

**AGGREGATE REVENUE REQUIREMENT
AND TARIFF PETITION
FOR
FINANCIAL YEAR 2019-20
(Revised)**

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



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



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

Petition No. _____ of 2019

- (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 Revised ARR and Tariff Petition for the Distribution & Retail Supply Business for FY 2019-20 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” and First amendment issued by MPERC dated 30th November 2018 for 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&R-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 Vidyut 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 Discoms, 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 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. MPERC has also issued the First amendment dated 30th November 2018 in the above Regulation, wherein it has extended the control period to FY 2019-20 and has approved certain norms for FY 2019-20.

12. It is submitted that the present ARR for MYT FY 2017-18 to FY 2019-20 & Tariff Petition for FY 2019-20 has been prepared in accordance with the normative parameters and clauses as defined under Tariff Regulations 2015 and First amendment issued in the said Regulation. 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 along with net metering 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 and amendments made therein. 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 2018-19.
16. The petitioners have filed a review petition no. 14/2019 on True-up order dated 30.11.2018 for FY 2013-14 and hence have not considered the True-up gap amounting to Rs. 3838 Crs. for MP Discoms. Hon'ble Commission vide order dated 21.05.2019 has decided the review petition and has allowed the True-up amount of Rs 3919.49 Crs for MP Discoms which has now been considered by the petitioners in the instant revised petition.
17. The Petitioner has estimated a net ARR (including Transco, Genco and MP Discoms True Up) of Rs 38,163/- Crores for MP State, Rs.11,915/- Crores for East Discom, Rs11,644/- Crores for Central Discom and Rs 14,604/- Crores for West Discom respectively and a Revenue Gap of Rs 4,098/- Crores for MP State, Rs 1,259/- Crores for

East Discom, Rs 1,296/- Crores for Central Discom and Rs 1,542/- Crores for West Discom respectively for FY 2019-20. The summary of the Petitioners Claim is shown below:

Sr.	Particular	Unit	MP State	East	Central	West
1	Revenue					
2	Total ARR (Excluding True-up)	Rs Crs.	33,693	10,693	9,962	13,039
3	Revenue at Current Tariffs	Rs Crs.	34,065	10,656	10,348	13,061
4	Revenue Gap (Excluding True-up)	Rs Crs.	(372)	37	(386)	(23)
5	Average Cost of Supply (Excluding True-up)	Rs./Unit	6.02	6.04	5.96	6.06
Impact of True-Up Amounts of Past Years						
A	Impact of True Up - MPPGCL- FY 2016-17	Rs Crs.	67	21	20	26
B	Impact of True Up-MPPTCL-FY 2016-17	Rs Crs.	483	144	154	185
C	Impact of True Up MP DISCOMs FY 2013-14	Rs Crs.	3,919	1,056	1,509	1,354
D	Total ARR (Including True-Up)	Rs Crs.	38,163	11,915	11,644	14,604
E	Total Revenue Gap (Including True-Up)	Rs Crs.	4,098	1,259	1,296	1,542
F	Average Cost of Supply (Including True-up)	Rs./Unit	6.82	6.73	6.96	6.79

18. 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.
19. 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.
20. Shri Firoj Kumar Meshram, Chief General Manager (Revenue Management) of MPPMCL; Shri Girdhar Wasnik, General Manager (Commercial) of MPPoKVVCL; Shri Akhilesh Rai Verma, Dy. Chief General Manager (Regulatory Affairs) of MPMKVVCL and Shri Shailendra Jain, Deputy Director (Commercial) 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 hereby prays to 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 2019-20;
- b) To approve the net ARR of **Rs. 38,163/- Crores for MP State** (Rs. 11,915/- Crores for East Discom, Rs.11,644/- Crores for Central Discom and Rs.14,604/- Crores for West Discom) and a Revenue Gap of **Rs. 4098/- Crores for MP State** (Rs.1,259/- Crores for East Discom, Rs.1,296/- Crores for Central Discom and Rs.1,542/- Crores for West Discom) for FY 2019-20;
- c) The True-up gap amounting to Rs. 3,919.48 Crs for MP Discoms for FY 2013-14 as determined by MPERC vide order dated 21.05.2019 has been considered;
- d) 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;
- e) Consider and approve Petitioners tariff proposal for FY 2019-20 to recover the costs for the ensuing year;
- f) Consider and 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 along with net metering on the basis of ARR petition for FY 2019-20 and make applicable w.e.f. the application date of the revised tariff;
- g) 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 later stage;
- h) Pass such an order as the Hon'ble Commission deems fit and proper in the facts and circumstances of the case in the interest of justice.

Date: May, 2019

Shri Firoj Kumar Meshram
CGM (Revenue Management)
MP Power Management Co. Ltd.,
Jabalpur

Shri Girdhar Wasnik
GM (Commercial)
MP Poorv Kshetra Vidyut Vitaran
Co. Ltd, Jabalpur

Shri Akhilesh Rai Verma
Dy. CGM (Regulatory Affairs)
MP Madhya Kshetra Vidyut Vitaran
Co. Ltd, Bhopal

Shri Shailendra Jain
Dy. Director (Commercial)
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)

The contents of this petition covers in detail basis the actuals of individual elements constituting the ARR for MYT FY 2017-18 to FY 2019-20 & Tariff Proposal for FY 2019-20 based on Tariff Regulations, 2015 and First Amendment issued therein. The following elements have been explained in detail for FY 2017-18 to FY 2019-20:

- 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 2019-20 and its Salient Features
 - i. Tariff Simplification
 - j. Voltage Wise Cost of Supply
 - k. Wheeling Charges, Cross Subsidy Surcharge & Additional Surcharge
 - l. Net Metering Charges
 - m. Fuel Cost Adjustment Charge
 - n. Compliance of Directives

1.1 Methodology

- 1.1.1 The Petitioners are submitting the ARR for MYT FY 2017-18 to FY 2019-20 & Tariff Proposal for FY 2019-20 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 and First Amendment issued thereon. It consists of details of

projected expenditures envisaged by the Petitioner and details of expected revenue leading to projected revenue deficit/ (surplus) to be incurred from April 2019 to March 2020. 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 2017-18 to FY 2019-20 & Tariff Petition for FY 2019-20 in accordance with the applicable Regulations as expenses and income have been considered while issuing the Tariff Order for FY 2019-20.

1.1.2 For Reference

- FY 2017-18 or FY 18 is from 01st April 17 to 31st March 18 (Provisional)
- FY 2018-19 or FY 19 is from 01st April 18 to 31st March 19 (Re-Estimate)
- FY 2019-20 or FY 20 is from 01st April 19 to 31st March 20 (Projected)

A2: REGULATORY REQUIREMENT OF FILING OF THIS PETITION

2.1 Regulations

This petition has been prepared based on the provisions of 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;

“Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Supply and Wheeling of Electricity and Methods and Principles for Fixation of Charges) Regulations, 2015 (First Amendment) Regulations, 2015 dated 30th November 2018” (Hereinafter referred to as “First Amendment of Tariff Regulations, 2015) – Applicable for FY 2019-20;

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 2014-15, FY 2015-16, FY 2016-17 and FY 2017-18 and available data of the FY 2018-19 i.e. up to the month of July 2018.
- 3.1.2 The distribution licensees, in their previous year's filing for FY 2018-19, had projected the Sales based on the actual data of FY 2016-17. Since the actual data of FY 2017-18 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 2018-19 and thereafter project the sales for FY 2019-20.
- 3.1.3 The sales for FY 2019-20 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 2018-19.
- 3.1.4 The approach being followed is to analyse 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 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
LV 1	Domestic	4,170	4,967	5,780	3,790	4,904	5,455	3,831	4,210	4,472	11,792	14,081	15,707
LV 2	Non-Domestic	967	1,026	1,212	885	936	1,011	1,035	1,115	1,214	2,888	3,076	3,437
LV 3	WW & Street Light	428	432	441	346	348	368	436	465	506	1,209	1,246	1,315
LV 4	LT Industrial	354	401	451	273	322	355	585	618	645	1,212	1,340	1,451
LV 5.1	Agriculture Irrigation Pumps	5,084	5,815	6,197	4,609	5,368	5,596	8,355	9,311	9,531	18,049	20,494	21,323
LV 5.2	Agriculture related Use	5	5	6	4	5	5	1	2	2	11	12	13
LV6	LT EV	0	1	1	0	1	1	0	1	1	0	3	3
Total (LT)		11,009	12,647	14,088	9,909	11,883	12,791	14,244	15,722	16,371	35,161	40,252	43,250
HV 1	Railway Traction	0	0	55	0	0	55	0	0	0	0	0	111
HV 2	Coal Mines	453	463	468	26	27	27	0	0	0	480	490	495
HV 3.1	Industrial	2,008	1,569	1,701	2,539	2,469	2,674	2,384	2,571	2,729	6,959	6,608	7,104
HV 3.2	Non-Industrial	241	256	273	390	405	427	398	418	444	1,029	1,079	1,145
HV 3.3	Shopping Mall	8	9	10	20	24	24	50	65	71	78	98	104
HV 3.4	Power Intensive Industries	92	651	691	28	309	309	900	1029	1112	1,020	1,989	2,112
HV 4	Seasonal	8	8	8	2	2	2	12	13	13	22	22	23
HV 5.1	Public Water Works	87	98	110	196	218	241	416	456	478	699	772	828
HV 5.1	Irrigation	9	9	9	4	5	5	153	197	226	166	210	240
HV 5.2	Other Agricultural	14	15	17	7	8	8	8	9	10	30	32	35
HV 6	Bulk Residential Users	265	265	268	155	155	157	31	32	32	451	452	457
HV 7	Start Up Power	1	1	1	1	1	2	12	17	19	14	20	22
HV 8	HT EV	0	2	2	0	3	3	0	3	3	0	8	9
Total (HT)		3,094	3,346	3,614	3,368	3,625	3,934	4,364	4,810	5,138	10,826	11,781	12,686
TOTAL LT+HT		14,103	15,993	17,701	13,276	15,508	16,725	18,608	20,532	21,509	45,987	52,033	55,936

3.2 Category-wise sales Projection.

The methodology adopted by the petitioners for category-wise projection of sales for FY 2019-20 is elaborated in detail in the following paras:

3.2.1 LV-1: Domestic

3.2.1.1 Assumptions for Projecting Unmetered Domestic Sales

The projections for 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 19.82 Lakh domestic households have been connected with the Discoms by October 2018. Hence, over and above the normal growth, additional connections under the Saubhagya Scheme have also been taken into consideration while computing the revised estimate for FY 2018-19 and forecasting the sales for FY 2019-20.

The addition of new consumers 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 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
Urban	Metered	1,918	2,134	2,374	2,573	3,161	3,539	2,308	2,509	2,687	6,799	7,804	8,600
Urban	Un-metered	0	0	0	1	0	0	0	0	0	1	0	0
Urban	Temporary	15	19	21	17	18	18	25	25	25	57	62	64
Urban	Total	1,934	2,153	2,395	2,590	3,179	3,558	2,332	2,533	2,712	6,856	7,866	8,664
Rural	Metered	1,968	2,336	2,772	1,046	1,190	1,322	1,492	1,660	1,743	4,506	5,187	5,838
Rural	Un-metered	266	474	610	153	531	571	3	13	13	422	1,018	1,194
Rural	Temporary	3	3	3	2	4	4	4	4	4	8	11	11
Rural	Total	2,237	2,813	3,385	1,200	1,725	1,898	1,499	1,677	1,760	4,936	6,215	7,043
Total	Metered	3,886	4,470	5,146	3,618	4,352	4,862	3,800	4,169	4,430	11,305	12,991	14,438
Total	Un-metered	266	474	610	154	531	571	3	13	13	423	1,018	1,194
Total	Temporary	18	22	24	18	22	22	28	28	28	65	72	75
Total	Total	4,170	4,967	5,780	3,790	4,904	5,455	3,831	4,210	4,472	11,792	14,081	15,707

3.2.1.4 East Discom

The growth percentages assumed for the category for the FY 2019-20 are as shown below:

Table 3: Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Metered	Consumer	4.77%	4 Month Variation has been considered	10.00%	Nominal Growth rate has been considered
	Average Load (kW) per Consumer	1.16	No growth rate has been considered	0.36	No growth rate has been considered
	Average consumption per consumer per month	6.17%	YoY Growth Rate Considered	7.89%	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	1.01		0.22	
	Average consumption per consumer per month	0.00%		0.00%	
Temporary	Consumer	9.08%	4 Month Variation has been considered	3.28%	Nominal Growth rate has been considered
	Average Load per Consumer	1.47	No growth rate has been considered	1.44	No growth rate has been considered
	Average consumption per consumer per month	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered

3.2.1.5 Further, the connections under the Saubhagya Scheme is as below:

Table 4: Connections estimated under Saubhagya scheme for East Discom

Year	FY 2019-20	
	Urban	Rural
Target (No. of consumers)	0	446835
Units Consumed (MU)	0	145.22

*for Rural Consumers added under the Saubhagya Schemes, the connected load has been taken as 200 watt per consumer with consumption estimate of 50 Units per month.

3.2.1.6 Central Discom

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

Table 5: Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Metered	Consumer	5.00%	Nominal Growth rate has been considered	5.22%	3 Year CAGR Considered
	Average Load (kW) per Consumer	1.52	No growth rate has been considered	0.55	No growth rate has been considered
	Average consumption per consumer per month	6.64%	4 Month Variation has been considered	5.56%	4 Month Variation has been considered
Un-metered	Consumer	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered
	Average Load per Consumer	1.18		0.29	

Area	Category	Urban		Rural	
	Average consumption per consumer per month	0.00%		0.00%	
Temporary	Consumer	0.00%	No growth rate has been considered	13.76%	3 Year CAGR Considered No growth rate has been considered
	Average Load per Consumer	1.41		2.88	
	Average consumption per consumer per month	0.00%		0.00%	

3.2.1.7 Further, the connections estimated under the Saubhagya Scheme is as below:

Table 6: Connections estimated under Saubhagya scheme for Central Discom

Year	2019-20	
	Urban	Rural
Target (No. of consumers)	0	157046
Units Consumed (MU)	0	58.89

*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.

3.2.1.8 West Discom

The growth percentages assumed for the category for the FY 2019-20 are as shown below:

Table 7: Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Metered	Consumer	5.00%	Nominal Growth rate has been considered	5.00%	Nominal Growth rate has been considered
	Average Load (kW) per Consumer	1.48	No growth rate has been considered	0.71	No growth rate has been considered
	Average consumption per consumer per month	2.00%	Nominal Growth rate has been considered	0.00%	No growth rate has been considered
Un-metered	Consumer	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered
	Average Load per Consumer	1.00		0.29	
	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	1.90		1.87	
	Average consumption per consumer per month	0.00%		0.00%	

3.2.1.9 The no of connection to be served under Saubhagya scheme has already been completed and included in R15 data from West Discom and so no additional impact has been included.

