97% up to 98%	8.0
Above 98% up to 99%	9.0
Above 99%	10.0

For this purpose, the “average monthly power factor” is defined as the ratio in percentage of total kilowatt-hours to the total kilovolt ampere hours recorded during the month.

8. Other Terms and Conditions:

- (a)** The Sanctioned Load or Connected Load or Contract Demand should not exceed 112kW / 150 HP except where a higher limit is specified or the category is exempted from the ceiling on connected load. If the consumer exceeds his connected load or contract demand beyond this ceiling on more than in two billing months during the tariff period, the Distribution Licensee may insist on the consumer to avail HT supply.
- (b)** Metering Charges shall be billed as per schedule of Metering and Other Charges as prescribed in MPERC (Recovery of Expenses and other Charges for providing Electric Line or Plant used for the purpose of giving supply), Regulations (Revision-I), 2009. Part of a month will be reckoned as full month for purpose of billing.
- (c)** In case the cheque presented by the consumer is dishonoured, without prejudice to Distribution Licensee's rights to take recourse to such other action as may be available under the relevant law, a service charge of Rs. 200 per cheque shall be levied in addition to delayed payment surcharge.

- (d) Other charges as stated in Schedule of Miscellaneous Charges shall also be applicable.
- (e) Welding Surcharge is applicable to installations with welding transformers, where the connected load of welding transformers exceeds 25% of the total connected load and where suitable capacitors of prescribed capacity have not been installed to ensure power factor of not less than 0.8 (80%) lagging. Welding Surcharge of 75 (seventy five) paisa per unit shall be levied for the consumption of the entire installation during the month. However, no welding surcharge shall be levied when recorded power factor is 0.8 or more.
- (f) For purposes of computing the connected load in kW of the welding transformers, a power factor of 0.6 (60%) shall be applied to the maximum current or kVA rating of such welding transformers.
- (g) Existing LT Power Consumers shall ensure that LT capacitor of proper rating is provided. In this regard, the Madhya Pradesh Electricity Supply Code, 2013, as amended from time to time may be referred. It shall be the responsibility of the consumer to ensure that overall average power factor during any month is not less than 0.8 (80%) failing which the consumer shall be liable to pay low power factor surcharge on the entire billed amount against energy charges during the month at the rates given below:

1. For the LT Power Consumers, whose meter is capable of recording average power factor:

- a) Surcharge @ 1 % of energy charges for every 1% fall in power factor below 80% up to 75 %.
- b) Surcharge of 5% plus 1.25% of energy charges for every 1% fall in power factor below 75% up to 70%.

The maximum limit of surcharge will be 10 % of the energy charges billed during the month.

2. For LT Power Consumers having meter not capable of recording average power factor: The consumer shall ensure that LT capacitors of proper rating are provided and are in good working condition. In this regard, the Madhya Pradesh Electricity Supply Code, 2013, as amended from time to time may be referred for guidance. In case of failure to meet the above criteria, the consumer would be levied a low power factor surcharge of 10% on the entire billed amount against energy charges during the month and would be continued to be billed till such time the consumer meets the above criteria .

- (h) Levy of welding / power factor surcharge as indicated hereinabove shall be without prejudice to the rights of the Licensee to disconnect the consumer's installation, if steps are not taken to improve the power factor by installing suitable shunt capacitors.

- (i) In case of any dispute on applicability of tariff on a particular LT category, the decision of the Commission shall be final.
- (j) The tariff does not include any tax, cess or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall also be payable by the consumer in addition to the tariff charges and applicable miscellaneous charges.
- (k) **Delayed payment Surcharge for all categories:** Surcharge at the rate of 1.25 % per month or part thereof on the amount outstanding (including arrears) will be payable if the bills are not paid up to due date subject to a minimum of Rs.5/- per month for total outstanding bill amount up to Rs. 500/- and Rs 10/ per month for amount of bill more than Rs.500/. The part of a month will be reckoned as full month for the purpose of calculation of delayed payment surcharge. The delayed Payment surcharge will not be levied for the period after supply to the consumer is permanently disconnected. This provision shall not be applicable to that category where the levy of delayed payment surcharge has been prescribed separately.
- (l) In case of conversion of LT connection into HT connection, it is mandatory on the part of both the consumer and the licensee to get the HT agreement executed before availing supply at HT.
- (m) Use of mix loads in one connection: Unless otherwise permitted specifically in the tariff category, the consumer requesting for use of mix loads for different purposes shall be billed for the purpose for which the tariff is higher.
- (n) Consumers situated in Industrial Growth Centres, Industrial Parks, Industrial Clusters or any other Industrial township/area by whatever name called, which are developed/recognized/approved by the government of Madhya Pradesh or any of its Agencies, shall be billed under urban tariff.
- (o) Charging facilities in respect of batteries utilised for electric/hybrid electric vehicles shall be billed in the respective tariff categories where such facilities are located. Charging of such batteries in residential premises is permitted for charging of consumer's own vehicles only.
- (p) No change in the tariff or the tariff structure including minimum charges for any category of consumer is permitted except with prior written permission from the Commission. Any action taken without such written permission of the Commission shall be treated as null and void and shall also be liable for action under relevant provisions of the Electricity Act, 2003.
- (q) All conditions prescribed herein shall be applicable to the consumer notwithstanding if any contrary provisions exist in the agreement entered into by the consumer with the licensee.

- (r) If any difficulty arises in giving effect to any of the provisions of this order, the Commission may, by general or special order, direct the Licensees to do or undertake things, which in the opinion of the Commission is necessary or expedient for the purpose of removing the difficulties.

9. Additional conditions for Temporary Supply at LT:

- (a) Temporary supply cannot be demanded by a prospective/ existing consumer as a matter of right but will normally be arranged by the Distribution Licensee when a requisition giving due notice is made. The temporary additional supply to an existing consumer also shall be treated as a separate service and charged subject to following conditions. However service under Tatkal Scheme shall be made available within 24 hours according to the charges specified in the order of the Commission regarding Schedule of Miscellaneous Charges.
- (b) Fixed Charge and Energy Charge for temporary supply shall be billed at 1.3 times the normal charges as applicable to relevant category if not specified otherwise specifically.
- (c) Estimated bill amount is payable in advance before serving the temporary connection subject to replenishment from time to time and adjustment as per final bill after disconnection. No interest shall be given to consumers for this advance payment.
- (d) The Sanctioned load or connected load shall not exceed 112kW / 150 HP.
- (e) The month for the purpose of billing of charges for temporary supply shall mean 30 days from the date of connection. Any period less than 30 days shall be treated as full month for the purpose of billing.
- (f) Connection and disconnection charges and other miscellaneous charges shall be paid separately as may be specified in the Schedule of Miscellaneous Charges.
- (g) Load factor concession shall not be allowed on the consumption for temporary connection.
- (h) Power factor incentive/penalty shall be applicable at the same rate as applicable for permanent connection.