3.2.2 LV-2: Non-Domestic

The future projections for FY 2019-20 are as below:

Table 8 : Energy Sales for LV 2 (MUs)

Sub Category	East Discom			Central Discom			West Discom			MP State		
	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
Metered	941	996	1,179	843	892	966	993	1,067	1,161	2,777	2,955	3,307
Temporary	26	30	33	42	44	45	43	48	53	111	122	130
Total	967	1,026	1,212	885	936	1,011	1,035	1,115	1,214	2,888	3,076	3,437

3.2.2.1 East Discom

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

Table 9: Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Metered	Consumer	4.71%	4 month variation has been considered	16.33%	3 year CAGR Considered
	Average Load (kW) per Consumer	3.78%	3 year CAGR Considered	2.53%	4 month variation has been considered
	Average consumption per kW per month	5.00%	Nominal Growth rate Considered	8.58%	3 year CAGR Considered
Temporary	Consumer	2.84%	3 year CAGR Considered	16.62%	4 Month Variation Considered
	Average Load (kW) per Consumer	0.00%	No Growth rate has been Considered	0.00%	No Growth rate has been Considered
	Average consumption per consumer per month	0.00%	No Growth rate has been Considered	0.00%	No Growth rate has been Considered

3.2.2.2 Central Discom

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

Table 10: Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Metered	Consumer	3.60%	3 year CAGR Considered	5.16%	3 year CAGR Considered
	Average Load (kW) per Consumer	3.62%	3 year CAGR Considered	4.77%	3 year CAGR Considered
	Average consumption per kW per month	4.13%	4 Month variation Considered	8.74%	4 Month variation Considered
Temporary	Consumer	1.97%	3 year CAGR Considered	21.88%	3 year CAGR Considered
	Average Load (kW) per Consumer	0.00%	No Growth rate has been Considered	0.00%	No Growth rate has been Considered
	Average consumption per consumer per month	0.00%	No Growth rate has been Considered	0.00%	No Growth rate has been Considered

3.2.2.3 West Discom

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

Table 11: Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Metered	Consumer	3.58%	3 year CAGR Considered	8.93%	3 year CAGR Considered
	Average Load (kW) per Consumer	4.16%	3 year CAGR Considered	2.08%	3 year CAGR Considered
	Average consumption per kW per month	0.00%	No Growth rate has been Considered	1.61%	3 year CAGR Considered
Temporary	Consumer	0.00%	No Growth rate has been Considered	15.15%	3 year CAGR Considered
	Average Load (kW) per Consumer	3.85%	3 year CAGR Considered	6.14%	3 year CAGR Considered
	Average consumption per consumer per month	0.00%	No Growth rate has been Considered	0.00%	No Growth rate has been Considered

3.2.3 LV-3.1: Public Water Works & Street Light

The projections for FY 18 and FY 19 for Public water works are as follows:

Table 12: Energy Sales for LV 3.1 (MUs)

Sub Category	East Discom		Central Discom		West Discom		MP State	
	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)
Municipal Corp.	47	49	92	92	45	47	184	188
Nagar Panchayat	59	59	80	80	55	58	195	198
Gram Panchayat	173	173	64	64	170	186	406	423
Temporary	5	5	4	6	4	5	13	16
Total	284	285	240	243	275	297	799	825

The projections for FY 18 and FY 19 for Street Lights are as follows:

Table 13: Energy Sales for LV 3.2 (MUs)

Sub Category	East Discom		Central Discom		West Discom		MP State	
	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)
Municipal Corp.	57	60	51	51	60	64	168	176
Nagar Panchayat	60	60	48	48	45	48	153	155
Gram Panchayat	27	27	7	7	56	57	89	90
Total	144	147	106	106	161	168	410	421

In FY 20, the petitioners have proposed to merge the following two categories LV 3.1 and LV 3.2 into a single category LV 3 Public water works and Street Lights.

For the purpose of sale estimation of the number of units in the combined category the petitioner has taken growth assumptions individually for both Public water works

and Street Lights and then merged the sales of both the categories into a single slab to obtain the following projection of sale in the category.

Table 14: Energy Sales (MUs)

Sub Category	FY 20 (Proj.)			
	East Discom	Central Discom	West Discom	MP State
Municipal Corp./ Nagar Panchayat /Gram Panchayat	437	361	502	1299
Temporary	5	7	5	17
Total	442	368	507	1316

3.2.3.1 Public Water Works

3.2.3.1.1 East Discom

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

Table 15: Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	2.62%	3 year CAGR Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	7.44%	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	4.01%	3 year CAGR Considered	4.24%	3 year CAGR Considered
	Average Load (kW) per Consumer	4.83%	3 year CAGR 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
Gram Panchayat	Consumer	0.00%	No Growth Rate Considered	6.87%	3 year CAGR Considered
	Average Load (kW) per Consumer	7.79%	3 year CAGR Considered	4.23%	3 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	16.34%	3 year CAGR 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

3.2.3.1.2 Central Discom

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

Table 16: Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	1.83%	3 year CAGR Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	1.02%	3 year CAGR Considered	1.62%	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	8.29%	3 year CAGR Considered	0.53%	3 year CAGR Considered
	Average Load (kW) per Consumer	0.94%	3 year CAGR Considered	7.79%	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	8.38%	3 year CAGR Considered	6.40%	3 year CAGR Considered
	Average Load (kW) per Consumer	6.74%	3 year CAGR Considered	5.94%	3 year CAGR Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Temporary	Consumer	5.11%	3 year CAGR Considered	41.00%	3 year CAGR 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

3.2.3.1.3 West Discom

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

Table 17: Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	2.25%	3 year CAGR Considered	7.27%	3 year CAGR Considered
	Average Load (kW) per Consumer	2.94%	3 year CAGR Considered	0.00%	No Growth Rate Considered
	Average consumption per kW per month	1.19%	3 year CAGR Considered	0.00%	No Growth Rate Considered
Nagar Panchayat	Consumer	5.33%	3 year CAGR Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	1.33%	3 year CAGR Considered	4.72%	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	6.61%	3 year CAGR Considered	7.84%	3 year CAGR Considered
	Average Load (kW) per Consumer	0.70%	3 year CAGR Considered	2.80%	3 year CAGR Considered
	Average consumption per consumer per month	8.60%	3 year CAGR Considered	0.00%	No Growth Rate Considered
Temporary	Consumer	6.84%	3 year CAGR Considered	0.00%	No growth rate considered
	Average Load (kW) per Consumer	4.22%	3 year CAGR 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

3.2.3.2 LV-3.2: Street Light

3.2.3.2.1 East Discom

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

Table 18: Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	8.16%	3 Year CAGR Considered	8.74%	3 Year CAGR Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	11.03%	3 Year CAGR Considered
	Average consumption per kW per month	0.00%	No Growth Rate Considered	29.62%	3 Year CAGR Considered
Nagar Panchayat	Consumer	3.08%	3 Year CAGR Considered	19.06%	3 Year CAGR Considered
	Average Load (kW) per Consumer	2.93%	3 Year CAGR Considered	17.15%	3 Year CAGR Considered
	Average consumption per consumer per month	3.44%	3 Year CAGR Considered	12.39%	3 Year CAGR Considered
Gram Panchayat	Consumer	0.00%	No Growth Rate Considered	0.83%	3 Year CAGR Considered
	Average Load (kW) per Consumer	9.55%	3 Year CAGR Considered	13.19%	3 Year CAGR Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered

3.2.3.2.2 Central Discom

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

Table 19: Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	6.64%	3 Year CAGR Considered	0.00%	No Growth Rate 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%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Nagar Panchayat	Consumer	3.05%	3 Year CAGR Considered	29.40%	3 Year CAGR Considered
	Average Load (kW) per Consumer	4.45%	3 Year CAGR Considered	28.26%	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	17.70%	3 Year CAGR Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	22.91%	3 Year CAGR Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered

3.2.3.2.3 West Discom

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

Table 20: Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Municipal Corporation	Consumer	8.78%	3 Year CAGR Considered	0.00%	No Growth Rate 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%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Nagar Panchayat	Consumer	9.52%	3 Year CAGR Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	3.44%	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	2.09%	3 Year CAGR Considered
	Average Load (kW) per Consumer	5.40%	3 Year CAGR Considered	1.96%	3 Year CAGR Considered
	Average consumption per consumer per month	15.28%	3 Year CAGR Considered	0.00%	No Growth Rate Considered

3.2.4 LV-4. Industrial

The projections for FY 18 and FY 19 for LV 4.1 Non- Seasonal Industrial are as follows:

Table 21: Energy Sales for LV-4.1 (MUs)

Sub Category	East Discom		Central Discom		West Discom		MP State	
	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)
Up to 25HP	194	211	148	168	245	255	587	635
Above 25HP to 100HP	111	122	103	118	233	244	447	484
Above 100HP	42	57	20	30	99	111	161	197
Temporary LT Ind.	6	9	1	2	1	2	8	13
Total	353	399	272	318	579	612	1,203	1,329

The projections for FY 18 and FY 19 for LV 4.1 Seasonal Industrial are as follows:

Table 22: Energy Sales for LV-4.2 (MUs)

Sub Category	East Discom		Central Discom		West Discom		MP State	
	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)	FY 18	FY 19 (RE)
Up to 25HP	0.12	0.15	0.43	0.56	2.88	3.16	3.43	3.87
Above 25HP to 100HP	0.79	0.79	1.24	2.66	2.97	3.09	5	6.53
Above 100HP	0.46	0.46	0.24	0.28	0.12	0.07	0.82	0.82
Total	1	1	2	3	6	6	9	11

In FY 20, the petitioners have proposed to merge the following two categories LV 4.1 and LV 4.2 into a single category LV 4 Industrial. For the purpose of sale estimation of the number of units in the combined category the petitioner has taken growth

assumptions individually for both Non- Seasonal Industrial and Seasonal Industrial separately and then merged the sales of both the categories into a single slab to obtain the following projection of sale in the category.

Table 23: Energy Sales (MUs)

Sub Category	FY 20			
	East Discom	Central Discom	West Discom	MP State
Up to 25HP	230	185	262	677
Above 25HP to 100HP	135	133	256	524
Above 100HP	76	35	125	236
Temporary LT Ind.	10	2	2	14
Total	451	355	645	1,451

3.2.4.1 LV-4.1 Non- Seasonal Industrial

3.2.4.1.1 East Discom

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

Table 24: Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Upto 25HP	Consumer	1.24%	4 month variation Considered	3.84%	3 Year CAGR Considered
	Average Load (kW) per Consumer	0.68%	3 Year CAGR Considered	1.65%	3 Year CAGR Considered
	Average consumption per kW per month	3.28%	2 Year CAGR Considered	5.35%	3 Year CAGR Considered
Above 25HP to 100HP	Consumer	4.13%	3 Year CAGR Considered	16.23%	YoY Growth rate Considered
	Average Load (kW) per Consumer	0.34%	4 month variation Considered	0.40%	4 month variation Considered
	Average consumption per consumer per month	0.76%	YoY Growth rate Considered	1.29%	3 Year CAGR Considered
Above 100HP	Consumer	35.72%	3 Year CAGR Considered	16.23%	YoY Growth rate Considered
	Average Load (kW) per Consumer	1.35%	4 month variation Considered	1.47%	3 Year CAGR Considered
	Average consumption per consumer per month	4.43%	3 Year CAGR Considered	2.85%	3 Year CAGR Considered
Temporary	Consumer	1.69%	4 month variation Considered	1.79%	4 month variation Considered
	Average Load (kW) per Consumer	4.68%	3 Year CAGR Considered	7.02%	4 month variation Considered
	Average consumption per consumer per month	5.30%	3 Year CAGR Considered	2.66%	2 Year CAGR Considered

3.2.4.1.2 Central Discom

The growth percentages assumed are as follows:

Table 25: Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Upto 25HP	Consumer	5.00%	Nominal Growth Rate Considered	4.69%	YoY Growth Rate Considered
	Average Load (kW) per Consumer	0.88%	4 Month Variation Considered	1.53%	3 Year CAGR Considered
	Average consumption per kW per month	4.05%	4 Month Variation Considered	0.00%	No Growth Rate Considered
Above 25HP to 100HP	Consumer	5.01%	3 Year CAGR Considered	23.24%	3 Year CAGR Considered
	Average Load (kW) per Consumer	0.15%	YoY Growth Rate Considered	1.12%	YoY Growth Rate Considered
	Average consumption per consumer per month	2.38%	3 Year CAGR Considered	0.00%	No Growth Rate Considered
Above 100HP	Consumer	10.00%	Nominal Growth Rate Considered	5.35%	YoY Growth Rate Considered
	Average Load (kW) per Consumer	1.37%	4 Month Variation Considered	4.36%	4 Month Variation Considered
	Average consumption per consumer per month	6.16%	3 Year CAGR Considered	0.00%	No Growth Rate Considered
Temporary	Consumer	2.86%	3 Year CAGR Considered	2.42%	3 Year CAGR Considered
	Average Load (kW) per Consumer	2.20%	3 Year CAGR Considered	5.71%	3 Year CAGR Considered
	Average consumption per consumer per month	3.30%	3 Year CAGR Considered	0.00%	No Growth Rate Considered

3.2.4.1.3 West Discom

The growth percentages assumed are as follows:

Table 26: Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Upto 25HP	Consumer	0.08%	3 Year CAGR Considered	2.87%	3 Year CAGR Considered
	Average Load (kW) per Consumer	0.70%	3 Year CAGR Considered	0.52%	3 Year CAGR Considered
	Average consumption per kW per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Above 25HP to 100HP	Consumer	2.65%	3 Year CAGR Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	0.31%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	2.15%	3 Year CAGR Considered
Above 100HP	Consumer	4.81%	4 Month Variation Considered	30.00%	Nominal Growth rate Considered
	Average Load (kW) per Consumer	0.20%	3 Year CAGR Considered	0.00%	No Growth Rate Considered
	Average consumption per consumer per month	2.29%	3 Year CAGR Considered	2.69%	3 Year CAGR Considered
Temporary	Consumer	3.85%	3 Year CAGR Considered	15.41%	3 Year CAGR Considered
	Average Load (kW) per Consumer	0.32%	3 Year CAGR 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

3.2.4.2 LV-4.2: Seasonal Industrial

The future projections are as follows:

3.2.4.2.1 East Discom

The growth percentages assumed are as follows:

Table 27: 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	0.00%	No Growth Rate Considered	10.00%	Nominal Growth Rate Considered
	Average consumption per kW per month	3.10%	3 Year CAGR Considered	0.00%	No Growth Rate Considered
Above 25HP to 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%	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	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%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	15.00%	Nominal Growth Rate Considered

3.2.4.2.2 Central Discom

The growth percentages assumed are as follows:

Table 28: Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Up to 25HP	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	2.57%	3 Year CAGR Considered	0.00%	No Growth Rate Considered
	Average consumption per kW per month	10.00%	Nominal Growth rate Considered	0.00%	No Growth Rate Considered
Above 25HP to 100HP	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	8.39%	3 Year CAGR 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	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%	No Growth Rate Considered
	Average consumption per consumer per month	0.00%	No Growth rate Considered	0.00%	No Growth Rate Considered

3.2.4.2.3 West Discom

The growth rates assumed are as follows:

Table 29: Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Up to 25HP	Consumer	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
	Average Load (kW) per Consumer	1.08%	3 Year CAGR Considered	2.81%	YoY Growth rate Considered
	Average consumption per kW per month	2.39%	3 Year CAGR Considered	0.00%	No Growth Rate Considered
Above 25HP to 100HP	Consumer	0.00%	No Growth Rate Considered	9.35%	2 Year CAGR Considered
	Average Load (kW) per Consumer	0.00%	No Growth Rate Considered	2.96%	3 Year CAGR Considered
	Average consumption per consumer per month	0.00%	No Growth Rate Considered	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%	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

3.2.5 LV-5.1: Agricultural

The projections for LV 5.1 Agricultural category are as follows

Table 30: Energy Sales for LV 5.1 (MUs)

Area	Sub-category	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
Urban	Metered General	6	11	11	44	64	69	5	6	6	55	80	86
Urban	Metered Temporary	1	1	1	4	4	4	1	1	0	6	6	5
Urban	Unmetered General	312	350	374	141	156	163	173	190	193	625	695	730
Urban	Unmetered Temporary	5	5	5	5	4	4	9	8	8	19	18	16
Urban	Total	323	366	391	194	228	240	188	204	207	706	799	838
Rural	Metered General	2	1	1	5	19	20	2	2	2	9	23	24
Rural	Metered Temporary	0	0	0	0	1	1	0	0	0	1	2	2
Rural	Unmetered General	4,591	5,292	5,657	4,222	4,963	5,186	7,953	8,914	9,150	16,766	19,169	19,993
Rural	Unmetered Temporary	168	155	147	187	156	148	212	191	172	568	502	467
Rural	Total	4,761	5,448	5,806	4,415	5,139	5,356	8,167	9,107	9,324	17,343	19,695	20,485
Total	Metered General	8	12	13	50	83	90	7	8	8	64	103	110
Total	Metered Temporary	1	1	1	5	5	5	1	1	0	7	7	7
Total	Unmetered General	4,903	5,642	6,031	4,362	5,118	5,348	8,126	9,104	9,344	17,391	19,864	20,723
Total	Unmetered Temporary	173	159	151	192	161	153	222	199	180	587	519	484
Total	Total	5,084	5,815	6,197	4,609	5,368	5,596	8,355	9,311	9,531	18,049	20,494	21,323

3.2.5.1 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 2018-19. The same is shown as below:

Table 31: Phase Wise Assessment for Un-metered Temporary Agriculture Connections

Phase	Figures in Unit			
	Urban		Rural	
	2018-19	2019-20	2018-19	2019-20
Three Phase	220	220	195	195
Single Phase	230	230	205	205

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

Table 32: Phase Wise Assessment for Unmetered Permanent Agriculture Connections

Months	Three Phase		Single Phase	
	Urban	Rural	Urban	Rural
April	95	95	95	95
May	95	95	95	95
June	95	95	95	95
July	95	95	95	95
Aug	95	95	95	95
Sept	95	95	95	95
Oct	170	170	180	180
Nov	170	170	180	180
Dec	170	170	180	180
Jan	170	170	180	180
Feb	170	170	180	180
March	170	170	180	180

3.2.5.3 The Hon'ble Commission had increased the normative units for permanent agriculture consumers in the Tariff Order for FY 2018-19 from 1560 Units to 1650 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.

3.2.5.4 East Discom

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

Table 33: Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Metered General	Consumer	7%	Nominal Growth Rate Considered	7%	Nominal Growth Rate Considered
	Load	7%		7%	
	Consumption per HP	7%		7%	
Unmetered Permanent	Consumer	7%	Nominal Growth Rate Considered	7%	Nominal Growth Rate Considered
	Load	7%		7%	
	Consumption per HP	7%		7%	

Area	Category	Urban		Rural	
Metered Temporary	Consumer	0%	No Growth Rate Considered	10%	Nominal Growth Rate Considered
	Load/ consumer	0%		10%	
	Consumption per HP	0%		10%	

3.2.5.5 Central Discom

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

Table 34: Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Metered General	Consumer	4.50%	Nominal Growth Rate Considered	4.50%	Nominal Growth Rate Considered
	Load	4.50%		4.50%	
	Consumption per HP	4.50%		4.50%	
Unmetered Permanent	Consumer	4.50%	Nominal Growth Rate Considered	4.50%	Nominal Growth Rate Considered
	Load	4.50%		4.50%	
	Consumption per HP	4.50%		4.50%	
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%	

3.2.5.6 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, 63,147 temporary connection will be converted to Permanent Unmetered Connections in FY 2018-19 and FY 2019-20 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 2018-19 and FY 2019-20

Table 35: Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Metered General	Consumer	0.4%	Nominal Growth Rate Considered	0.4%	Nominal Growth Rate Considered
	Load	0.4%	Nominal Growth Rate Considered	0.4%	Nominal Growth Rate Considered
	Consumption per HP	0.4%	Nominal Growth Rate Considered	0.4%	Nominal Growth Rate Considered
Unmetered Permanent	Consumer	0.4%	Nominal Growth Rate Considered	1.5%	Nominal Growth Rate Considered
	Load	0.4%	Nominal Growth Rate Considered	0.4%	Nominal Growth Rate Considered
	Consumption per HP	0.4%	Nominal Growth Rate Considered	0.4%	Nominal Growth Rate Considered

Area	Category	Urban			Rural				
Metered Temporary	Consumer	0.0%		No Growth Rate Considered	0.0%		No Growth Rate Considered		
	Load/ consumer	0.0%			0.0%				
	Consumption per HP	0.0%			0.0%				

3.2.6 LV-5.2: Other agricultural Use

The projections for LV 5.2 Agricultural category are as follows:

Table 36: Energy Sales for LV 5.2 (MUs)

Sub-category	East Discom			Central Discom			West Discom			MP State		
	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
Upto 20HP	3.93	4.16	4.44	2.93	3.22	3.26	0.76	0.90	1.04	7.62	8.29	8.73
greater than 20HP	1	1	1	1	1	2	1	1	1	3	3	4
Temporary	0	0	0	0	1	1	0	0	0	1	1	1
Total	5	5	6	4	5	5	1	2	2	11	12	13

3.2.6.1 East Discom

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

Table 37: Growth Percentage Assumption East Discom

Area	Category	Urban			Rural		
Upto 3HP	Consumer	0.00%		No Growth Rate Considered	6.14%		
	Average Load (kW) per Consumer	0.00%			0.00%		
	Average consumption per kW per month	0.00%			0.00%		
Above 3HP to 5HP	Consumer	5.00%		Nominal Growth Rate Considered	20.36%		
	Average Load (kW) per Consumer	0.00%			0.00%		
	Average consumption per consumer per month	0.00%			0.00%		
Above 5HP to 10HP	Consumer	5.00%		Nominal Growth Rate Considered	7.11%		
	Average Load (kW) per Consumer	0.00%			0.00%		
	Average consumption per consumer per month	0.00%			0.00%		
Above 10HP to 20HP	Consumer	5.00%		Nominal Growth rate Considered	14.98%		
	Average Load (kW) per Consumer	0.00%			0.00%		
	Average consumption per consumer per month	0.00%			0.00%		

Area	Category	Urban		Rural	
Above 20HP	Consumer	0.00%	No Growth Rate Considered	6.90%	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%	
Temporary	Consumer	5.00%	Nominal 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	0.00%	No Growth Rate Considered	0.00%	

3.2.6.2 Central Discom

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

Table 38: Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Upto 3HP	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 kW per month	0.00%		0.00%	
Above 3HP to 5HP	Consumer	13.23 %	3 Year CAGR Considered	13.97 %	3 Year CAGR 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	29.07 %	3 Year CAGR Considered	0.24%	3 Year CAGR 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 10HP to 20HP	Consumer	10.00 %	Nominal 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	0.00%	No Growth Rate Considered	0.00%	
Above 20HP	Consumer	18.56 %	3 Year CAGR 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%	
Temporary	Consumer	10.00 %	Nominal Growth rate Considered	10.00 %	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	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered

3.2.6.3 West Discom

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

Table 39: Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Upto 3HP	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%	No Growth Rate Considered
	Average consumption per kW per month	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Above 3HP to 5HP	Consumer	12.55%	2 year CAGR Considered	8.51%	3 Year CAGR 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	4.17%	3 Year CAGR Considered	0.00%	No 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	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered
Above 10HP to 20HP	Consumer	76.52%	3 Year CAGR Considered	15.62%	
	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%	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
Temporary	Consumer	22.22%	Nominal Growth rate Considered	0.00%	No 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	0.00%	No Growth Rate Considered	0.00%	No Growth Rate Considered

3.2.7 LV-6 E- Vehicle / E-Rickshaw Charging Station

The projection of sales for this category is as follows:

Table 40: Energy Sales for LV 6 (MUs)

Sub-category	East Discom			Central Discom			West Discom			MP State		
	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
LV-6 EV Charging Stations	0	1	1	0	1	1	0	1	1	0	3	3

3.2.7.1 East Discom

The growth rates assumed for future projections are as follows:

Table 41: Growth Percentage Assumption East Discom

Area	Category	Urban		Rural	
Metered	Consumer	0.00%	No growth rate considered	0.00%	No growth rate considered
	Load (kW)	10.00%	Nominal Growth Rate	10.00%	Nominal Growth Rate
	Units (MUS)	15.00%	Nominal Growth Rate	15.00%	Nominal Growth Rate

3.2.7.2 Central Discom

The growth rates assumed for future projections are as follows:-

Table 42: Growth Percentage Assumption Central Discom

Area	Category	Urban		Rural	
Metered	Consumer	0.00%	No growth rate considered	0.00%	No growth rate considered
	Load (kW)	10.00%	Nominal Growth Rate	10.00%	Nominal Growth Rate
	Units (MUS)	15.00%	Nominal Growth Rate	15.00%	Nominal Growth Rate

3.2.7.3 West Discom

The growth rates assumed for future projections are as follows:

Table 43: Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
Metered	Consumer	0.00%	No growth rate considered	0.00%	No growth rate considered
	Load (kW)	5.00%	Nominal Growth Rate	5.00%	Nominal Growth Rate
	Units (MUS)	10.00%	Nominal Growth Rate	5.00%	Nominal Growth Rate

3.2.8 HV-1: Railway Traction

The petitioners have signed a contract with Railways last year 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 44: Energy Sales for HV 1 (MUs)

Sub-Category	East Discom			Central Discom			West Discom			MP State		
	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
HV-1 Railway Traction	0	0	55	0	0	55	0	0	0	0	0	111

3.2.8.1 East Discom

There has been no sale to Railways in FY 2017-18 or FY 2018-19, till date. 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 2019-20. With a load factor of 30% and power factor of 0.95, approximately 55 MUs worth of sales is expected.

3.2.8.2 Central Discom

There has been no sale to Railways in FY 2017-18 or FY 2018-19, till date. 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 2019-20. With a load factor of 30% and power factor of 0.95, approximately 55 MUs worth of sales is expected.

3.2.8.3 West Discom West Discom lacks any consumer base for this category.

3.2.9 HV -2: Coal Mines

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

Table 45: Energy Sales for HV 2 (MUs)

Sub-Category	East Discom			Central Discom			West Discom			MP State		
	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
132 kV	203	210	214	0	0	0	0	0	0	203	210	214
33 kV	247	250	250	26	27	27	0	0	0	273	276	277
11 kV	4	4	4	0	0	0	0	0	0	4	4	4
Total	453	463	468	26	27	27	0	0	0	480	490	495

3.2.9.1 East Discom

Table 46: Growth Percentage Assumption East Discom

Voltage level	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%	No Growth rate considered	0.00%	No Growth rate has been considered
	Units (MUS)	0.00%	No Growth rate considered	0.00%	No Growth rate has been considered
33 kV	Consumer	0.00%	No Growth rate Considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%	No Growth rate Considered	0.00%	No Growth rate has been considered
	Units (MUS)	3.65%	4 Month Variation Considered	0.00%	No Growth rate has been considered
11 kV	Consumer	0.00%	No Growth rate has been considered	6.27%	3 Year CAGR Considered
	Load (kW)	0.00%	No Growth rate has been considered	3.83%	3 Year CAGR Considered
	Units (MUS)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered

3.2.9.2 Central Discom

No Growth has been considered.

Table 47: 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%	No Growth rate has been considered	0.00%	
	Units (MUS)	2.00%	Nominal Growth Rate Considered	0.00%	

Area	Category	Urban			Rural		
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%		

3.2.9.3 West Discom

West Discom lacks any consumer base for this category.

3.2.10 HV 3: Industrial and Non-Industrial

The future projections are as follows:

Table 48: Energy Sales for HV 3 (MUs)

Sub-Category		East Discom			Central Discom			West Discom			MP State		
		FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
Industrial 1 - Unit (MU)	220 kV	424	448	475	0	0	0	2	3	3	426	451	478
	132 kV	904	994	1,09 3	1,10 2	1,19 1	1,28 7	564	671	754	2,56 9	2,85 6	3,13 5
	33 kV	561	651	691	1,40 9	1,52 8	1,63 2	2,57 0	2,76 4	2,90 8	4,54 0	4,94 3	5,23 1
	11 kV	120	126	133	55	59	63	148	162	176	323	347	372
	Total	2008	2219	2392	2567	2778	2983	3284	3600	3842	7858	8597	9217
Non Industrial 1 - Unit (MU)	132 kV	0	0	0	4	4	5	39	42	43	44	46	48
	33 kV	158	169	181	289	303	320	290	320	349	737	792	849
	11 kV	90	96	102	117	121	126	119	122	123	326	339	351
	Total	249	265	283	410	428	451	448	483	515	1107	1176	1249

3.2.10.1 East Discom

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

Table 49: 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%	No Growth rate has been considered		0.00%	No Growth rate has been considered	
	Units (MUS)	5.00%	Nominal Growth rate has been considered		10.00%	Nominal Growth rate has been considered	
132 kV	Consumer	5.00%	Nominal Growth rate has been considered		2.00%	Nominal Growth rate has been considered	
	Load (kW)	5.96%	4 Month Variation has been considered		2.00%	Nominal Growth rate has been considered	
	Units (MUS)	8.00%	Nominal Growth rate has been considered		10.49%	4 Month Variation has been considered	
33 kV	Consumer	5.00%	Nominal Growth rate has been considered		7.51%	3 year CAGR has been considered	

Area	Category	Urban		Rural	
	Load (kW)	5.00%	Nominal Growth rate has been considered	4.02%	3 year CAGR has been considered
	Units (MUS)	5.00%	Nominal Growth rate has been considered	8.61%	3 year CAGR has been considered
11 kV	Consumer	7.55%	4 Month Variation has been considered	10.79%	3 year CAGR has been considered
	Load (kW)	6.27%	4 Month Variation has been considered	10.22%	3 year CAGR has been considered
	Units (MUS)	4.81%	4 Month Variation has been considered	10.35%	3 year CAGR has been considered

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

Table 50: 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	11.50%	3 Year CAGR Considered	23.47%	3 Year CAGR Considered
	Load (kW)	5.91%	3 Year CAGR Considered	14.19%	3 Year CAGR Considered
	Units (MUS)	5.61%	3 Year CAGR Considered	12.24%	3 Year CAGR Considered
11 kV	Consumer	6.49%	3 Year CAGR Considered	20.12%	3 Year CAGR Considered
	Load (kW)	5.09%	3 Year CAGR Considered	18.41%	3 Year CAGR Considered
	Units (MUS)	5.00%	Nominal Growth rate considered	17.13%	3 Year CAGR Considered

3.2.10.2 Central Discom

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

Table 51: 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	1.00%	Nominal Growth Rate Considered	2.00%	Nominal Growth Rate Considered
	Load (kW)	9.99%	2 year CAGR has been considered	2.00%	Nominal Growth Rate Considered
	Units (MUS)	8.55%	2 year CAGR has been considered	2.00%	Nominal Growth Rate Considered
33 kV	Consumer	7.66%	3 year CAGR has been considered	15.28%	3 year CAGR has been considered
	Load (kW)	5.07%		4.84%	3 year CAGR has been considered
	Units (MUS)	6.43%		7.82%	YoY growth rate has been considered

Area	Category	Urban		Rural	
11 kV	Consumer	2.74%	3 year CAGR has been considered	16.67%	4 Month Variation Considered
	Load (kW)	4.84%		35.32%	3 year CAGR has been considered
	Units (MUS)	6.29%		20.00%	Nominal Growth rate has been considered

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

Table 52: 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)	10.00%	Nominal Growth rate considered	0.00%	
	Units (MUS)	20.00%	Nominal Growth rate considered	0.00%	
33 kV	Consumer	2.56%	3 Year CAGR Considered	5.00%	Nominal Growth rate considered
	Load (kW)	5.09%	3 Year CAGR Considered	17.24%	3 Year CAGR Considered
	Units (MUS)	5.00%	Nominal Growth rate considered	13.74%	3 Year CAGR Considered
11 kV	Consumer	4.19%	3 Year CAGR Considered	7.17%	3 Year CAGR Considered
	Load (kW)	3.93%	3 Year CAGR Considered	12.64%	3 Year CAGR Considered
	Units (MUS)	4.43%	3 Year CAGR Considered	5.00%	Nominal Growth rate considered

3.2.10.3 West Discom

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

Table 53: Growth Percentage Assumption West Discom

Area	Category	Urban		Rural	
440/220 kV	Consumer	0.00%	No Growth rate considered	0.00%	No Growth rate has been considered
	Load (kW)	0.00%		0.00%	YoY Growth rate Considered
	Units (MUS)	0.00%		18.77%	YoY Growth rate Considered
132 kV	Consumer	37.00%	3 Year CAGR Considered	0.00%	No Growth rate has been considered
	Load (kW)	6.30%	3 Year CAGR Considered	0.00%	No Growth rate has been considered
	Units (MUS)	12.42%	3 Year CAGR Considered	0.00%	No Growth rate has been considered
33 kV	Consumer	7.63%	3 Year CAGR Considered	10.25%	3 year CAGR has been considered
	Load (kW)	2.82%	3 Year CAGR Considered	4.40%	3 Year CAGR Considered
	Units (MUS)	5.07%		6.00%	Nominal Growth Considered
11 kV	Consumer	5.26%	3 Year CAGR Considered	0.00%	No Growth rate has been considered