PROPOSED TARIFF SCHEDULES FOR HIGH TENSION CONSUMERS

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TARIFF SCHEDULE - HV-1

RAILWAY TRACTION:

Applicability:

This Tariff shall apply to the Railways for Traction loads only.

Tariff:

Category of consumer	Existing		Proposed	
	Monthly Fixed Charge (Rs. per kVA of billing demand per month)	Energy Charge (paise / unit)	Monthly Fixed Charge (Rs. per kVA of billing demand per month)	Energy Charge (paise / unit)
Railway Traction on 132 kV / 220 kV	310	590	310	590

Note: A rebate of Rs. 2 per Unit in energy charges is applicable. This rebate shall be applicable for next five years.

Specific Terms and Conditions:

- (a)** In order to give impetus to electrification of Railway network in the State, a rebate of 15% in energy charges for new Railway traction connections shall be allowed for a period of five years from the date of connection for such new projects for which agreements for availing supply from licensee are commenced during FY 2018-19. The rebate provided in earlier orders shall remain in force at the rate and for the duration as mentioned in those tariff orders.
- (b)** The dedicated feeder maintenance charges shall not be applicable.
- (c)** Guaranteed Annual Minimum Consumption shall be 1500 units (kWh) per kVA of Contract Demand. The method of billing of minimum consumption shall be as given in General Terms and Conditions of High Tension Tariff.
- (d)** The consumer shall at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds 115% of the contract demand, the tariffs given in various schedules shall apply to the extent of the 115% of the contract demand only. The consumer shall be charged for excess demand computed as difference of recorded maximum demand and 115% of contract demand on fixed charges and while doing so, the other terms and conditions of tariff, if any, shall also be applicable on the said excess demand.
- (e)** **Energy charges for excess demand:** No extra charges are applicable on the energy charges due to the excess demand or excess connected load.
- (f)** The excess demand so computed as per above, if any, in any month shall be charged at the following rates:
 - (a)** When the recorded maximum demand is up to 130% of contract demand-

Excess Demand over and above 115 % of the contract demand—at the rate of Rs. 341 per kVA

- (b) When the recorded maximum demand exceeds 130% of contract demand: - In addition to fixed charges in (a) above, recorded demand over and above 30 % of the contract demand shall be charged—at the rate of Rs. 465 per kVA

While doing so, other provisions of electricity tariff (such as tariff minimum charge etc.) will also be applicable on aforesaid excess demand.

(g) Power Factor Penalty:

- i. If the average monthly power factor of the consumer falls below 90 percent, penalty will be levied at the rate of one percent of total energy charges for the month for each one percent fall in the average monthly power factor below 90 percent. **For determination of power factor, lag only logic shall be used and no power factor penalty shall be levied if leading power factor is recorded.**
- ii. If the average monthly power factor of the consumer falls below 85 percent, the consumer shall be levied a penalty of 5% (five percent) plus @ 2% (two percent) for each one percent fall in his average monthly power factor below 85 percent, on the total amount of bill under the head of “Energy Charge”. This penalty shall be subject to the condition that overall penalty on account of low power factor does not exceed 35%.
- iii. For this purpose, the “average monthly power factor” is defined as the ratio expressed in percentage of total kilowatthours recorded to the total kilovoltampere hours recorded during the billing month. This ratio (%) shall be rounded off to the nearest integer figure and the fraction of 0.5 or above will be rounded to next higher integer and the fraction of less than 0.5 shall be ignored.
- iv. Notwithstanding what has been stated above, if the average power factor of a new connection of the consumer is found to be less than 90% in any month during the first 6 (six) months from the date of connection, the consumer shall be entitled to a maximum period of six months to improve it to not less than 90% subject to following conditions:
 - This period of six months shall be reckoned from the month in which the average power factor was found for the first time to be less than 90%.
 - In all cases, the consumer will be billed penal charges for low power factor, but in case the consumer maintains the average power factor in subsequent three months (thus in all four months) to not less than 90%, the charges on account of low power factor billed during the said six months period, shall be withdrawn and credited in next monthly bills.
 - The facility, as mentioned herein, shall be available not more than once to new consumer whose average power factor is less than 90% at any time during 6 months from the date of connection. Thereafter, the charges on account of low average power factor, if found less than 90%, shall be payable as by any other consumer.

- (h) Emergency feed extension: Provided that if as a result of the emergency in the traction substation or in the transmission line supplying load or part thereof is transferred to an adjacent traction substation, the M.D. for the month for that adjacent traction substation shall be as the average of M.D. for previous three months during which no emergency had occurred.
- (i) Other terms and conditions shall be as mentioned in the General Terms and Conditions of High Tension Tariff.

TARIFF SCHEDULE – HV-2

COAL MINES:

Applicability:

This Tariff shall apply to the Coal Mines for power, ventilation, lights, fans, coolers, etc. which shall mean and include all energy consumed for coal mines and lighting in the offices, stores, canteen, compound lighting etc. and the consumption for residential use therein.

Tariff:

Sub category	Monthly Fixed Charge (Rs./kVA of billing demand per month)		Energy Charge for consumption up to 50% load factor (Paise/unit)		Energy Charge for consumption in excess of 50% load factor (paise/unit)	
Coal Mines	Existing	Proposed	Existing	Proposed	Existing	Proposed
11 kV supply	620	635	670	690	580	600
33 kV supply	630	645	650	670	570	590
132 kV supply	640	650	630	630	560	570
220 kV supply	650	665	600	610	530	540

Specific Terms and Conditions:

- a. **Guaranteed Minimum Consumption** shall be on the following basis:

Supply Voltage	Guaranteed annual minimum consumption in units (kWh) per kVA of contract demand
For supply at 220 / 132 kV	1620
For supply at 33 / 11 kV	1200

Note: The method of billing of minimum consumption shall be as given in General Terms and Conditions of High Tension Tariff.

- b. **Time of Day Surcharge / Rebate:** This surcharge/ rebate shall be as specified in General Terms and Conditions of High Tension Tariff.
- c. Other terms and conditions shall be as specified under General Terms and Conditions of High Tension Tariff.

TARIFF SCHEDULE – HV-3

INDUSTRIAL NON-INDUSTRIAL AND SHOPPING MALLS

Applicability:

The **tariff HV-3.1(Industrial)** shall apply to all HT industrial consumers including mines (other than coal mines) for power, light and fan etc. which shall mean and include all energy consumed for factory and lighting in the offices, main factory building, stores, canteen, residential colonies of industries, compound lighting, common and ancillary facilities such as Banks, General purpose shops, Water supply, Sewage pumps, Police Stations etc. in the premises of the industrial units and Dairy units where milk is processed (other than chilling, pasteurization etc.) to produce other end products of milk and Cold Storages.