Area	Category	Urban			Rural	
	Load (kW)	3.39%	3 Year CAGR Considered		0.51%	3 Year CAGR Considered
	Units (MUS)	9.00%	Nominal Growth Considered		10.00%	Nominal Growth Considered

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

Table 54: 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)	3.67%	3 Year CAGR Considered		0.00%	
	Units (MUS)	3.19%	3 Year CAGR Considered		0.00%	
33 kV	Consumer	6.58%	3 Year CAGR Considered		0.00%	No Growth rate has been considered
	Load (kW)	8.18%	3 Year CAGR Considered		0.00%	No Growth rate has been considered
	Units (MUS)	9.86%	3 Year CAGR Considered		1.65%	3 Year CAGR Considered
11 kV	Consumer	3.19%	3 Year CAGR Considered		4.26%	3 Year CAGR Considered
	Load (kW)	2.46%	3 Year CAGR Considered		10.82%	3 Year CAGR Considered
	Units (MUS)	0.43%	3 Year CAGR Considered		14.02%	3 Year CAGR Considered

3.2.11 HV 4: Seasonal

The future projections are as follows:

Table 55: Energy Sales for HV 4 (MUs)

Sub-Category	East Discom			Central Discom			West Discom			MP State		
	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
33 kV	7	7	8	1	1	1	10	10	11	19	19	20
11 kV	1	1	1	0	0	0	2	2	2	3	3	3
Total	8	8	8	2	2	2	12	13	13	22	22	23

3.2.11.1 East Discom

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

Table 56: Growth Percentage Assumption East Discom

Voltage level	Category	Urban			Rural	
33 kV	Consumer	3.57%	3 Year CAGR Considered		0.00%	No Growth rate has been considered
	Load (kW)	1.80%	3 Year CAGR Considered		2.00%	Nominal Growth rate has been considered
	Units (MUS)	2.00%	Nominal Growth rate has been considered		2.00%	Nominal Growth rate has been considered
11 kV	Consumer	0.00%	No Growth rate has been considered		0.00%	3 Year CAGR Considered is 0%

Voltage level	Category	Urban		Rural	
	Load (kW)	2.00%	Nominal Growth rate has been considered	2.00%	Nominal Growth rate has been considered
	Units (MUS)	2.00%	Nominal Growth rate has been considered	2.00%	Nominal Growth rate has been considered

3.2.11.2 Central Discom

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

Table 57: Growth Percentage Assumption Central Discom

Voltage level	Category	Urban		Rural	
33 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	20.00%	Nominal Growth rate has been considered	0.00%	No Growth rate has been considered
	Units (MUS)	0.00%	No Growth rate has been considered	3.90%	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%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Units (MUS)	5.00%	Nominal Growth rate has been considered	0.00%	No Growth rate has been considered

3.2.11.3 West Discom

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

Table 58: Growth Percentage Assumption West Discom

Voltage level	Category	Urban		Rural	
33 kV	Consumer	14.47%	3 Year CAGR Considered	37.95%	3 Year CAGR Considered
	Load (kW)	9.16%	YoY Growth Rate Considered	0.00%	No Growth rate has been considered
	Units (MUS)	9.16%	YoY Growth Rate Considered	0.00%	No Growth rate has been considered
11 kV	Consumer	14.47%	3 Year CAGR 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)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered

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

The future projections are as follows:

Table 59: Energy Sales for HV 5 (MUs)

Sub-Category		East Discom			Central Discom			West Discom			MP State		
		FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
Irrigation - Units (MU)	132 kV	0	0	0	0	0	0	0	0	0	0	0	0
	33 kV	9	9	9	3	4	4	153	197	226	165	210	240
	11 kV	0	0	0	1	1	1	0	0	0	1	1	1
	Total	9	9	9	4	5	5	153	197	226	166	210	240
Water Works - Units (MU)	132 kV	0	0	0	60	67	74	314	349	366	374	416	441
	33 kV	78	88	99	122	136	150	94	99	102	295	323	344
	11 kV	9	10	11	13	15	16	8	9	9	31	34	36
	Total	87	98	110	196	218	241	416	456	478	699	773	821
Other than Agricultural - Units (MU)	132 kV	0	0	0	0	0	0	0	0	0	0	0	0
	33 kV	11	12	13	6	6	6	0	0	0	17	19	20
	11 kV	3	3	4	1	2	2	8	9	10	12	14	15
	Total	14	16	17	7	8	8	8	9	10	30	32	35

3.2.12.1 East Discom

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

Table 60: Growth Percentage Assumption East Discom

Voltage level	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%	No Growth rate has been considered
	Units (MUS)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
33 kV	Consumer	22.92%	3 Year CAGR Considered	19.17%	3 Year CAGR Considered
	Load (kW)	16.79%	3 Year CAGR Considered	8.85%	4 Month variation Considered
	Units (MUS)	9.63%	4 Month variation Considered	16.88%	4 Month variation Considered
11 kV	Consumer	10.72%	3 Year CAGR Considered	10.06%	3 Year CAGR Considered
	Load (kW)	6.03%	3 Year CAGR Considered	7.54%	3 Year CAGR Considered
	Units (MUS)	4.90%	2 Year CAGR Considered	22.51%	3 Year CAGR Considered

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

Table 61: Growth Percentage Assumption East Discom

Voltage level	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate considered	0.00%	No Growth rate considered
	Load (kW)	0.00%	No Growth rate considered	0.00%	No Growth rate considered
	Units (MUS)	0.00%	No Growth rate considered	0.00%	No Growth rate considered
33 kV	Consumer	0.00%	No Growth rate considered	0.00%	No Growth rate considered
	Load (kW)	0.00%	No Growth rate considered	0.00%	No Growth rate considered
	Units (MUS)	0.00%	No Growth rate considered	0.00%	No Growth rate considered
11 kV	Consumer	0.00%	No Growth rate considered	0.00%	No Growth rate considered
	Load (kW)	0.00%	No Growth rate considered	5.00%	Nominal Growth Rate Considered
	Units (MUS)	0.00%	No Growth rate considered	5.00%	Nominal Growth Rate Considered

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

Table 62: Growth Percentage Assumption East Discom

Voltage level	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate considered	0.00%	No Growth rate considered
	Load (kW)	0.00%	No Growth rate considered	0.00%	No Growth rate considered
	Units (MUS)	0.00%	No Growth rate considered	0.00%	No Growth rate considered
33 kV	Consumer	11.20%	3 year CAGR Considered	5.00%	Nominal Growth Rate Considered
	Load (kW)	6.18%	3 year CAGR Considered	5.08%	3 year CAGR Considered
	Units (MUS)	10.00%	Nominal Growth Rate Considered	3.21%	3 year CAGR Considered
11 kV	Consumer	10.00%	Nominal Growth Rate Considered	5.00%	No Growth rate considered
	Load (kW)	10.00%	Nominal Growth Rate Considered	5.00%	No Growth rate considered
	Units (MUS)	10.00%	Nominal Growth Rate Considered	10.00%	No Growth rate considered

3.2.12.2 Central Discom

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

Table 63: Growth Percentage Assumption Central Discom

Voltage level	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate considered	0.00%	No Growth rate considered
	Load (kW)	0.33%	3 Year CAGR Considered	0.00%	No Growth rate considered
	Units (MUS)	10.85%	3 Year CAGR Considered	0.00%	No Growth rate considered
33 kV	Consumer	5.00%	Nominal Growth rate considered	20.00%	Nominal Growth rate considered
	Load (kW)	9.20%	3 Year CAGR Considered	20.00%	Nominal Growth rate considered
	Units (MUS)	9.50%	3 Year CAGR Considered	21.57%	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)	2.04%	3 Year CAGR Considered	0.00%	No Growth rate has been considered
	Units (MUS)	9.68%	3 Year CAGR Considered	30.27%	3 Year CAGR Considered

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

Table 64: Growth Percentage Assumption Central Discom

Voltage level	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%	No Growth rate has been considered
	Units (MUS)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
33 kV	Consumer	0.00%	No Growth rate has been considered	18.56%	3 Year CAGR Considered
	Load (kW)	0.00%	No Growth rate has been considered	19.46%	3 Year CAGR Considered
	Units (MUS)	0.00%	No Growth rate has been considered	22.90%	2 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%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Units (MUS)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered

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

Table 65: Growth Percentage Assumption Central Discom

Voltage level	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%	No Growth rate has been considered
	Units (MUS)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered

Voltage level	Category	Urban		Rural	
33 kV	Consumer	4.26%	3 year CAGR Considered	10.06%	3 year CAGR Considered
	Load (kW)	4.52%	3 year CAGR Considered	11.87%	3 year CAGR Considered
	Units (MUS)	1.44%	3 year CAGR Considered	7.44%	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%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Units (MUS)	4.03%	YoY Growth rate considered	0.00%	No Growth rate has been considered

3.2.12.3 West Discom

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

Table 66: Growth Percentage Assumption West Discom

Voltage level	Category	Urban		Rural	
132 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	7.11%	3 Year CAGR Considered	4.66%	3 Year CAGR Considered
	Units (MUS)	0.00%	No Growth rate has been considered	5.02%	3 Year CAGR Considered
33 kV	Consumer	8.06%	3 Year CAGR Considered	11.20%	3 Year CAGR Considered
	Load (kW)	0.00%	No Growth rate has been considered	11.06%	3 Year CAGR Considered
	Units (MUS)	2.70%	2 Year CAGR Considered	4.25%	YoY Growth Rate Considered
11 kV	Consumer	0.00%	No Growth rate has been considered	6.27%	3 Year CAGR Considered
	Load (kW)	0.00%	No Growth rate has been considered	7.55%	3 Year CAGR Considered
	Units (MUS)	0.00%	No Growth rate has been considered	13.58%	2 Year CAGR Considered

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

Table 67: Growth Percentage Assumption West Discom

Voltage level	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%	No Growth rate has been considered
	Units (MUS)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
33 kV	Consumer	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
	Load (kW)	19.12%	2 Year CAGR Considered	0.00%	No Growth rate has been considered

Voltage level	Category	Urban		Rural	
	Units (MUS)	15.00%	Nominal Growth Rate Considered	5.00%	Nominal 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)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered

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

Table 68: Growth Percentage Assumption West Discom

Voltage level	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%	No Growth rate has been considered
	Units (MUS)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
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)	0.00%	No Growth rate has been considered	0.00%	No Growth rate has been considered
11 kV	Consumer	7.69%	YoY Growth Rate Considered	0.00%	No Growth rate has been considered
	Load (kW)	10.30%	YoY Growth Rate Considered	0.00%	No Growth rate has been considered
	Units (MUS)	13.34%	Nominal Growth rate Considered	0.00%	No Growth rate has been considered

3.2.13 HV 6: Bulk Residential users

The future projections are as follows:

Table 69: Energy Sales for HV 6 (MUs)

Sub-Category	East Discom			Central Discom			West Discom			MP State		
	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)	FY 18	FY 19 (RE)	FY 20 (Proj.)
132 KV	0	0	0	0	0	0	0.006	0	0	0.006	0	0
33 kV	242	242	244	141	141	142	25	26	26	408	409	413
11 kV	23	23	23	14	14	15	6	6	6	43	43	44
Total	265	265	268	155	155	157	31	32	32	451	452	457

3.2.13.1 East Discom

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

Table 70: Growth Percentage Assumption East Discom

Voltage level	Category	Urban		Rural	
33 kV	Consumer	0.00%	No growth rate considered	7.72%	3 Year CAGR Considered
	Load (kW)	0.00%	No growth rate considered	18.11%	3 Year CAGR Considered
	Units (MUS)	0.00%	No growth rate considered	6.55%	3 Year CAGR Considered
11 kV	Consumer	0.00%	No growth rate considered	0.00%	No growth rate considered
	Load (kW)	0.00%	No growth rate considered	0.00%	No growth rate considered
	Units (MUS)	0.00%	No growth rate considered	0.00%	No growth rate considered

3.2.13.2 Central Discom

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

Table 71: Growth Percentage Assumption Central Discom

Voltage level	Category	Urban		Rural	
33 kV	Consumer	2.50%	3 Year CAGR Considered	0.00%	No growth rate considered
	Load (kW)	0.57%	3 Year CAGR Considered	0.00%	No growth rate considered
	Units (MUS)	0.39%	3 Year CAGR Considered	7.94%	3 Year CAGR Considered
11 kV	Consumer	0.00%	No growth rate considered	0.00%	No growth rate considered
	Load (kW)	0.00%	No growth rate considered	35.23%	3 Year CAGR Considered
	Units (MUS)	5.19%	3 Year CAGR Considered	6.83%	3 Year CAGR Considered

3.2.13.3 West Discom

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

Table 72: Growth Percentage Assumption West Discom

Voltage level	Category	Urban		Rural	
33 kV	Consumer	0.00%	No growth rate considered	0.00%	No growth rate considered
	Load (kW)	0.00%	No growth rate considered	0.00%	No growth rate considered
	Units (MUS)	0.00%	No growth rate considered	0.00%	No growth rate considered
11 kV	Consumer	0.00%	No growth rate considered	14.47%	3 Year CAGR Considered
	Load (kW)	0.00%	No growth rate considered	0.00%	No growth rate considered
	Units (MUS)	0.00%	No growth rate considered	0.00%	No growth rate considered

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

The future projections are as follows:

Table 73: Requirement of Power for Generators Connected to the grid (MUs)

Sub-Category	East Discom			Central Discom			West Discom			MP State		
	FY 18	FY 19 (RE)	FY 20 (Pro j.)	FY 18	FY 19 (RE)	FY 20 (Pro j.)	FY 18	FY 19 (RE)	FY 20 (Pro j.)	FY 18	FY 19 (RE)	FY 20 (Pro j.)
132 KV	0	0	0	0	0	0	6	8	8	6	8	8
33 kV	1	1	1	1	1	1	6	10	11	8	12	13
11 kV	0	0	0	0	0	1	0	0	0	1	1	1
Total	1	1	1	1	1	2	12	17	19	14	20	22

3.2.14.1 East Discom

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

Table 74: Growth Percentage Assumption East Discom

Voltage level	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%	No growth rate has been considered
	Units (MUS)	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered
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)	5.00%	Nominal Growth rate Considered	0.00%	No growth rate has been 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)	10.00%	Nominal Growth Rate Considered	0.00%	No growth rate has been considered

3.2.14.2 Central Discom

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

Table 75: Growth Percentage Assumption Central Discom

Voltage level	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%	No growth rate has been considered
	Units (MUS)	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered
33 KV	Consumer	0.00%	No growth rate has been considered	0.00%	No growth rate has been considered

Voltage level	Category	Urban			Rural	
	Load (kW)	10.00%	Nominal Growth rate Considered		0.00%	No growth rate has been considered
	Units (MUS)	20.00%	Nominal Growth rate Considered		0.00%	No growth rate has been 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)	90.11%	3 Year CAGR Considered		0.00%	No growth rate has been considered

3.2.14.3 West Discom

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

Table 76: Growth Percentage Assumption West Discom

Voltage level	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%	No growth rate has been considered
	Units (MUS)	10.00%	Nominal Growth rate Considered		10.00%	Nominal Growth rate Considered
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)	10.00%	Nominal Growth rate Considered		10.00%	Nominal 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)	0.00%	No growth rate has been considered		0.00%	No growth rate has been considered

3.2.15 HV-8 E- VEHICLE / E-RICKSHAWS CHARGING STATION

The projection of sales for this category is as follows:

Table 77: Energy Sales for HV 8 (MUs)

Sub-Category	East Discom			Central Discom			West Discom			MP State		
	FY 18	FY 19 (RE)	FY 20 (Pro j.)	FY 18	FY 19 (RE)	FY 20 (Pro j.)	FY 18	FY 19 (RE)	FY 20 (Pro j.)	FY 18	FY 19 (RE)	FY 20 (Pro j.)
LV- 8 EV Charging Stations	0	2	2	0	3	3	0	3	3	0	8	9