The **tariff HV-3.2 (Non-Industrial)** shall apply to establishments like Railway Stations, Offices, Hotels, Hospitals, Institutions etc. (excluding group of consumers) having mixed load for power, light and fan etc. which shall mean and include all energy consumed for lighting in the offices, stores, canteen, compound lighting etc. This shall also cover all other categories of consumers, defined in LT non-domestic category.

The **tariff HV-3.3 (Shopping malls)** shall apply to establishments of shopping malls having group of non-industrial consumers subject to the specific terms and conditions specified in (e) of this schedule.

Shopping Mall shall be a multi-storeyed shopping centre in an urban area having a system of enclosed walkways with collection of independent retail stores, services and parking areas constructed and maintained by a management firm/ developer as a unit.

The **tariff HV-3.4 (Power intensive industries)** shall apply to Mini Steel Plants (MSP), MSP with rolling mills/ sponge iron plants in the same premises, electro chemical/ electro thermal industry, Ferro alloy industry which shall mean and include all energy consumed for factory and lighting in the offices, main factory building, stores, canteen, residential colonies of industries, compound lighting etc.

Tariff:

S. No.	Sub-Category of consumer	Monthly Fixed Charge (Rs/KVA) of billing demand per month	Energy Charge for consumption on up to 50% load factor (paise/unit)	Energy Charge for consumption in excess 50% load factor (paise/unit)	Monthly Fixed Charge (Rs/KVA) of billing demand per month	Energy Charge for consumption on up to 50% load factor (paise/unit)	Energy Charge for consumption in excess 50% load factor (paise/unit)
		Existing		Proposed			
3.1	Industrial						
	11 kV supply	330	660	600	350	670	610
	33 kV supply	510	650	550	525	650	560
	132 kV supply	610	605	525	610	620	535
	220/400 kV supply	620	565	500	630	580	510
3.2	Non-Industrial						
	11 kV supply	300	680	630	320	685	630
	33 kV supply	430	670	610	430	670	600
	132 kV supply	540	620	550	560	620	550
3.3	Shopping Malls						
	11 kV supply	270	680	625	300	710	650
	33 kV supply	375	660	590	390	685	610
	132 kV supply	510	600	540	510	620	560
3.4	Power intensive industries*						
	33 kV supply	530	500	500	560	530	530
	132 kV supply	640	480	480	660	495	495
	220 kV supply	660	450	450	680	490	490

Specific Terms and Conditions:

- a. **Guaranteed Minimum Consumption** for all the above categories shall be on the following basis:

Supply Voltage	Sub- category	Guaranteed annual minimum consumption in units (kWh) per kVA of contract demand
<i>For supply at 220/132 kV</i>	Rolling Mills	1200
	Educational institutions	720
	Others	1800
<i>For supply at 33 / 11 kV</i>	Educational institutions	600
	Contract demand up to 100 kVA	600
	Others	1200

Note: The method of billing of minimum consumption shall be as given in General Terms and Conditions of High Tension Tariff.

- b. **Time of Day Surcharge / Rebate:** This surcharge/ rebate shall be as specified in General Terms and Conditions of High Tension Tariff.
- c. **Rebate for existing HT connections:** A rebate of 60 paise per unit is applicable in energy charge for incremental monthly consumption w.r.t consumption of FY 2015-16, same month. The consumers whose HT agreements have commenced during the

financial year 2015-16, the incremental monthly consumption shall be compared with the corresponding monthly consumption of FY 2016-17.

Note: In the event of enhancement of contract demand the incremental consumption shall be worked-out proportionately.

- d. **Rebate for new HT connections:** A rebate of Rs 1 per unit is applicable in energy charges for new connection for the consumption recorded. The rebate shall be allowed from the date of commencement of HT agreement for a period of five years or up to FY 2021-22 whichever is earlier for such new projects for which agreements for availing supply from licensee are commenced during FY 2016-17, FY 2017-18 and FY 2018-19. Provided these connections are served to “new” projects only and no rebate is applicable for new connections obtain by virtue of change in ownership in existing connection.

Note: the “new” project shall be those projects where the consumer invests in the setting up of new industry/plant.

- e. **Rebate on enhancement of contract demand by HT Connection:** If the HT consumers have increased their contract demand after 31st March 2016, at least by 250 kVA or 25% of the existing contract demand, whichever is lower, a rebate of Rs. 1/Unit is applicable on energy charge on corresponding consumption during the month, provided that such enhanced contract demand is maintained during the corresponding month. This is being done so as to promote sales consumption among the HT consumers. This rebate shall be applicable from the effective date of commencement of the tariff period.

- f. **Rebate for Captive power plant consumers:** The consumers opting for this rebate shall not be entitled for rebate indicated in para (e)

Applicability: The rebate shall be applicable to the consumers having Captive power plants:-

- i. Who have been meeting their demand either fully or partially through their captive power plants during FY 2016-17 or FY 2017-18.
- ii. Who have recorded an incremental consumption i.e. an increase in the units consumed from the Licensee in any month of the current year (FY 2018-19) compared to the same month in base year (FY 2016-17).
- iii. for consumers who have installed their captive power plant during FY 2017-18, the incremental consumption i.e. an increase in the units consumed from the Licensee in any month of the current year (FY 2018-19) compared to the same month in base year (FY 2017-18).
- iv. The rebate shall be allowed for five years or up to FY 2021-22 whichever is

earlier from the date of request submitted by the consumer to the Licensee.

- v. The consumer shall be required to apply with the Licensee for the rebate indicating that he would be willing to avail supply from Licensee by switching consumption from his existing captive power plant.
- vi. A rebate of Rs 2 per unit shall be allowed on incremental consumption and corresponding reduction in generation by the captive consumers, recorded during any month of the current year compared to the corresponding month of the last year as per the methodology given below:

Scenario	Base year FY 2016-17/ FY 2017-18 (whichever is applicable)		FY 2018-19		Incremental Consumptio n from Discom (Units)	Reduction in Captive Generation (Units)	Eligible unit for 60 paisa Rebate in energy charges as per Para (d) Of specific terms & conditions	Units eligible for rebate of Rs 2.00/ Unit
	A1	B1	A2	B2	X	Y		
	Consumption from Discom (Units)	Captive Generation Units	Consumption from Discom (Units)	Captive Generation (Units)	X= A2-A1	Y = B1-B2		
Scenario 1	100	90	110	90	10	0	10	0
Scenario 2	100	90	110	80	10	10	0	10
Scenario 3	100	90	110	70	10	20	0	10
Scenario 4	100	90	100	80	0	10	0	0
Scenario 5	100	90	120	80	20	10	10	10

Note: Captive Power Plant referred above is the “Captive Generating Plant” defined in Rule 3 of the Electricity Rules, 2005

X = the incremental consumption recorded by the captive consumer in any month of the current year compared to the same month of financial year (FY 2016-17) or FY 2017-18) as the case may be.

And

Y = the quantum of reduction in units generated from captive plant achieved by the captive consumer in any month of the current year compared to the same month in the year (FY 2016-17) or FY 2017-18) as the case may be.

For all other cases of incremental consumption i.e. when X>Y, the rebate for existing HT connections will be applicable on X-Y units (as per the rebate for incremental consumption given in para c in the Specific Terms & Conditions for HV-3).

Scenario1: There seems to be no reduction in Captive Generation but only incremental consumption from Discom, hence rebate for existing HT connections is applicable on incremental consumption from Discom (as per the rebate for incremental consumption given in para c in the Specific Terms &

Conditions for HV-3).

Scenario 2: The incremental consumption from Discom is due to the reduction of captive Generation by same quantum of units hence it will attract a rebate of Rs. 2.00 per unit on incremental units.

Scenario 3: There is higher reduction in Captive Generation as compared to incremental Consumption from Discom hence difference of units as shown in the table, shall qualify for a Rebate of Rs. 2.00 per unit.

Scenario 4: There shall not be any rebate due to absence of incremental Consumption from Discom irrespective of reduction in Captive Generation.

Scenario 5: This scenario depicts incremental consumption from Discom (X) and reduction in Captive Generation (Y) hence units corresponding to (X-Y) shall qualify for rebate for existing HT connections (as per the rebate for incremental consumption given in para (c) in the Specific Terms & Conditions for HV-3) while units Y shall qualify for Rebate of Rs. 2.00 per unit.

g. Rebate for existing open access consumers, including group captive consumers:

A rebate of Rs. 1 per unit applicable only on those open access consumers, including group captive consumers who have reduced their open access consumption from wheeling and have instead taken supply from the distribution licensees. The proposed rebate is applicable to only such consumers in the license area of the petitioners,

1. Who have availed open access in the last financial year and have wheeled through the licensee's distribution network.
2. Who have recorded an incremental consumption i.e an increase in the units consumed from the distribution licensee in any month of the current fiscal (FY 19) compared to the same month in last year (FY18).

The quantum of units upon which this proposed rebate is applicable will be decided as

1. Y, if X>Y,
2. X, if X=Y and
3. X, if X<Y where

X = the incremental consumption recorded by the existing open access consumer in any month of the current year compared to the same month in last year.

And

Y = the quantum of reduction in wheeled units achieved by the open access consumer in any month of the year compared to the same month in the last year.

For all other cases of incremental consumption (i.e. when X>Y, 60 paise applicable units will be X-Y) the existing rebate of 60 paisa per unit will be applicable.

The sample calculation as shown below details the methodology by which the units, consumed by the existing open access consumers, on which Rs 1 rebate will be applicable.

	FY 18		FY 19		Incremental Consumption from Discom $X = A2 - A1$	Reduction in OA units $Y = B1 - B2$	60 paisa rebate applicable units	1 rupee rebate applicable unit
	Consumption from Discom (A1)	Wheeled Units (B1)	Consumption from Discom (A2)	Wheeled Units (B2)				
Scenario 1	100	90	110	90	10	0	10	0
Scenario 2	100	90	110	80	10	10	0	10
Scenario 3	100	90	110	70	10	20	0	10
Scenario 4	100	90	100	80	0	10	0	0
Scenario 5	100	90	120	80	20	10	10	10

h. Conversion of Existing LT Industrial/Non domestic connection to corresponding HT connection

A rebate of Rs. 1 per unit in the energy charges shall be provided to those existing LT consumers who convert to HV 3.1/ HV 3.2 category during FY 2018-19. This rebate is applicable for the units billed only after the commencement of HT Agreement.

- i.** Other terms and conditions shall be as specified under General Terms and Conditions of High Tension Tariff.

TARIFF SCHEDULE – HV-4

SEASONAL:-

Applicability:

This tariff shall be applicable to such seasonal industries / consumers requiring energy for the production purposes for maximum continuous one hundred eighty days and for a minimum period of three months. **If the declared season/off-season spreads over two tariff periods, then the tariff for the respective period shall be applicable.**

The licensee shall allow this tariff to any industry having seasonal use only. This tariff shall also be applicable to mini/micro and small hydel plants to meet the essential requirement of power to maintain the plants without any ceiling as to the period for which supply shall be taken.

Tariff:

Category of consumers	Monthly Fixed Charge (Rs./kVA of billing demand per month)		Energy Charge for consumption up to 50% load factor (paise / unit)		Energy Charge for consumption in excess of 50% load factor (paise per unit)	
During Season						
	Existing	Proposed	Existing	Proposed	Existing	Proposed
11 kV supply	340	340	630	630	570	570
33 kV supply	370	370	620	620	540	540
During Off-Season						
11 kV supply	Rs. 340 on 10% of contract demand or actual recorded demand whichever is higher	Rs. 340 on 10% of contract demand or actual recorded demand whichever is higher	756 i.e. 120% of seasonal energy charge	756 i.e. 120% of seasonal energy charge	Not applicable	Not applicable
33 kV supply	Rs. 370 on 10% of contract demand or actual recorded demand whichever is higher	Rs. 370 on 10% of contract demand or actual recorded demand whichever is higher	744 i.e. 120% of seasonal energy charge	744 i.e. 120% of seasonal energy charge	Not applicable	Not applicable

Specific Terms and Conditions:

- a) **Guaranteed Annual Minimum Consumption shall be 900 units (kWh) per kVA of contract demand.** The method of billing of minimum consumption shall be as given in General Terms and Conditions of High Tension Tariff.
- b) **Time of Day Surcharge / Rebate:** This surcharge/ rebate shall be as specified in General Terms and Conditions of High Tension Tariff.