3.2.15.1 East Discom

The growth rates assumed for future projections are as follows:-

Table 78: Growth Percentage Assumption East Discom

Sub Category	Category	Urban		Rural	
Metered	Consumer	0.00%	No growth rate considered	0.00%	No growth rate considered
	Load (kW)	10.00%	Nominal Growth Rate	5.00%	Nominal Growth Rate
	Units (MUS)	15.00%	Nominal Growth Rate	10.00%	Nominal Growth Rate

3.2.15.2 Central Discom

The growth rates assumed for future projections are as follows:-

Table 79: Growth Percentage Assumption Central Discom

Sub Category	Category	Urban		Rural	
Metered	Consumer	0.00%	No growth rate considered	0.00%	No growth rate considered
	Load (kW)	10.00%	Nominal Growth Rate	5.00%	Nominal Growth Rate
	Units (MUS)	15.00%	Nominal Growth Rate	10.00%	Nominal Growth Rate

3.2.15.3 West Discom

The growth rates assumed for future projections are as follows:-

Table 80: Growth Percentage Assumption West Discom

Sub Category	Category	Urban		Rural	
Metered	Consumer	0.00%	No growth rate considered	0.00%	No growth rate considered
	Load (kW)	10.00%	Nominal Growth Rate	10.00%	Nominal Growth Rate
	Units (MUS)	15.00%	Nominal Growth Rate	15.00%	Nominal Growth Rate

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

4.1 Conversion of Annual Sales into Monthly Sales

The annual sales of the Discoms have been converted into monthly sales using the sales profile actually observed in the past five years including FY 2017-18 for each Discom. This profile is then used to compute monthly sales for the FY 2018-19 & FY 2019-20. The profiling for all Discoms is given in the table below:

Table 81: Month wise Sales Profile

Month wise Sales Profile Mix (%)														
Sr.no.	Discom	April	May	June	July	August	September	October	November	December	January	February	March	Total
1	FY 2017-18 (Provisional)													
a	East	7.66%	7.83%	7.36%	6.98%	7.75%	7.93%	8.82%	8.73%	9.12%	9.39%	9.08%	9.36%	100.00%
b	Central	7.03%	7.53%	7.72%	7.54%	7.40%	7.47%	8.95%	9.44%	9.22%	9.21%	9.26%	9.22%	100.00%
c	West	6.89%	7.24%	7.28%	7.05%	6.91%	6.70%	9.20%	9.83%	9.78%	9.80%	9.74%	9.57%	100.00%
2	FY 2018-19 (Re-Estimate)													
a	East	7.19%	7.63%	7.35%	7.05%	7.16%	7.45%	8.64%	8.76%	9.57%	9.97%	9.52%	9.71%	100.00%
b	Central	6.89%	7.41%	7.38%	7.29%	7.21%	7.50%	9.10%	9.67%	9.77%	9.24%	9.10%	9.45%	100.00%
c	West	6.68%	6.91%	7.10%	6.87%	6.66%	6.78%	9.37%	9.92%	10.10%	10.21%	9.96%	9.44%	100.00%
3	FY 2019-2020 (Projected)													
a	East	7.19%	7.63%	7.35%	7.05%	7.16%	7.45%	8.64%	8.76%	9.57%	9.97%	9.52%	9.71%	100.00%
b	Central	6.89%	7.41%	7.38%	7.29%	7.21%	7.50%	9.10%	9.67%	9.77%	9.24%	9.10%	9.45%	100.00%
c	West	6.68%	6.91%	7.10%	6.87%	6.66%	6.78%	9.37%	9.92%	10.10%	10.21%	9.96%	9.44%	100.00%

4.2 Distribution Losses

Hon'ble Commission in its Tariff Regulations, 2015 had notified normative distribution loss levels for the MYT period FY 2016-17 to FY 2018-19. The Commission with its First Amendment of Tariff Regulations, 2015 had notified the normative distribution loss levels for FY 2019-20. The distribution loss level trajectory as specified in these Regulations is given in the table below:

Table 82: Distribution Losses (%)

Sr. no	Particulars	FY 2017-18	FY 2018-19	FY 2019-20
1	East Discom	17.00%	16.00%	16.00%
2	Central Discom	18.00%	17.00%	17.00%
3	West Discom	15.50%	15.00%	15.00%

The provisional losses of the Discom's are observed at 27.05% for East Discom, 37.51% for Central Discom and 16.63% for West Discom for FY 2017-18. However for the purpose of this petition the normative loss targets specified by the Commission in its 1st Amendment to Tariff Regulations' 2015 have been considered for calculation of Energy Balance and calculation of power purchase costs of the Discoms for FY 2018-19 & FY 2019-20 except FY 2017-18 wherein it has considered at the provisional loss figures.

4.3 Intra State Transmission Losses

The Discoms have considered the actual Intra-state Transmission Losses for FY 2017-18 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%20_compliance_01072017.pdf) losses is approx. 2.71%. The same has been considered for FY 2018-19 & FY 2019-20. The actual losses of FY 2017-18 is yet to published by MPPTCL, hence loss as reported for FY 2017-18 has been considered.

4.4 Inter-State Transmission Losses

Hon'ble Commission in its earlier directive had directed to submit Region-wise PGCIL losses, the Discoms have shown actual Inter-state Transmission losses as reported during the FY 2017-18 by the Eastern Region Load Dispatch Centre applicable for Eastern Region Plants (ERLDC- http://www.erldc.org/OpenAccess/schd_loss_2018-2019.pdf and http://www.erldc.org/OpenAccess/schd_loss_2017-2018.pdf and POSOCO - <https://posoco.in/side-menu-pages/applicable-transmission-losses/>) & Western Region Load Dispatch Centre applicable for Western Region Plants (http://www.wrldc.in/content/210_1_WeeklyLoss.aspx).

- 4.4.1 From June 2018 onwards, 40.73 MW Power of 29 different sources of Northern Region has been allocated to MP State from the unallocated Quota of these sources. Considering the allocation from Northern Region, losses have also been worked out based on Northern Region Load Dispatch Centre notified losses (NRLDC - <https://nrldc.in/WebSiteData/OpenAccess/docs/OALosses.pdf> and POSOCO-<https://posoco.in/side-menu-pages/applicable-transmission-losses/>). For some weeks, actual losses for Northern Region and Eastern Region were not available on the website, so similar week losses have been considered for computation of annual losses.
- 4.4.2 The Discoms have considered the provisional losses for FY 2017-18 for Western Region, Northern Region & Eastern Region i.e. 3.48%, 3.60% and 2.04% respectively and last 52 weeks moving average losses (30 July 18 – 29 July 18) for FY 2018-19 & FY 2019-20 i.e. 3.35%, 4.04% and 1.98% respectively.

4.5 Energy Requirement at Discom Boundary and Ex-Bus Requirement

- 4.5.1 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 Discoms for the past years are taken and standard deviation of loss levels of each month from the cumulative annual average has been calculated. The monthly standard deviations are then used to calculate the monthly loss levels using the annual MPERC loss level trajectory.
- 4.5.2 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 83: Energy Requirement- Discom & Ex-Bus (MUs) for FY 2017-18 (Provisional)

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2017-18 (Provisional)														
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	3,357	4,145	4,315	4,329	4,370	4,322	4,326	45,987
A	East	1,080	1,104	1,037	985	1,093	1,118	1,245	1,231	1,286	1,324	1,280	1,320	14,103
b	Central	933	999	1,025	1,001	983	992	1,188	1,254	1,224	1,222	1,230	1,225	13,276
c	West	1,282	1,348	1,355	1,312	1,286	1,247	1,712	1,830	1,820	1,823	1,813	1,781	18,608
2	Distribution Loss (%)													
a	East	33%	31%	22%	20%	28%	30%	28%	31%	34%	31%	12%	17%	27%
b	Central	51%	40%	26%	34%	42%	42%	39%	41%	50%	41%	27%	32%	38%
c	West	27%	23%	9%	1%	7%	9%	21%	30%	25%	21%	2%	4%	17%
3	Distribution Loss	1,975	1,577	801	783	1,240	1,300	1,700	2,211	2,496	1,942	660	946	17,630
a	East	540	505	298	250	427	476	480	554	659	593	169	278	5,230
b	Central	956	677	363	514	718	704	759	888	1,220	858	447	586	8,689
c	West	479	394	139	19	95	121	461	769	617	491	44	82	3,711
4	Energy at Discom Periphery	5,271	5,028	4,218	4,081	4,602	4,657	5,845	6,525	6,825	6,312	4,982	5,272	63,618
a	East	1,621	1,609	1,335	1,235	1,520	1,594	1,725	1,785	1,945	1,917	1,449	1,598	19,333
b	Central	1,889	1,677	1,388	1,515	1,701	1,695	1,947	2,142	2,444	2,080	1,676	1,811	21,965
c	West	1,761	1,742	1,495	1,331	1,381	1,367	2,174	2,599	2,437	2,315	1,857	1,863	22,320
5	State Transmission Losses	145	138	115	112	126	128	161	180	189	176	139	147	1,755
a	East	45	45	37	34	42	44	48	50	54	53	40	45	539

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2017-18 (Provisional)														
Sr.no .	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
b	Central	51	45	37	40	45	45	52	58	67	58	47	50	595
c	West	49	49	42	37	38	38	61	72	68	64	52	52	622
6	Energy at State Boundary	5,415	5,166	4,333	4,192	4,728	4,785	6,006	6,705	7,015	6,487	5,121	5,419	65,373
a	East	1,666	1,654	1,373	1,269	1,562	1,639	1,773	1,834	1,999	1,971	1,490	1,643	19,871
b	Central	1,940	1,721	1,425	1,556	1,746	1,740	1,999	2,199	2,511	2,138	1,723	1,861	22,560
c	West	1,810	1,790	1,536	1,368	1,419	1,406	2,234	2,672	2,504	2,379	1,908	1,915	22,941
7	External/PGCIL Losses (WR/ER)	124	128	110	107	112	114	118	121	116	111	126	101	1,386
a	East	38	41	35	32	37	39	35	33	33	34	37	31	424
b	Central	44	43	36	40	42	41	39	40	42	37	42	35	479
c	West	41	44	39	35	34	33	44	48	41	41	47	36	483
8	Energy Requirement (Ex-Bus) including adjustment of UI	5,539	5,293	4,443	4,299	4,840	4,898	6,124	6,826	7,131	6,599	5,247	5,520	66,759
a	East	1,704	1,695	1,407	1,301	1,599	1,677	1,808	1,867	2,032	2,004	1,526	1,673	20,295
b	Central	1,984	1,764	1,461	1,595	1,788	1,782	2,038	2,239	2,553	2,174	1,765	1,896	23,039
c	West	1,851	1,834	1,575	1,403	1,453	1,439	2,278	2,720	2,546	2,420	1,955	1,951	23,424

Table 84: Energy Requirement- Discom & Ex-Bus (MUs) for FY 2018-19 (Re-Estimate)

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2018-19 (Re-Estimate)														
Sr. no.	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
1	Sales	3,448	3,814	3,939	3,790	3,617	3,735	4,693	4,911	5,095	5,100	4,955	4,935	52,033
a	East	1,043	1,144	1,142	1,090	1,171	1,219	1,413	1,432	1,565	1,631	1,557	1,587	15,993
b	Central	1,014	1,127	1,199	1,160	1,117	1,162	1,410	1,498	1,514	1,432	1,411	1,464	15,508
c	West	1,391	1,543	1,598	1,541	1,330	1,354	1,870	1,980	2,017	2,038	1,987	1,884	20,532
2	Distribution Loss (%)													
a	East	26%	24%	16%	16%	21%	24%	15%	17%	20%	9%	6%	0%	16%
b	Central	24%	22%	13%	16%	20%	24%	16%	21%	21%	16%	11%	1%	17%
c	West	27%	25%	12%	7%	8%	15%	14%	26%	24%	12%	4%	4%	15%
3	Distribution Loss	1,194	1,199	609	537	691	989	840	1,397	1,426	716	353	100	10,051
a	East	358	366	215	210	302	379	249	293	379	157	93	(0)	3,003
b	Central	312	315	178	218	272	368	276	390	412	270	169	20	3,199
c	West	524	518	217	109	117	243	314	713	634	289	91	80	3,849
4	Energy at Discom Periphery	4,641	5,013	4,548	4,327	4,308	4,724	5,533	6,308	6,521	5,817	5,308	5,035	62,084
a	East	1,401	1,510	1,357	1,300	1,473	1,598	1,663	1,725	1,944	1,788	1,649	1,587	18,996
b	Central	1,325	1,441	1,376	1,377	1,389	1,530	1,686	1,889	1,926	1,701	1,580	1,485	18,706
c	West	1,915	2,062	1,815	1,650	1,447	1,596	2,184	2,693	2,651	2,327	2,078	1,964	24,381
5	State Transmission Losses	129	140	127	121	120	132	154	176	182	162	148	140	1,729
a	East	39	42	38	36	41	45	46	48	54	50	46	44	529
b	Central	37	40	38	38	39	43	47	53	54	47	44	41	521
c	West	53	57	51	46	40	44	61	75	74	65	58	55	679
6	Energy at State Boundary	4,771	5,153	4,675	4,448	4,428	4,856	5,687	6,483	6,703	5,979	5,455	5,176	63,813
a	East	1,440	1,552	1,395	1,336	1,514	1,643	1,709	1,774	1,998	1,838	1,695	1,631	19,525

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2018-19 (Re-Estimate)														
Sr. no.	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
b	Central	1,362	1,482	1,415	1,416	1,427	1,573	1,733	1,941	1,979	1,749	1,624	1,526	19,227
c	West	1,969	2,119	1,865	1,696	1,487	1,641	2,245	2,768	2,725	2,392	2,136	2,018	25,060
7	External/PGCIL Losses (WR/ER)	108	121	115	108	110	122	110	112	117	101	95	106	1,326
a	East	33	36	34	33	38	41	33	31	35	31	30	33	408
b	Central	31	35	35	34	35	39	34	34	35	30	28	31	401
c	West	45	50	46	41	37	41	44	48	48	40	37	41	518
8	Energy Requirement (Ex-Bus)	4,879	5,274	4,790	4,556	4,538	4,978	5,797	6,596	6,820	6,079	5,551	5,281	65,139
a	East	1,472	1,589	1,429	1,369	1,552	1,684	1,742	1,804	2,033	1,869	1,725	1,665	19,933
b	Central	1,393	1,516	1,450	1,450	1,463	1,612	1,767	1,975	2,014	1,778	1,652	1,557	19,628
c	West	2,013	2,169	1,911	1,737	1,524	1,682	2,288	2,817	2,773	2,432	2,174	2,059	25,578

Table 85: Energy Requirement- Discom & Ex-Bus (MUs) for FY 2019-20 (Projected)

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2019-20 (Projected)														
Sr.no.	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
1	Sales	3,861	4,079	4,062	3,946	3,905	4,032	5,066	5,301	5,500	5,506	5,349	5,328	55,936
a	East	1,272	1,351	1,301	1,248	1,267	1,319	1,530	1,550	1,694	1,765	1,685	1,718	17,701
b	Central	1,153	1,240	1,234	1,220	1,205	1,254	1,522	1,617	1,633	1,545	1,523	1,580	16,725
c	West	1,437	1,487	1,528	1,478	1,433	1,458	2,015	2,134	2,173	2,196	2,141	2,030	21,509
2	Distribution Loss (%)													
a	East	26%	24%	16%	16%	21%	24%	15%	17%	20%	9%	6%	0%	16%
b	Central	24%	22%	13%	16%	20%	24%	16%	21%	21%	16%	11%	1%	17%
c	West	27%	25%	12%	7%	8%	15%	14%	26%	24%	12%	4%	4%	15%
3	Distribution Loss	1,332	1,279	635	574	746	1,069	906	1,507	1,539	773	381	108	10,849
a	East	437	433	245	241	327	410	270	318	410	170	100	(0)	3,361