- c) The consumer has to declare months of season and off season for the tariff year 2018-19 within 60 days of issue of tariff order and inform the same to the Licensee. If the consumer has already informed the Licensee of his season/off- season months during this financial year prior to issue of this order, same shall be accepted and shall be valid for this tariff order.
- d) The seasonal period once declared by the consumer cannot be changed during the year.
- e) This tariff schedule is not applicable to composite units having seasonal and other category loads.
- f) The consumer will be required to restrict his monthly off season consumption to 15% of highest of the average monthly consumption of the preceding three Seasons. In case this limit is exceeded in any off season month, the consumer will be billed under HV-3.1 Industrial Schedule for the whole tariff year.
- g) The consumer will be required to restrict his maximum demand during off season up to 30 % of the contract demand. In case the maximum demand recorded in any month of the declared off season exceeds 31.5% of CD (105% of 30% of CD), the consumer will be billed under HV 3.1 Industrial tariff for the whole financial year as per the tariff in force.
- h) Other terms and conditions shall be as per the General Terms and Conditions of High Tension Tariff.

TARIFF SCHEDULE – HV-5

IRRIGATION, PUBLIC WATER WORKS AND OTHER THAN AGRICULTURAL

Applicability:

The Tariff Category HV-5.1 shall apply to supply of power to lift irrigation schemes, group irrigation, Public Utility Water Supply schemes, sewage treatment plants /sewage pumping plants and for energy used in lighting pump house.

Note: Private water supply scheme, water supply schemes run by institutions for their own use/employees/townships etc. will not fall in this category but billed under the appropriate tariff category to which such institution belongs. In case water supply is being used for two or more different purposes then the highest tariff shall be applicable.

The tariff category HV-5.2 shall apply to supply of power to other than agriculture pump connections i.e. the connection for hatcheries, fisheries ponds, poultry farms, cattle breeding farms, grasslands, vegetables/ fruits/ floriculture/ mushroom growing units etc. and dairy (for those dairy units where only extraction of milk and its processing such as chilling, pasteurization etc. is done). However, in units where milk is processed to produce other end products of milk, billing shall be done under HV-3.1 (Industrial) category.

Tariff:

No.	Sub-Category	Monthly Fixed Charge (Rs. KVA of billing demand per month)		Energy Charge (paise per unit)	
		Existing	Proposed	Existing	Proposed
5.1 Public Water Works, Group Irrigation and Lift Irrigation Schemes					
	11 kV supply	250	250	550	550
	33 kV supply	270	270	530	530
	132 kV supply	300	300	500	500
5.2 Other allied agricultural use					
	11 kV supply	260	260	555	560
	33 kV supply	280	280	535	540
	132 kV supply	310	310	505	510

Specific Terms and Conditions:

- (a) **Guaranteed Annual Minimum Consumption shall be 720 units (kWh) per kVA of contract demand.** The method of billing of minimum consumption shall be as given in General Terms and Conditions of High Tension Tariff.

- (b) **Time of Day Surcharge / Rebate:** This surcharge/ rebate shall be as specified in General Terms and Conditions of High Tension Tariff.
- (c) **Incentive for adopting Demand Side Management**
An incentive equal to 5 % energy charges shall be given on installation and use of energy saving devices (such as ISI energy efficient motors for pump sets). Incentive will only be admissible if full bill is paid within due dates failing which all consumed units will be charged at normal rates as the case may be. Such incentive will be admissible from the month following the month in which energy saving devices are put to use and its verification by a person authorized by the licensee. The incentive will continue to be allowed till such time these energy saving devices remain in service. The Distribution Licensee is required to arrange wide publicity for above incentive. The Distribution Licensee is required to place quarterly information regarding incentives provided on its web site.
- (d) Other terms and conditions shall be per the General Terms and Conditions of High Tension Tariff.

TARIFF SCHEDULE – HV-6**BULK RESIDENTIAL USERS****Applicability:**

The tariff category **HV-6.1** is applicable for supply to industrial or any other township (e.g. that of University or academic institutions, hospitals, MES and Border villages etc.) for domestic purpose only such as lighting, fans, heating etc. provided that the connected load for essential common facilities such as Non-domestic supply in residential area, street lighting shall be within the limits specified hereunder:-

- (i) Water supply and Sewage pumping, Hospital - **No limit**
- (ii) Non-domestic/Commercial and other General purpose put together - **20 % of total connected load.**

The tariff category **HV-6.2** is applicable for supply to Registered Cooperative Group Housing Societies as per the Ministry of Power's notification no. S.O.798 (E) dated 09th June, 2005 and also to other Registered Group Housing Societies and individual domestic user, old age homes, day care centres for senior citizens, rescue houses and orphanages run by Govt./charitable trust. The Terms and Conditions to this category of consumers shall be applicable as per relevant provisions of the Madhya Pradesh Electricity Supply Code, 2013 as amended from time to time.

Tariff:

S. No.	Category of consumers	Monthly Fixed Charge (Rs/KVA) of Billing demand per month	Energy Charge for Consumption up to 50% load factor (paise/unit)	Energy Charge for Consumption in excess of 50% load factor (paise/unit)	Monthly Fixed Charge (Rs/KVA) of Billing demand per month	Energy Charge for Consumption up to 50% load factor (paise/unit)	Energy Charge for Consumption in excess of 50% load factor (paise/unit)
		Existing					
1	For Tariff Sub-Category 6.1						Proposed
	11 kV supply	290	585	530	320	595	540
	33 kV supply	310	570	510	340	580	520
	132 kV supply	340	530	480	360	530	490
2	For Tariff Sub-Category 6.2						
	11 kV supply	180	580	520	195	590	530
	33 kV supply	185	560	500	200	570	510
	132 kV supply	195	520	470	205	530	480

Specific Terms and Conditions:

- a. **Guaranteed Annual Minimum Consumption** shall be 780 units (kWh) per kVA of contract demand. The method of billing of minimum consumption shall be as given in General Terms and Conditions of High Tension Tariff.
- b. Other terms and conditions shall be as specified under General Terms and Conditions of High Tension Tariff.

TARIFF SCHEDULE – HV-7

REQUIREMENT OF POWER FOR GENERATORS CONNECTED TO THE GRID

Applicability:

This tariff category shall be applicable to those generators who are connected to the grid and seek to avail power for synchronization or breakdown or start up or maintenance with the grid.

Tariff for all voltages:

S. No.	Category of consumers	Energy (paisa/unit)	Energy (paisa/unit)
		Existing	Proposed
	Requirement of Power for Generators Connected to the Grid	875	895

Terms and Conditions:

- (a) The drawl of the power from the grid shall not exceed 15% of the capacity of unit of highest rating in the Power Plant.
- (b) The condition for minimum consumption shall not be applicable to the generators including CPP. Billing shall be done for energy recorded during the billing month.
- (c) The supply shall not be allowed to the CPP/Co-Generating Plant for production purpose for which they may avail stand-by support under the relevant Regulations.
- (d) The drawl of the power from the grid shall only be made available after commissioning of the plant.
- (e) The generator including CPP shall execute an agreement with the Licensee for meeting the requirement of power and drawl from the grid incorporating the above terms and conditions.

GENERAL TERMS AND CONDITIONS OF HIGH TENSION TARIFF

The following terms and conditions shall be applicable to all HT consumer categories subject to Specific Terms and Conditions for that category as mentioned in the Tariff Schedule of respective category:

- 1.1 The contract demand shall be expressed in whole number only.
- 1.2 Character of Service: The character of service shall be as per the Madhya Pradesh Electricity Supply Code, 2013 as amended from time to time.
- 1.3 Point of Supply:
 - a. The power will be supplied to the consumer ordinarily at a single point for the entire premises.
 - b. In case of Railway Traction, the supply at each sub-station shall be separately metered and charged.
 - c. In case of coal mines, the power will be supplied ordinarily at a single point for the entire premises. The power may, however, be supplied, on the request of the consumer, at more than one point subject to technical feasibility. In such cases, metering and billing will be done for each point of supply separately.
- 1.4 **Determination of Demand:** The **maximum demand** of the supply in each month shall be four times the largest number of kilovolt ampere hours delivered at the point of supply during any continuous 15 minutes during the month as per sliding window principle of measurement of demand.
- 1.5 **Billing demand:** The billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 90% of the contract demand, whichever is higher. In case power is availed through open access, the billing demand for the month shall be the actual maximum kVA demand during the month excluding the demand availed through open access for the period for which open access is availed or 90% of the contract demand, whichever is higher, subject to clause 3.4 of the M.P. Electricity Supply Code, 2013.

Note: The billing demand shall be rounded off to the nearest integer number i.e. the fraction of 0.5 or above will be rounded off to next integer figure and the fraction of less than 0.5 shall be ignored
- 1.6 **Tariff minimum consumption shall be billed** as follows:
 - 1) The consumer shall be billed for guaranteed annual minimum consumption (kWh) based on number of units per kVA of contract demand specified for his category, irrespective of whether any energy is consumed or not during the year.

- 2) The consumer shall be billed one twelfth of guaranteed annual minimum consumption (kWh) specified for his category each month in case the actual consumption is less than above mentioned minimum consumption.
- 3) During the month in which actual cumulative consumption equals or greater than the annual minimum guaranteed consumption, no further billing of monthly minimum consumption shall be done in subsequent months of the financial year.
- 4) Tariff minimum consumption shall be adjusted in the month in which cumulative actual or billed monthly consumption exceeds cumulative monthly prorated minimum annual guaranteed consumption. If actual cumulative consumption does not get fully adjusted in that month, adjustment shall continue to be provided in subsequent months of the financial year. The following example illustrates the procedure for monthly billing of consumption where prorated monthly minimum consumption is 100 kWh based on annual consumption of 1200 kWh.

Month	Actual cumulative consumption (kWh)	Cumulative minimum consumption * (kWh)	Higher of 2 and 3 (kWh)	Already billed in the year (kWh)	To be billed in the month = (4-5) (kWh)
1	2	3	4	5	6
April	95	100	100	0	100
May	215	200	215	100	115
June	315	300	315	215	100
July	395	400	400	315	85
Aug	530	500	530	400	130
Sept	650	600	650	530	120
Oct	725	700	725	650	75
Nov	805	800	805	725	80
Dec	945	900	945	805	140
Jan	1045	1000	1045	945	100
Feb	1135	1100	1135	1045	90
March	1195	1200	1200	1135	65

- 1.7 **Rounding off:** All bills will be rounded off to the nearest rupee i.e. up to 49 paisa shall be ignored and 50 paisa upwards shall be rounded off to next Rupee.

Incentive/ Rebate / penalties

1.8 Power Factor Incentive:

Power factor incentive shall be payable as follows:

Power Factor	Percentage incentive payable on billed energy charges
Above 95% and up to 97%	1.0 (one percent)
Above 97% and up to 98%	2.0 (two percent)
Above 98 % up to 99%	3.0 (three percent)
Above 99 %	5.0 (five percent)

1.9 Load factor calculation

- 1) The **Load Factor** shall be calculated as per the following formula:

$$\text{Load Factor (\%)} = \frac{\text{Monthly consumption}}{\text{No. of hours in the billing month} \times \text{Demand (KVA)} \times \text{PF}} \times 100$$

- i. Monthly consumption shall be units (kWh) consumed in the month excluding those received from sources other than Licensee.
- ii. No. of Hours in billing month shall exclude period of scheduled outages in hours.
- iii. Demand shall be maximum demand recorded or contract demand whichever is higher.
- iv. Power factor shall be 0.9 or actual monthly power factor whichever is higher

Note: The load factor (%) shall be rounded off to the nearest lower integer. In case the consumer is getting power through open access, units set off from other sources, the net energy (after deducting units set off from other sources, from the consumed units) billed to consumer shall only be taken for the purpose of working out load factor. The billing month shall be the period in number of days between the two consecutive dates of meter readings taken for the purpose of billing to the consumer.

- 1.10 **Incentive for advance payment:** For advance payment made before commencement of consumption period for which bill is prepared, an incentive of 1 % per month on the amount which remains with the licensee at the end of calendar month (excluding security deposit) shall be credited to the account of the consumer after adjusting any amount payable to the licensee.

- 1.11 **Rebate for online bill payment:** Rebate of 0.5% on the total bill amount maximum up to Rs 1000 will be allowed for making online payment of bill. The following modes will be the online payment avenues available to the consumers for making online payment:

- i. Payment Gateway
- ii. Net Banking
- iii. Debit/ Credit Cards
- iv. MP Online (only through MP Online's web Portal)
- v. SBI Collect (For HT consumers only)
- vi. Smart Bijli (Mobile App); &

Other similar modes of online payments as approved by individual Discom time to time.

- 1.12 **Prompt payment incentive:** An incentive for prompt payment @ 0.25% of bill amount (excluding arrears, security deposit, meter rent and Government levies viz. Electricity Duty and Cess) shall be given in case the payment is made at least 7 days

in advance of the due date of payment where the current month billing amount is equal to or greater than Rs. One Lakh. The consumers in arrears shall not be entitled for this incentive.