Monthly- Ex-Bus Energy Requirement (MUs) for FY 2019-20 (Projected)														
Sr.no.	Particulars	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
b	Central	354	346	183	229	293	397	298	421	445	291	182	22	3,461
c	West	541	500	207	105	126	261	338	768	684	311	98	86	4,026
4	Energy at Discom Periphery	5,193	5,357	4,697	4,520	4,652	5,101	5,972	6,808	7,039	6,279	5,730	5,436	66,784
a	East	1,709	1,784	1,546	1,489	1,595	1,730	1,800	1,868	2,104	1,936	1,785	1,718	21,063
b	Central	1,507	1,586	1,416	1,449	1,498	1,651	1,820	2,038	2,078	1,836	1,705	1,602	20,187
c	West	1,978	1,987	1,735	1,582	1,559	1,720	2,353	2,902	2,857	2,507	2,239	2,116	25,535
5	State Transmission Losses	145	149	131	126	130	142	166	190	196	175	160	151	1,860
a	East	48	50	43	41	44	48	50	52	59	54	50	48	587
b	Central	42	44	39	40	42	46	51	57	58	51	47	45	562
c	West	55	55	48	44	43	48	66	81	80	70	62	59	711
6	Energy at State Boundary	5,338	5,507	4,828	4,646	4,781	5,243	6,139	6,998	7,235	6,454	5,889	5,587	68,644
a	East	1,756	1,834	1,589	1,531	1,639	1,778	1,850	1,920	2,163	1,990	1,835	1,766	21,649
b	Central	1,549	1,630	1,456	1,489	1,540	1,697	1,870	2,095	2,136	1,887	1,752	1,647	20,749
c	West	2,033	2,042	1,783	1,627	1,602	1,768	2,419	2,983	2,936	2,577	2,302	2,175	26,246
7	External/PGCIL Losses	112	116	108	104	107	116	108	118	123	103	100	108	1,323
a	East	37	39	35	34	37	39	33	32	37	32	31	34	420
b	Central	33	34	33	33	34	38	33	35	36	30	30	32	401
c	West	43	43	40	36	36	39	43	50	50	41	39	42	502
8	Ex-Bus Energy Requirement	5,450	5,623	4,936	4,750	4,888	5,359	6,247	7,115	7,359	6,556	5,989	5,695	69,968
a	East	1,793	1,873	1,624	1,565	1,676	1,817	1,882	1,952	2,200	2,021	1,866	1,800	22,070
b	Central	1,581	1,665	1,488	1,522	1,575	1,735	1,903	2,130	2,172	1,917	1,782	1,679	21,150
c	West	2,076	2,085	1,823	1,663	1,638	1,807	2,461	3,033	2,986	2,618	2,341	2,217	26,748

4.5.3 The ex-bus energy to be purchased during FY 2017-18 to FY 2019-20 (Normative & Actual Losses) is shown in the following table:

Table 86: Energy Requirement- Normative Losses (MUs)

Sr.no.	Particulars	Power Purchase Requirement - (Normative Distribution Losses)											
		MP State			East			Central			West		
		FY 18	FY 19	FY 20	FY 18	FY 19	FY 20	FY 18	FY 19	FY 20	FY 18	FY 19	FY 20
1	Sales (MUs)	45,987	52,033	55,936	14,103	15,993	17,701	13,276	15,508	16,725	18,608	20,532	21,509
	LT	35,161	40,252	43,250	11,009	12,647	14,088	9,909	11,883	12,791	14,244	15,722	16,371
	HT	10,826	11,781	12,686	3,094	3,346	3,614	3,368	3,625	3,934	4,364	4,810	5,138
2	Distribution Losses %	16.69%	16.19%	16.24%	17.00%	16.00%	16.00%	18.00%	17.00%	17.00%	15.50%	15.00%	15.00%
	MUs	9,216	10,051	10,849	2,889	3,003	3,361	2,914	3,199	3,461	3,413	3,849	4,026
3	Energy Requirement at Discom Boundary (MUs)	55,203	62,084	66,784	16,991	18,996	21,063	16,191	18,706	20,187	22,021	24,381	25,535
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	1,538	1,729	1,860	473	529	587	451	521	562	613	679	711
5	Energy Requirement at State Boundary (MUs)	56,741	63,813	68,644	17,465	19,525	21,649	16,642	19,227	20,749	22,635	25,060	26,246
6	External Losses WR	3.48%	3.35%	3.35%	3.48%	3.35%	3.35%	3.48%	3.35%	3.35%	3.48%	3.35%	3.35%
	External Losses NR	3.62%	4.08%	4.08%	3.62%	4.08%	4.08%	3.62%	4.08%	4.08%	3.62%	4.08%	4.08%
	External Losses ER	2.05%	1.98%	1.98%	2.05%	1.98%	1.98%	2.05%	1.98%	1.98%	2.05%	1.98%	1.98%
	MUs	1,386	1,326	1,323	424	408	420	480	401	401	482	518	502
7	Energy Requirement Ex-Bus	58,127	65,139	69,968	17,889	19,933	22,070	17,121	19,628	21,150	23,117	25,578	26,748

Table 87: Energy Requirement- Actual Losses (MUs)

Sr.no.	Particulars	Power Purchase Requirement - (Actual Losses)											
		MP State			East			Central			West		
		FY 18	FY 19	FY 20	FY 18	FY 19	FY 20	FY 18	FY 19	FY 20	FY 18	FY 19	FY 20
1	Sales (MUs)	45,987	52,033	55,936	14,103	15,993	17,701	13,276	15,508	16,725	18,608	20,532	21,509
	LT	35,161	40,252	43,250	11,009	12,647	14,088	9,909	11,883	12,791	14,244	15,722	16,371
	HT	10,826	11,781	12,686	3,094	3,346	3,614	3,368	3,625	3,934	4,364	4,810	5,138
2	Distribution Losses	26.89%	27.09%	27.20%	27.05%	27.05%	27.05%	37.51%	37.51%	37.51%	16.63%	16.63%	16.63%
	Mus	16,912	19,336	20,895	5,230	5,931	6,565	7,970	9,310	10,041	3,711	4,095	4,290
3	Energy Requirement at Discom Boundary (MUs)	62,899	71,369	76,831	19,333	21,925	24,266	21,247	24,818	26,766	22,320	24,627	25,799
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	1,752	1,988	2,140	539	611	676	592	691	746	622	686	719
5	Energy Requirement at State Boundary (MUs)	64,651	73,357	78,971	19,871	22,535	24,942	21,838	25,509	27,512	22,941	25,313	26,517
6	External Losses WR %	3.48%	3.35%	3.35%	3.48%	3.35%	3.35%	3.48%	3.35%	3.35%	3.48%	3.35%	3.35%
	External Losses NR %	3.62%	4.08%	4.08%	3.62%	4.08%	4.08%	3.62%	4.08%	4.08%	3.62%	4.08%	4.08%
	External Losses ER %	2.05%	1.98%	1.98%	2.05%	1.98%	1.98%	2.05%	1.98%	1.98%	2.05%	1.98%	1.98%
	Mus	1,386	1,326	1,323	424	408	420	480	401	401	482	518	502
7	Energy Requirement Ex-Bus	66,037	74,683	80,294	20,295	22,943	25,362	22,318	25,910	27,913	23,423	25,831	27,019

4.5.4 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 Discoms have 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.

5.2 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 2018-19 and FY 2019-20 for MPPGCL, Central Sector, Joint venture and by Private players awarded through competitive bidding
- Northern Region Plants allocation of 40.73 MW from June 2018 onwards from 29 Plants
- Impact of generation capacity allocation in WR, NR and ER

5.3 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 2018-19 & 2019-20 as follows:

Table 88: Upcoming Conventional Stations and Other Technical Parameters

PLF Considered (FY 2019-20)								
Sr. no.	Particulars	Capacity (MW)	PLF/DE/CFU Considered (%) First 90 Days	PLF/DE/CFU Considered (%) After 90 Days	Remarks	MP Share %	MW	CoD
New Stations								
1	Northern Region Allocation from Unallocated Quota- (40.73 MW) from June 2018	18,793.02					40.73	
a	NTPC Auraiya GPP	663	80.71%	80.71%	Same as NTPC Gandhar GPP	0.26%	1.72	15-Jun-90
b	NTPC Dadri GPP	830	80.71%	80.71%	Same as NTPC Gandhar GPP	0.27%	2.24	15-Apr-97
c	NTPC Anta GPP	419	80.71%	80.71%	Same as NTPC Gandhar GPP	0.27%	1.13	15-Mar-90
d	RAPP Rawabhatta	880	86.02%	86.02%	Same as TAPP Tarapur	0.21%	1.85	16-Dec-73
e	NAPP Narora	440	86.02%	86.02%	Same as TAPP Tarapur	0.25%	1.1	01-Jul-92
f	NTPC Firoz Gandhi Unchahar I	420	85.00%	85.00%	CERC Norms	0.08%	0.34	15-Mar-89
g	NTPC Firoz Gandhi Unchahar II	420	85.00%	85.00%	CERC Norms	0.27%	1.13	15-Oct-99
h	NTPC Firoz Gandhi Unchahar III	210	85.00%	85.00%	CERC Norms	0.26%	0.55	15-Sep-06
i	NTPC Firoz Gandhi Unchahar IV	500	85.00%	85.00%	CERC Norms	0.26%	1.3	15-Apr-17
j	NTPC Rihand I	1,000.00	85.00%	85.00%	CERC Norms	0.22%	2.2	15-Jul-89
k	NTPC Rihand II	1,000.00	85.00%	85.00%	CERC Norms	0.24%	2.4	15-Sep-05
l	NTPC Rihand III	1,000.00	85.00%	85.00%	CERC Norms	0.27%	2.7	15-Oct-13
m	NTPC NCTP Dadri II	980	85.00%	85.00%	CERC Norms	0.23%	2.25	15-Jul-10
n	NTPC Singrauli	2,000.00	85.00%	85.00%	CERC Norms	0.22%	4.4	15-Nov-87
o	NTPC IGPS I Jhajjar	1,500.00	85.00%	85.00%	CERC Norms	0.13%	1.95	15-Mar-12
p	SJVN Rampur HPS	412.02	70.00%	70.00%	Assumed	0.16%	0.66	16-Dec-14
q	SJVN Jhakri HPS	1,500.00	70.00%	70.00%	Assumed	0.18%	2.7	14-May-04
r	Tehri HPS	1,000.00	70.00%	70.00%	Assumed	0.18%	1.8	09-Jul-07
s	Koteshwar HPP	400	70.00%	70.00%	Assumed	0.18%	0.72	01-Apr-12

PLF Considered (FY 2019-20)								
Sr. no.	Particulars	Capacity (MW)	PLF/DE/CUF Considered (%) First 90 Days	PLF/DE/CUF Considered (%) After 90 Days	Remarks	MP Share %	MW	CoD
t	Parbati III	520	70.00%	70.00%	Assumed	0.27%	1.4	15-May-14
u	NHPC Chamera II	300	70.00%	70.00%	Assumed	0.32%	0.96	31-Mar-04
v	NHPC Chamera III	231	70.00%	70.00%	Assumed	0.27%	0.62	30-Jun-12
w	NHPC Dulhasti	390	70.00%	70.00%	Assumed	0.27%	1.05	07-Apr-07
x	NHPC Dhauliganga	280	70.00%	70.00%	Assumed	0.27%	0.76	01-Nov-05
y	NHPC Sewa II	120	70.00%	70.00%	Assumed	0.26%	0.31	02-Jul-10
z	NHPC Uri II	240	70.00%	70.00%	Assumed	0.27%	0.65	01-Mar-14
aa	NHPC Kishanganga	330	70.00%	70.00%	Assumed	0.26%	0.86	24-May-18
ab	NTPC Koldam HPP I	800	70.00%	70.00%	Assumed	0.12%	0.96	18-Jul-15
ac	NTPC Singrauli Small HPP	8	70.00%	70.00%	Assumed	0.25%	0.02	15-Nov-87
2	Central Generating Stations WR	3,860.00					1,084.92	
a	NTPC Solapur STPS, Unit-2	660	65.00%	85.00%	First 90 Days Assumed, Thereafter CERC Norms	23.84%	157.32	1-July-19
b	NTPC Gadarwara STPS, Unit-1	800	65.00%	85.00%	First 90 Days Assumed, Thereafter CERC Norms	50.00%	400	1-July-19
c	NTPC Gadarwara STPS, Unit-2	800	65.00%	85.00%	First 90 Days Assumed, Thereafter CERC Norms	50.00%	400	31-Oct-19
d	NTPC Lara STPS, Raigarh, Unit I	800	65.00%	85.00%	First 90 Days Assumed, Thereafter CERC Norms	7.98%	63.8	1-July-19
e	NTPC Lara STPS, Raigarh, Unit II	800	65.00%	85.00%	First 90 Days Assumed, Thereafter CERC Norms	7.98%	63.8	31-Aug-19
3	MP Genco	1,320.00					1,188.00	
a	Shri Singaji Phase-2, Unit-1	660	63.82%	63.82%	PLF of Singaji STPS Ph 1 Considered	90.00%	594	27-Dec-18
b	Shri Singaji Phase-2, Unit-2	660	63.82%	63.82%		90.00%	594	31-Mar-19
4	Total (1+2+3)	23,973.02					2,313.65	

- 5.4 Allocation of Power 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/2018/5733 dated 28th June 2018 and from **Eastern Region** NTPC Kahalgaon 2 vide GoI MoP letter no. 5/31/2006-Th.2 dated 21st February 2007 and **Northern Region** as per Northern Regional Power Committee letter No. NRPC/OPR/103/02/2018/6105-6103 dated 01st June 2018 and communication held with their concerned office. Allocation from MP Genco and other sources have been considered based on latest communication and updates held with their concerned office.
- 5.5 The various stations both new and existing in which MPPMCL/Discom's has been allocated share are listed in the table below.