- 1.13 **Time of Day (ToD) Surcharge / Rebate:** This scheme is applicable to the categories of consumers where it is specified. This is applicable for different periods of the day i.e. normal period, peak load and off-peak load period. The surcharge / rebate on energy charges according to the period of consumption shall be as per following table:

Sr. No.	Peak / Off-peak Period	Surcharge / Rebate on energy charges on energy consumed during the corresponding period
1.	Evening peak load period (6 PM to 10 PM)	Normal rate of Energy Charge
2.	Off peak load period (10 PM to 6 AM next day)	20% of Normal rate of Energy Charge as Rebate

Note: Fixed charges shall always be billed at normal rates i.e. ToD Surcharge / Rebate shall not be applied on Fixed Charges

1.14 **Power Factor Penalty (For consumers other than Railway Traction HV-1)**

- (i) If the average monthly power factor of the consumer falls below 90 percent, the consumer shall be levied a penalty @ 1% (one percent), for each one percent fall in his average monthly power factor below 90 percent, on total amount of bill under the head of “Energy Charges”.
- (ii) If the average monthly power factor of the consumer falls below 85 percent, the consumer shall be levied a penalty of 5% (five percent) plus @ 2% (two percent) for each one percent fall in his average monthly power factor below 85 percent. , on the total amount of bill under the head of “Energy Charges”. This penalty shall be subject to the condition that overall penalty on account of low power factor does not exceed 35%.
- (iii) Should the average monthly power factor fall below 70%, the Distribution Licensee reserves the right to disconnect the consumer's installation till steps are taken to improve the same to the satisfaction of the Distribution Licensee. This is, however, without prejudice to the levy of penalty charges for low power factor in the event of supply not being disconnected.
- (iv) For this purpose, the “average monthly power factor” is defined as the ratio expressed in percentage of total kilowatt-hours to the total kilovolt ampere hours recorded during the billing month. This ratio (%) shall be rounded off to the nearest integer figure and the fraction of 0.5 or above will be rounded to next higher integer and the fraction of less than 0.5 shall be ignored.

- (v) Notwithstanding what has been stated above, if the average monthly power factor of a new consumer is found to be less than 90% in any month during the first 6 (six) months from the date of connection, the consumer shall be entitled to a maximum period of six months to improve it to not less than 90% subject to following conditions:
- a) This period of six months shall be reckoned from the month following the month in which the average power factor was found for the first time to be less than 90%.
 - b) In all cases, the consumer will be billed the penal charges for low power factor, but in case the consumer maintains the average monthly power factor in subsequent three months (thus in all four months) to not less than 90%, the charges on account of low power factor billed during the said six months period, shall be withdrawn and credited in next monthly bills.
 - c) The facility, as mentioned herein, shall be available not more than once to new consumer whose average monthly power factor is less than 90% in any month during 6 months from the date of connection. Thereafter, the charges on account of low average power factor, if found less than 90%, shall be payable as applicable to any other consumer.

1.15 Additional Charges for Excess Demand

- i. **The consumer shall at all times restrict their actual maximum demand within the contract demand.** In case the actual maximum demand in any month exceeds 115% of the contract demand, the tariffs given in various schedules shall apply to the extent of the 115% of the contract demand only. The consumer shall be charged for excess demand computed as difference of recorded maximum demand and 115% of contract demand on fixed charges and while doing so, the other terms and conditions of tariff, if any, shall also be applicable on the said excess demand. The excess demand so computed, if any, in any month shall be charged at the following rates from all consumers except Railway Traction.
- ii. **Energy charges for excess demand: No extra charges are applicable on the energy charges due to the excess demand or excess connected load.**
- iii. **Fixed charges for Excess Demand: - These charges shall be billed as per following:**
 - 1. **Fixed charges for Excess Demand when the recorded maximum demand is up to 130% of the contract demand:** Fixed charges for Excess Demand over and above the 115 % of contract demand shall be charged at 1.3 times the normal fixed charges.

2. **Fixed charges for Excess Demand when the recorded maximum demand exceeds 130% of contract demand:** In addition to fixed charges in 1 above, recorded demand over and above 30 % of the contract demand shall be charged at 2 times the normal fixed charges.
 3. Example for fixed charges billing for excess demand: If the contract demand of a consumer is 100 kVA and the maximum demand recorded in the billing month is 140 kVA, the consumer shall be billed towards fixed charges as under:-
 - a) Up to 115 kVA at normal tariff.
 - b) Above 115 kVA up to 130 kVA i.e. for 15 kVA at 1.3 times the normal tariff.
 - c) Above 130 kVA up to 140 kVA i.e. for 10 kVA at 2 times the normal tariff.
 - iv. The excess demand computed in any month will be charged along with the monthly bill and shall be payable by the consumer.
 - v. The billing of excess demand at higher tariff is without prejudice to the Licensee's right to discontinue the supply in accordance with the provisions contained in the Madhya Pradesh Electricity Supply Code, 2013.
- 1.16 **Delayed Payment Surcharge:** Surcharge at the rate of 1.25 % per month or part thereof on the amount outstanding (including arrears) will be payable if the bills are not paid up to due date. The part of a month will be reckoned as full month for the purpose of calculation of delayed payment surcharge. The delayed payment surcharge will not be applicable after supply to the consumer is permanently disconnected.
- 1.17 **Service Charge for Dishonoured Cheques:** In case the cheque(s) presented by the consumer are dishonoured, a service charge at the rate of Rs. 1000/- per cheque shall be levied in addition to delayed payment surcharge as per rules. This is without prejudice to the Distribution Licensee's rights to take action in accordance with any other applicable law.
- 1.18 **Temporary supply at HT:** The character of temporary supply shall be as defined in the M.P. Electricity Supply Code, 2013. If any consumer requires temporary supply then it shall be treated as a separate service and charged subject to the following conditions:
- (a) Fixed Charges and Energy Charges shall be charged at 1.3 times the normal tariff. The fixed charges shall be recovered for the number of days for which the connection is availed during the month by prorating the monthly fixed charges. Month shall be considered as the number of total days in that calendar month.

- (b)** The consumer shall guarantee minimum consumption (kWh) as applicable to the permanent consumers on pro-rata basis based on number of days as detailed below:

$$\text{Minimum consumption for additional supply for temporary period} = \frac{\text{Annual minimum consumption as applicable to permanent supply} \times \text{No of days of temporary connection}}{\text{No. of days in the year}}$$

The credit of guaranteed minimum consumption will be applicable as permanent consumers.

- (c)** The billing demand shall be demand sanctioned by the consumer or the actual maximum demand recorded during the month of supply commencing from the month of connection ending with the billing month, whichever is higher.
- (d)** If the actual recorded demand is higher than the sanctioned demand, then demand recorder in access of sanctioned demand shall be treated as excess demand. For billing purpose such excess demand if any in any month shall be charged at 1.2 times of temporary tariff. Additional charges for excess demand recorded during the month shall be calculated as given below:

Fixed charges for excess demand = Fixed charges / KVA for temporary connection X excess demand X 1.2

Energy charge for consumption corresponding to excess demand = Energy charge/unit for temporary connection X 1.2 X consumption corresponding to excess demand.

In case of connection period of temporary supply exceeding six month, consumer will deposit estimated charges for six month block in advance and estimated charges for balance period may be deposited in the last month of the six month block.