Table 89: Contracted Capacity – MP State (Existing & New)

Sr. no.	Particulars	Region	Capacity (MW)	FY 2017-18 (Prov.)		FY 2018-19 (RE)		FY 2019-20 (Proj.)	
				%	MW	%	MW	%	MW
I	Central Sector		33,776		3,659		4,366		4,716
1	NTPC Korba	WR	2,100	23%	479	22%	464	22%	464
2	NTPC Korba III	WR	500	15%	76	14%	68	14%	68
3	NTPC Vidyachal I	WR	1,260	35%	441	34%	428	34%	428
4	NTPC Vidyachal II	WR	1,000	32%	316	31%	306	31%	306
5	NTPC Vidyachal III	WR	1,000	24%	243	23%	233	23%	233
6	NTPC Vidyachal IV	WR	1,000	28%	284	27%	268	27%	268
7	NTPC Vidyachal V Unit 1	WR	500	28%	142	27%	134	27%	134
8	NTPC Sipat I	WR	1,980	17%	337	15%	305	15%	305
9	NTPC Sipat II	WR	1,000	19%	186	18%	176	18%	176
10	NTPC Mouda I	WR	1,000	18%	181	17%	165	16%	165
11	NTPC Mouda II Unit 1	WR	660	19%	124	34%	227	17%	113
12	NTPC Mouda II Unit 2	WR	660	19%	124	34%	227	17%	113
13	NTPC Kawas GPP	WR	656	21%	140	21%	140	21%	140
14	NTPC Gandhar GPP	WR	657	18%	117	18%	117	18%	117
15	NTPC Auraiya GPP	NR	663	0%	-	0%	2	0%	2
16	NTPC Dadri GPP	NR	830	0%	-	0%	2	0%	2
17	NTPC Anta GPP	NR	419	0%	-	0%	1	0%	1
18	NTPC Kahalgaon 2	ER	1,500	5%	74	5%	74	5%	74
19	KAPP Kakrapar	WR	440	0%	-	0%	-	26%	113
20	TAPP Tarapur	WR	1,080	21%	230	21%	230	21%	230
21	RAPP Rawabhatta	NR	880	0%	-	0%	2	0%	2
22	NAPP Narora	NR	440	0%	-	0%	1	0%	1
23	NTPC Solapur STPS, Unit-1	WR	660	25%	166	24%	155	24%	155
24	NTPC Solapur STPS, Unit-2	WR	660	0%	-	24%	157	24%	157
25	NTPC Gadarwara STPS, Unit-1	WR	800	0%	-	50%	400	50%	400
26	NTPC Gadarwara STPS, Unit-2	WR	800	0%	-	0%	-	50%	400
27	NTPC Lara STPS, Raigarh, Unit I	WR	800	0%	-	8%	64	8%	64

Allocation Statement: MP Share									
Sr. no.	Particulars	Region	Capacity (MW)	FY 2017-18 (Prov.)		FY 2018-19 (RE)		FY 2019-20 (Proj.)	
				%	MW	%	MW	%	MW
28	NTPC Lara STPS, Raigarh, Unit II	WR	800	0%	-	0%	-	8%	64
29	NTPC Firoz Gandhi Unchahar I	WR	420			0%	0	0%	0
30	NTPC Firoz Gandhi Unchahar II	NR	420			0%	1	0%	1
31	NTPC Firoz Gandhi Unchahar III	NR	210			0%	1	0%	1
32	NTPC Firoz Gandhi Unchahar IV	NR	500			0%	1	0%	1
33	NTPC Rihand I	NR	1,000			0%	2	0%	2
34	NTPC Rihand II	NR	1,000			0%	2	0%	2
35	NTPC Rihand III	NR	1,000			0%	3	0%	3
36	NTPC NCTP Dadri II	NR	980			0%	2	0%	2
37	NTPC Singrauli	NR	2,000			0%	4	0%	4
38	NTPC IGPS I Jhajjar	NR	1,500			0%	2	0%	2
II	MP GENCO (THERMAL & HYDRO)		6,586		4,997		6,185		5,777
1	Amarkantak TPS Ph-III	State	210	100%	210	100%	210	100%	210
2	Satpura Phase III	State	420	100%	830 [#]	100%	830 [#]	100%	420
3	Satpura TPS Ph-IV	State	500	100%	500	100%	500	100%	500
4	SGTPS Ph-I & II	State	840	100%	840	100%	840	100%	840
5	SGTPS Ph-III	State	500	100%	500	100%	500	100%	500
6	Shri Singaji STPS, Ph-I	State	1,200	100%	1,200	100%	1,200	100%	1,200
7	Shri Singaji Phase-2, Unit-1	State	660	0%	-	90%	594	90%	594
8	Shri Singaji Phase-2, Unit-2	State	660	0%	-	90%	594	90%	594
9	Rani Awanti Bai Sagar, Bargi HPS	State	90	100%	90	100%	90	100%	90
10	Bansagar Ph I HPS (Tons)	State	315	100%	315	100%	315	100%	315
11	Bansagar Ph-II HPS (Silpara)	State	30	100%	30	100%	30	100%	30
12	Bansagar Ph-III HPS (Deolond)	State	60	100%	60	100%	60	100%	60
13	Bansagar Ph-IV HPS (Jhinna)	State	20	100%	20	100%	20	100%	20
14	Birsinghpur HPS	State	20	100%	20	100%	20	100%	20
15	Marhikheda HPS	State	60	100%	60	100%	60	100%	60
16	Rajghat HPS	State	45	50%	23	50%	23	50%	23
17	Gandhisagar HPS	State	115	50%	58	50%	58	50%	58
18	Ranapratap Sagar & Jawahar Sagar HPS	State	271	50%	136	50%	136	50%	136
19	Pench HPS	State	160	67%	107	67%	107	67%	107
III	JV Hydel & Other Hydels		9,832		2,347		2,360		2,360
1	NHDC Indira Sagar HPS	State	1,000	100%	1,000	100%	1,000	100%	1,000
2	NHDC Omkareshwar HPS	State	520	100%	520	100%	520	100%	520

Allocation Statement: MP Share									
Sr. no.	Particulars	Region	Capacity (MW)	FY 2017-18 (Prov.)		FY 2018-19 (RE)		FY 2019-20 (Proj.)	
				%	MW	%	MW	%	MW
3	Sardar Sarovar HPS	WR	1,450	57%	827	57%	827	57%	827
4	Rihand HPS	NR	300	0%	-	0%	-	0%	-
5	Matatila HPS	NR	31	0%	-	0%	-	0%	-
6	SJVN Rampur HPS	NR	412			0%	1	0%	1
7	SJVN Jhakri HPS	NR	1,500			0%	3	0%	3
8	Tehri HPS	NR	1,000			0%	2	0%	2
9	Koteshwar HPP	NR	400			0%	1	0%	1
10	Parbati III	NR	520			0%	1	0%	1
11	NHPC Chamera II	NR	300			0%	1	0%	1
12	NHPC Chamera III	NR	231			0%	1	0%	1
13	NHPC Dulhasti	NR	390			0%	1	0%	1
14	NHPC Dhauliganga	NR	280			0%	1	0%	1
15	NHPC Sewa II	NR	120			0%	0	0%	0
16	NHPC Uri II	NR	240			0%	1	0%	1
17	NHPC Kishanganga	NR	330			0%	1	0%	1
18	NTPC Koldam HPP I	NR	800			0%	1	0%	1
19	NTPC Singrauli Small HPP	NR	8			0%	0	0%	0
IV	DVC		2,840		500		-		-
1	DVC (MTPS & CTPS)	ER	1,840	22%	400	0%	-	0%	-
2	DVC DTPS, Unit 1 & Unit 2	ER	1,000	10%	100	0%	-	0%	-
5	IPPs		9,352		3,414		3,414		3,414
1	Torrent Power	WR	765	10%	75	10%	75	10%	75
2	BLA Power	State	90	35%	32	35%	32	35%	32
3	Jaypee Bina Power	State	500	70%	350	70%	350	70%	350
4	Lanco Amarkantak TPS Unit 1	WR	300	100%	300	100%	300	100%	300
5	Reliance UMPP, Sasan	WR	3,960	38%	1,485	38%	1,485	38%	1,485
6	Essar Power STPS	State	600	5%	30	5%	30	5%	30
7	Jaiprakash Power STPS, Nigri	WR	1,320	38%	495	38%	495	38%	495
8	MB Power STPS	WR	1,200	35%	420	35%	420	35%	420
9	Jhabua Power STPS, Unit-1	WR	600	35%	210	35%	210	35%	210
10	Captive	State	17	100%	17	100%	17	100%	17
6	Renewables		-		3,274		3,688		4,349
a	Solar	State	NA	100%	1,025	100%	1,284	100%	1,536
b	Other Mini Micro	State		100%	30	100%	32	100%	42
c	Other than Solar	State		100%	2,218	100%	2,371	100%	2,771
7	Total		62,385		16,863		19,184		20,615

Prov.--> Provisional RE --> Revised Estimate Proj. --> Projected

* 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.

In FY 2017-18 there was a total Capacity of 830 MW available from Satpura Sarni PH-II & III during FY 2018-19 due to decommissioning of STPS-II the capacity has been reduced to 420 MW.

5.6 As can be seen from the above table, some relevant information for FY 2019-20 are as follows:

- No Availability has been considered from Rihand, Matatila based on nil availability in last 36 Months.
- As highlighted in previous year's tariff Petition, MPPMCL had 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. No power has been scheduled from these stations after the said date. The Cost of such plants has not been considered while calculating the power purchase cost for FY 2019-20. However, in case the PPAs with DVC remains in force in FY 2018-19 & 2019-20, MPPMCL will be obligated to pay fixed charges for these stations.
- During FY 2018-19, power from Essar, BLA & Sugen Torrent Generating Stations has been scheduled following MoD whereas in the Tariff Order for FY 2018-19, 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 2018-19. It is further humbly submitted before the Hon'ble Commission that for FY 2019-20, the availability from these plants has been considered as the PPAs with these plants remain in force.

5.7 Ex-Bus Availability

The Discom's has considered the provisional energy received in FY 2017-18 & FY 2018-19 (till August 2018) 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 2019-20 as discussed in previous sections is as given below:

Table 90: Ex-Bus Availability (MUs) Plant Source Wise

Ex-Bus Availability (MUs)				
Sr.no	Particulars	FY 2017-18 (Prov.)	FY 2018-19 (RE)	FY 2019-20 (Proj.)
I	Central Sector	26,069	26,764	29,625
1	NTPC Korba	3,593	3,427	3,472
2	NTPC Korba III	570	540	529
3	NTPC Vindyachal I	3,312	3,059	3,069
4	NTPC Vindyachal II	2,589	2,202	2,249
5	NTPC Vindyachal III	2,086	1,873	1,819
6	NTPC Vindyachal IV	2,296	2,074	2,080

Ex-Bus Availability (MUs)				
Sr.no	Particulars	FY 2017-18 (Prov.)	FY 2018-19 (RE)	FY 2019-20 (Proj.)
7	NTPC Vindyachal V Unit 1	1,233	988	876
8	NTPC Sipat I	2,655	2,286	2,330
9	NTPC Sipat II	1,461	1,425	1,392
10	NTPC Mouda I	1,212	1,010	1,061
11	NTPC Mouda II Unit 1	490	885	1,086
12	NTPC Mouda II Unit 2	259	828	970
13	NTPC Kawas GPP	1,308	1,069	1,014
14	NTPC Gandhar GPP	960	854	810
15	NTPC Auraiya GPP	-	7	12
16	NTPC Dadri GPP	-	9	15
17	NTPC Anta GPP	-	4	8
18	NTPC Kahalgaon 2	575	518	522
19	KAPP Kakrapar	-	308	620
20	TAPP Tarapur	1,093	1,611	1,528
21	RAPP Rawabhatta	-	10	12
22	NAPP Narora	-	6	7
23	NTPC Solapur STPS, Unit-1	376	1,042	1,115
24	NTPC Solapur STPS, Unit-2	-	3	566
25	NTPC Gadarwara STPS, Unit-1	-	461	1,440
26	NTPC Gadarwara STPS, Unit-2	-	-	502
27	NTPC Lara STPS, Raigarh, Unit I	-	74	230
28	NTPC Lara STPS, Raigarh, Unit II	-	-	155
29	NTPC Firoz Gandhi Unchahar I	-	16	2
30	NTPC Firoz Gandhi Unchahar II	-	17	8
31	NTPC Firoz Gandhi Unchahar III	-	7	4
32	NTPC Firoz Gandhi Unchahar IV	-	5	9
33	NTPC Rihand I	-	21	15
34	NTPC Rihand II	-	19	17
35	NTPC Rihand III	-	22	19
36	NTPC NCTP Dadri II	-	12	16
37	NTPC Singrauli	-	54	31
38	NTPC IGPS I Jhajjar	-	19	14

Ex-Bus Availability (MUs)				
Sr.no	Particulars	FY 2017-18 (Prov.)	FY 2018-19 (RE)	FY 2019-20 (Proj.)
II	MP GENCO (THERMAL & HYDRO)	23,816	25,916	29,015
1	Amarkantak TPS Ph-III	1,623	1,421	1,545
2	Satpura Phase III	3,772	3,845	2,175
3	Satpura TPS Ph-IV	3,162	2,919	2,653
4	SGTPS Ph-I & II	4,388	4,564	4,385
5	SGTPS Ph-III	2,987	3,329	3,439
6	Shri Singaji STPS, Ph-I	6,364	6,261	6,229
7	Shri Singaji Phase-2, Unit-1	-	1,175	3,138
8	Shri Singaji Phase-2, Unit-2	-	652	3,138
9	Rani Awanti Bai Sagar, Bargi HPS	129	349	332
10	Bansagar Ph I HPS (Tons)	539	717	852
11	Bansagar Ph-II HPS (Silpara)	46	50	70
12	Bansagar Ph-III HPS (Deolond)	75	70	88
13	Bansagar Ph-IV HPS (Jhinna)	66	50	77
14	Birsinghpur HPS	24	39	28
15	Marhikheda HPS	22	46	90
16	Rajghat HPS	29	19	29
17	Gandhisagar HPS	174	84	168
18	Ranapratap Sagar & Jawahar Sagar HPS	316	188	359
19	Pench HPS	101	140	219
III	JV Hydel & Other Hydels	1,798	2,058	4,459
1	NHDC Indira Sagar HPS	837	1,082	2,156
2	NHDC Omkareshwar HPS	442	502	986
3	Sardar Sarovar HPS	520	405	1,283
4	SJVN Rampur HPS	-	4	5
5	SJVN Jhakri HPS	-	15	19
6	Tehri HPS	-	9	2
7	Koteshwar HPP	-	4	1
8	Parbati III	-	5	1
9	NHPC Chamera II	-	5	1
10	NHPC Chamera III	-	3	1
11	NHPC Dulhasti	-	6	1

Ex-Bus Availability (MUs)				
Sr.no	Particulars	FY 2017-18 (Prov.)	FY 2018-19 (RE)	FY 2019-20 (Proj.)
12	NHPC Dhauliganga	-	4	1
13	NHPC Sewa II	-	1	0
14	NHPC Uri II	-	4	1
15	NHPC Kishanganga	-	3	1
16	NTPC Koldam HPP I	-	6	1
17	NTPC Singrauli Small HPP	-	0	0
IV	DVC	2,402	-	-
1	DVC (MTPS & CTPS)	2,300	-	-
2	DVC DTPS, Unit 1& Unit 2	103	-	-
V	IPPs	23,125	21,696	20,189
1	Torrent Power	630	625	593
2	BLA Power	17	109	89
3	Jaypee Bina Power	2,289	2,305	2,366
4	Lanco Amarkantak TPS Unit 1	2,166	2,135	2,195
5	Reliance UMPP, Sasan	11,268	10,501	9,632
6	Essar Power STPS	74	18	21
7	Jaiprakash Power STPS, Nigri	3,325	2,790	2,615
8	MB Power STPS	2,565	2,361	1,765
9	Jhabua Power STPS, Unit-1	791	833	884
10	Captive	-	17	30
VI	Renewables	4,952	5,201	7,644
1	Solar	1,207	1,704	2,993
2	Other Mini Micro	0	84	46
3	Other than Solar	3,745	3,413	4,605
VII	Total	82,163	81,635	90,932

Prov.--> Provisional

RE --> Revised estimate

Proj. --> Projected

Table 91: Month Wise Power Availability for FY 2019-20

Generating Stations	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Total
Central Sector	2,374	2,454	2,374	2,454	2,454	2,396	2,479	2,495	2,578	2,578	2,411	2,578	29,625
NTPC Korba	285	294	285	294	294	285	294	285	294	294	275	294	3,472
NTPC Korba III	43	45	43	45	45	43	45	43	45	45	42	45	529
NTPC Vindyachal I	252	260	252	260	260	252	260	252	260	260	243	260	3,069
NTPC Vindyachal II	184	190	184	190	190	184	190	184	190	190	178	190	2,249
NTPC Vindyachal III	149	154	149	154	154	149	154	149	154	154	144	154	1,819
NTPC Vindyachal IV	171	176	171	176	176	171	176	171	176	176	165	176	2,080
NTPC Vindyachal V Unit 1	72	74	72	74	74	72	74	72	74	74	69	74	876
NTPC Sipat I	191	197	191	197	197	191	197	191	197	197	185	197	2,330
NTPC Sipat II	114	118	114	118	118	114	118	114	118	118	110	118	1,392
NTPC Mouda I	87	90	87	90	90	87	90	87	90	90	84	90	1,061
NTPC Mouda II Unit 1	89	92	89	92	92	89	92	89	92	92	86	92	1,086
NTPC Mouda II Unit 2	80	82	80	82	82	80	82	80	82	82	77	82	970
NTPC Kawas GPP	83	86	83	86	86	83	86	83	86	86	80	86	1,014
NTPC Gandhar GPP	66	69	66	69	69	66	69	66	69	69	64	69	810
NTPC Auraiya GPP	1	1	1	1	1	1	1	1	1	1	1	1	12
NTPC Dadri GPP	1	1	1	1	1	1	1	1	1	1	1	1	15
NTPC Anta GPP	1	1	1	1	1	1	1	1	1	1	1	1	8
NTPC Kahalgaon 2	43	44	43	44	44	43	44	43	44	44	41	44	522
KAPP Kakrapar	51	53	51	53	53	51	53	51	53	53	49	53	620
TAPP Tarapur	125	129	125	129	129	125	129	125	129	129	121	129	1,528
RAPP Rawabhatta	1	1	1	1	1	1	1	1	1	1	1	1	12
NAPP Narora	1	1	1	1	1	1	1	1	1	1	1	1	7