- (e)** The consumer shall pay the estimated charges in advance, before serving the Temporary Connection subject to replenishment from time to time and adjustment as per final bill after disconnection. No interest shall be given on such advance payment.
- (f)** The consumer shall also pay metering charges.
- (g)** Connection and Disconnection Charges shall also be paid.
- (h)** In case of existing HT consumer, the temporary connection may be given through existing permanent HT connection on following methodology of assessment:

- i. Fixed Charges shall be charged at 1.3 times the normal tariff
- ii. Deemed contract demand (DCD) = CD for permanent connection + sanctioned demand for temporary connection.
- iii. Billing demand and fixed charges for the month shall be worked out in the following manner :
 1. When recorded MD in the month is found to be less than deemed CD for the month, fixed charges for the month shall be sum of fixed charges at temporary tariff on 100% temporary sanctioned demand + fixed charge at normal tariff on highest of **a** or **b**,
where **a** is Recorded MD minus temporary sanctioned demand and **b** is 90% CD of permanent connection.

If the actual recorded demand is less than the deemed contract demand, the consumption shall be segregated as per the following method.

- I. The consumption corresponding to temporary sanctioned demand during the month i.e. (A) shall be billed at 1.3 times the normal energy charges and shall be billed in the following manner:

$$A = \frac{\text{Sanctioned Demand for}}{\text{Temporary Connection}} \times \frac{\text{Total Consumption}}{\text{Actual Demand Recorded}}$$

- II. Consumption during the month corresponding to permanent connection i.e. (B) shall be calculated in the following manner:

$$B = \text{Total recorded consumption} - A$$

2. When recorded MD in the month is found to be equal to deemed CD for the month, fixed charges for the month shall be sum of fixed charges at normal tariff on 100% CD for permanent connection + fixed charges at temporary tariff on 100% temporary sanctioned demand.

- I. The consumption corresponding to temporary sanctioned demand during the month i.e. (A) shall be billed at 1.3 times the normal energy charges and shall be billed in the following manner:

A =	Sanctioned Demand for Temporary Connection Deemed Contract Demand	X Total Consumption
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- II. Consumption during the month corresponding to permanent connection i.e. (B), shall be calculated in the following manner:

B = Total recorded consumption minus A
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3. When recorded MD in the month is found to be in excess of deemed CD for the month, fixed charges for the month shall be sum of fixed charges at normal tariff on 100% CD for permanent connection + fixed charges at temporary tariff on 100% temporary sanctioned demand + fixed charges on 100% excess demand over and above deemed CD at 1.2 times of temporary tariff.

If the actual recorded demand is higher than the deemed contract demand, the consumption shall be segregated as per the following method.

- I. The consumption corresponding to Permanent connection i.e. (A) during the month shall be billed in the following manner:

A =	Contract Demand (Permanent) Actual Demand Recorded	X Total Consumption
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- II. The consumption corresponding to temporary sanctioned demand during the month i.e. (B) shall be billed at 1.3 times the normal energy charges and shall be billed in the following manner:

B =	Sanctioned Demand for Temporary Connection Actual Demand Recorded	X Total Consumption
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- III. Consumption during the month corresponding to excess demand i.e. (C), if any, shall be calculated in the following manner:

C = Total recorded consumption minus (Consumption corresponding to permanent connection i.e. A + consumption corresponding to temporary sanctioned demand i.e. B)

- IV. The demand recorded in excess of deemed contract demand

shall be treated as Excess Demand. For billing purposes such Excess demand, if any, in any month shall be treated as pertaining to temporary connection load and shall be charged at 1.2 times of temporary tariff. Additional charges for excess demand recorded during the period of temporary connection shall be calculated as given below :

Fixed charges for excess demand = fixed charges per kVA for temporary connection * excess demand* 1.2 (one point two)

Energy charges for consumption corresponding to excess demand = energy charges per unit for temporary connection * 1.2 (one point two)*(consumption corresponding to excess demand i.e. C)

4. The fixed charges shall be recovered for the number of days for which the connection is availed during the month by prorating the monthly fixed charges. Month shall be considered as the number of total days in that calendar month.
 - (i) Power factor incentive/penalties and the condition for Time of the Day Surcharge/rebate shall be applicable at the same rate as for permanent connection.
 - (j) The rebate for online payment, Prompt payment incentive, service surcharge for dishonoured cheques shall be applicable as per the general terms and condition of HT tariff.

Other Terms and Conditions for permanent connections:

- 1.19 The existing 11 kV consumer with contract demand exceeding 300 kVA who want to continue to avail supply at 11 kV at his request, shall be required to pay additional charge at 3 % on the total amount of Fixed Charges and, Energy Charges billed in the month.
- 1.20 The existing 33 kV consumer with contract demand exceeding 10,000 kVA who want to continue to avail supply at 33 kV at his request, shall be required to pay additional charge at 2% on the total amount of Fixed Charges and Energy Charges billed in the month.
- 1.21 The existing 132 kV consumer with contract demand exceeding 50,000 kVA who want to continue to avail supply at 132 kV at his request, shall be required to pay additional charge at 1% on the total amount of Fixed Charges and Energy Charges billed in the month.
- 1.22 Metering Charges shall be billed as per schedule of Metering and Other Charges as prescribed in MPERC (Recovery of Expenses and other Charges for providing

Electric Line or Plant used for the purpose of giving Supply), Regulations (Revision-I), 2009 as amended from time to time. Part of a month will be reckoned as full month for purpose of billing.

- 1.23 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.
- 1.24 In case any dispute arises regarding interpretation of this tariff order and/or applicability of this tariff, the decision of the Commission will be final and binding.
- 1.25 No changes in the tariff or the tariff structure including minimum charges for any category of consumer are permitted except with prior written permission of the Commission. Any order without such written permission of the Commission will be treated as null and void and also shall be liable for action under relevant provisions of the Electricity Act, 2003.
- 1.26 In case a consumer, at his request, avails supply at a voltage higher than the standard supply voltage as specified under relevant category, he shall be billed at the rates applicable for actually availed supply voltage and no extra charges shall be levied on account of higher voltage.
- 1.27 All consumers to whom fixed charges are applicable are required to pay fixed charges in each month irrespective of whether any energy is consumed or not.
- 1.28 If any difficulty arises in giving effect to any of the provisions of this order, the Commission may, by general or special order, direct the Licensees to do or undertake things, which in the opinion of the Commission is necessary or expedient for the purpose of removing the difficulties.
- 1.29 All conditions prescribed herein shall be applicable notwithstanding if any contrary provisions, exist in the agreement entered into by the consumer with the licensee.