Generating Stations	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Total
NTPC Solapur STPS, Unit-1	91	94	91	94	94	91	94	91	94	94	88	94	1,115
NTPC Solapur STPS, Unit-2	46	48	46	48	48	46	48	46	48	48	45	48	566
NTPC Gadarwara STPS, Unit-1	118	122	118	122	122	118	122	118	122	122	114	122	1,440
NTPC Gadarwara STPS, Unit-2	-	-	-	-	-	-	3	98	102	102	95	102	502
NTPC Lara STPS, Raigarh, Unit I	19	19	19	19	19	19	19	19	19	19	18	19	230
NTPC Lara STPS, Raigarh, Unit II	-	-	-	-	1	22	22	22	22	22	21	22	155
NTPC Firoz Gandhi Unchahar I	0	0	0	0	0	0	0	0	0	0	0	0	2
NTPC Firoz Gandhi Unchahar II	1	1	1	1	1	1	1	1	1	1	1	1	8
NTPC Firoz Gandhi Unchahar III	0	0	0	0	0	0	0	0	0	0	0	0	4
NTPC Firoz Gandhi Unchahar IV	1	1	1	1	1	1	1	1	1	1	1	1	9
NTPC Rihand I	1	1	1	1	1	1	1	1	1	1	1	1	15
NTPC Rihand II	1	1	1	1	1	1	1	1	1	1	1	1	17
NTPC Rihand III	2	2	2	2	2	2	2	2	2	2	2	2	19
NTPC NCTP Dadri II	1	1	1	1	1	1	1	1	1	1	1	1	16
NTPC Singrauli	3	3	3	3	3	3	3	3	3	3	2	3	31
NTPC IGPS I Jhajjar	1	1	1	1	1	1	1	1	1	1	1	1	14
MP GENCO	2,378	2,458	2,378	2,458	2,458	2,378	2,458	2,378	2,458	2,458	2,299	2,458	29,015
Amarkantak TPS Ph-III	127	131	127	131	131	127	131	127	131	131	122	131	1,545
Satpura TPS Ph-II & III	178	184	178	184	184	178	184	178	184	184	172	184	2,175
Satpura TPS Ph-IV	217	225	217	225	225	217	225	217	225	225	210	225	2,653
SGTPS Ph-I & II	359	371	359	371	371	359	371	359	371	371	347	371	4,385
SGTPS Ph-III	282	291	282	291	291	282	291	282	291	291	272	291	3,439
Shri Singaji STPS, Ph-I	511	528	511	528	528	511	528	511	528	528	494	528	6,229
Shri Singaji Phase-2, Unit-1	257	266	257	266	266	257	266	257	266	266	249	266	3,138

Generating Stations	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Total
Shri Singaji Phase-2, Unit-2	257	266	257	266	266	257	266	257	266	266	249	266	3,138
Rani Awanti Bai Sagar, Bargi HPS	27	28	27	28	28	27	28	27	28	28	26	28	332
Bansagar Ph I HPS (Tons)	70	72	70	72	72	70	72	70	72	72	68	72	852
Bansagar Ph-II HPS (Silpara)	6	6	6	6	6	6	6	6	6	6	6	6	70
Bansagar Ph-III HPS (Deolond)	7	7	7	7	7	7	7	7	7	7	7	7	88
Bansagar Ph-IV HPS (Jhinna)	6	7	6	7	7	6	7	6	7	7	6	7	77
Birsinghpur HPS	2	2	2	2	2	2	2	2	2	2	2	2	28
Marhikheda HPS	7	8	7	8	8	7	8	7	8	8	7	8	90
Rajghat HPS	2	2	2	2	2	2	2	2	2	2	2	2	29
Gandhisagar HPS	14	14	14	14	14	14	14	14	14	14	13	14	168
R.P. Sagar & Jawahar Sagar HPS	29	30	29	30	30	29	30	29	30	30	28	30	359
Pench HPS	18	19	18	19	19	18	19	18	19	19	17	19	219
JV Hydel & Other Hydels	366	378	366	378	378	366	378	366	378	378	353	378	4,459
NHDC Indira Sagar HPS	177	183	177	183	183	177	183	177	183	183	171	183	2,156
NHDC Omkareshwar HPS	81	83	81	83	83	81	83	81	83	83	78	83	986
Sardar Sarovar HPS	105	109	105	109	109	105	109	105	109	109	102	109	1,283
SJVN Rampur HPS	0	0	0	0	0	0	0	0	0	0	0	0	5
SJVN Jhakri HPS	2	2	2	2	2	2	2	2	2	2	2	2	19
Tehri HPS	0	0	0	0	0	0	0	0	0	0	0	0	2
Koteshwar HPP	0	0	0	0	0	0	0	0	0	0	0	0	1
Parbati III	0	0	0	0	0	0	0	0	0	0	0	0	1
NHPC Chamera II	0	0	0	0	0	0	0	0	0	0	0	0	1
NHPC Chamera III	0	0	0	0	0	0	0	0	0	0	0	0	1
NHPC Dulhasti	0	0	0	0	0	0	0	0	0	0	0	0	1

Generating Stations	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Total
NHPC Dhauliganga	0	0	0	0	0	0	0	0	0	0	0	0	1
NHPC Sewa II	0	0	0	0	0	0	0	0	0	0	0	0	0
NHPC Uri II	0	0	0	0	0	0	0	0	0	0	0	0	1
NHPC Kishanganga	0	0	0	0	0	0	0	0	0	0	0	0	1
NTPC Koldam HPP I	0	0	0	0	0	0	0	0	0	0	0	0	1
NTPC Singrauli Small HPP	0	0	0	0	0	0	0	0	0	0	0	0	0
IPPs	1,655	1,710	1,655	1,710	1,710	1,655	1,710	1,655	1,710	1,710	1,600	1,710	20,189
Torrent Power	49	50	49	50	50	49	50	49	50	50	47	50	593
BLA Power	7	8	7	8	8	7	8	7	8	8	7	8	89
Jaypee Bina Power	194	200	194	200	200	194	200	194	200	200	187	200	2,366
Lanco Amarkantak TPS Unit 1	180	186	180	186	186	180	186	180	186	186	174	186	2,195
Reliance UMPP, Sasan	789	816	789	816	816	789	816	789	816	816	763	816	9,632
Essar Power STPS	2	2	2	2	2	2	2	2	2	2	2	2	21
Jaiprakash Power STPS, Nigri	214	221	214	221	221	214	221	214	221	221	207	221	2,615
MB Power STPS	145	149	145	149	149	145	149	145	149	149	140	149	1,765
Jhabua Power STPS, Unit-1	72	75	72	75	75	72	75	72	75	75	70	75	884
Captive	2	3	2	3	3	2	3	2	3	3	2	3	30
Renewables	627	647	627	647	647	627	647	627	647	647	606	647	7,644
Solar	245	254	245	254	254	245	254	245	254	254	237	254	2,993
Other Mini Micro	4	4	4	4	4	4	4	4	4	4	4	4	46
Other than Solar	377	390	377	390	390	377	390	377	390	390	365	390	4,605
Total	7,400	7,646	7,400	7,646	7,647	7,421	7,672	7,520	7,770	7,770	7,269	7,770	90,932

5.8 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 1.50% for Solar and 7.00% for Non-Solar for FY 2017-18, 1.75% for Solar and 7.50% for Non-Solar for FY 2018-19 & 4.00% for Solar and 8.00% for Non-Solar for FY 2019-20 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 2017-18, FY 2018-19 & FY 2019-20 in compliance to RPO targets and deficit in non-solar for FY 2017-18, FY 2018-19 & FY 2019-20. Accordingly the Petitioners have calculated the RPO requirement as shown in the following table:

Table 92: Renewable Purchase Obligation (MUs)

Sr. no	Particulars	MP State		
		FY 2017-18 (Prov.)	FY 2018-19 (RE)	FY 2019-20 (Proj.)
A	RPO Obligations (%)	8.50%	9.25%	12.00%
1	Solar	1.50%	1.75%	4.00%
2	Other than Solar	7.00%	7.50%	8.00%
B	Ex-Bus RPO Requirement based on MoD (MUs) excluding Hydro	5,275	5,669	7,587
1	Solar	931	1,073	2,529
2	Other than Solar	4,344	4,597	5,058
C	Energy Available from Existing Sources (MUs)	4,952	5,201	7,644
1	Solar	1,207	1,704	2,993
2	Other than Solar	3,745	3,497	4,650
D	Shortfall (MUs)	599	1,100	408
1	Solar	-	-	-
2	Other than Solar	599	1,100	408
E	Extra Power Available (MUs) after meeting RPO Obligations which needs to be sold	599	1,100	408
1	Surplus Sale Rate (Paisa/kWh)	318	260	326
2	Additional Revenue from Sale of Power (Rs Crores)	191	286	133
F	Renewable Energy Purchase Rate (Paisa/kWh)			
1	Solar	655	487	487
2	Other than Solar	557	526	528
G	Renewable Energy Purchase from Existing Source (Rs Crores)	2,875	2,668	3,911
1	Solar	790	829	1,456
2	Other than Solar	2,085	1,838	2,455
H	Additional Cost due to Shortage of Renewable Energy Purchase (Rs Crores)	333	578	215
1	Solar	-	-	-
2	Other than Solar	333	578	215
I	Net Additional Cost to be borne for shortage of RPO (Rs Crores)	143	292	82
1	Solar			
2	Other than Solar	143	292	82

- 5.3.4 It can be observed from the above table that there is an overachievement of the RPO from Solar category in FY 2019-20 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 2019-20 and there is a shortage in the non-solar RPO and surplus in solar RPO in FY 2017-18 & FY 2018-19. It is therefore humbly requested before the Hon'ble Commission that it should consider fulfilment of RPO as a whole.

5.9 Backing down of Power

- 5.9.1 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 2017-18 to FY 2019-20 and thereafter, after considering all generating stations allocated to MPPMCL. The Petitioners have considered the provisional data for FY 2017-18 & FY 2018-19 (till August 18) for calculating normative availability including backing down of power for FY 2017-18 to FY 2019-20.
- 5.9.2 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 284.01 per unit for FY 2019-20), 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.
- 5.9.3 The following table shows the stations which are considered for partial/full back down for FY 2017-18 to FY 2019-20:

Table 93: Backing Down of Power (MUs) Plant Source Wise

Sr. no.	Particulars	Back Down of Power (MUs)								
		Normative Availability			Net Availability			Back Down of Power		
		FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)
1	NTPC Korba	3,593	3,427	3,472	3,575	3,427	3,472	18		
2	NTPC Korba III	570	540	529	569	540	529	1		
3	NTPC Vindyachal I	3,312	3,059	3,069	3,005	3,059	3,069	308		
4	NTPC Vindyachal II	2,589	2,202	2,249	2,449	2,202	2,249	141		
5	NTPC Vindyachal III	2,086	1,873	1,819	1,973	1,873	1,819	112		
6	NTPC Vindyachal IV	2,296	2,074	2,080	2,235	2,074	2,080	61		
7	NTPC Vindyachal V Unit 1	1,233	988	876	1,121	988	876	112		
8	NTPC Sipat I	2,655	2,286	2,330	2,649	2,286	2,330	6		
9	NTPC Sipat II	1,461	1,425	1,392	1,457	1,425	1,392	4		
10	NTPC Mouda I	1,212	1,010	1,061	525	-	177	687	1,010	884
11	NTPC Mouda II Unit 1	490	885	1,086	238	181	1,086	252	704	
12	NTPC Mouda II Unit 2	259	828	970	189	162	162	69	666	809
13	NTPC Kawas GPP	1,308	1,069	1,014	519	1,069	1,014	789		
14	NTPC Gandhar GPP	960	854	810	513	135	810	448	719	
15	NTPC Auraiya GPP	-	7	12	-	-	-	-	7	12
16	NTPC Dadri GPP	-	9	15	-	-	3	-	9	13
17	NTPC Anta GPP	-	4	8	-	-	1	-	4	7
18	NTPC Kahalgaon 2	575	518	522	333	518	522	242		
19	KAPP Kakrapar	-	308	620	-	308	620	-		
20	TAPP Tarapur	1,093	1,611	1,528	1,093	1,611	1,528	-		
21	RAPP Rawabhatta	-	10	12	-	10	12	-		
22	NAPP Narora	-	6	7	-	6	7	-		
23	NTPC Solapur STPS, Unit-1	376	1,042	1,115	236	-	186	140	1,042	929
24	NTPC Solapur STPS, Unit-2	-	3	566	-	-	-	-	3	566
25	NTPC Gadarwara STPS, Unit-1	-	461	1,440	-	-	-	-	461	1,440

Sr. no.	Particulars	Back Down of Power (MUs)									
		Normative Availability			Net Availability			Back Down of Power			
		FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	
26	NTPC Gadarwara STPS, Unit-2	-	-	502	-	-	-	-	-	-	502
27	NTPC Lara STPS, Raigarh, Unit I	-	74	230	-	-	-	-	74	230	
28	NTPC Lara STPS, Raigarh, Unit II	-	-	155	-	-	-	-	-	-	155
29	NTPC Firoz Gandhi Unchahar I	-	16	2	-	0	0	-	16	2	
30	NTPC Firoz Gandhi Unchahar II	-	17	8	-	1	1	-	15	7	
31	NTPC Firoz Gandhi Unchahar III	-	7	4	-	1	1	-	7	3	
32	NTPC Firoz Gandhi Unchahar IV	-	5	9	-	2	2	-	3	8	
33	NTPC Rihand I	-	21	15	-	21	15	-			
34	NTPC Rihand II	-	19	17	-	19	17	-			
35	NTPC Rihand III	-	22	19	-	22	19	-			
36	NTPC NCTP Dadri II	-	12	16	-	-	3	-	12	13	
37	NTPC Singrauli	-	54	31	-	54	31	-			
38	NTPC IGPS I Jhajjar	-	19	14	-	-	-	-	19	14	
39	Amarkantak TPS Ph-III	1,623	1,421	1,545	1,572	1,421	1,545	51			
40	Satpura Phase III	3,772	3,845	2,175	1,518	3,845	2,175	2,254			
41	Satpura TPS Ph-IV	3,162	2,919	2,653	3,009	2,919	2,653	153			
42	SGTPS Ph-I & II	4,388	4,564	4,385	4,042	4,564	4,385	346			
43	SGTPS Ph-III	2,987	3,329	3,439	2,861	3,329	3,439	126			
44	Shri Singaji STPS, Ph-I	6,364	6,261	6,229	3,579	6,261	6,229	2,785			
45	Shri Singaji Phase-2, Unit-1	-	1,175	3,138	-	1,175	3,138	-			
46	Shri Singaji Phase-2, Unit-2	-	652	3,138	-	652	3,138	-			
47	Rani Awanti Bai Sagar, Bargi HPS	129	349	332	129	349	332	-			
48	Bansagar Ph I HPS (Tons)	539	717	852	539	717	852	-			
49	Bansagar Ph-II HPS (Silpara)	46	50	70	46	50	70	-			
50	Bansagar Ph-III HPS (Deolond)	75	70	88	75	70	88	-			
51	Bansagar Ph-IV HPS (Jhinna)	66	50	77	66	50	77	-			
52	Birsinghpur HPS	24	39	28	24	39	28	-			

Sr. no.	Particulars	Back Down of Power (MUs)									
		Normative Availability			Net Availability			Back Down of Power			
		FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	
53	Marhikheda HPS	22	46	90	22	15	74	-	31	16	
54	Rajghat HPS	29	19	29	29	19	29	-			
55	Gandhisagar HPS	174	84	168	174	84	168	-			
56	Ranapratap Sagar & Jawahar Sagar HPS	316	188	359	316	188	359	-			
57	Pench HPS	101	140	219	101	140	219	-			
58	NHDC Indira Sagar HPS	837	1,082	2,156	837	1,082	2,156	-			
59	NHDC Omkareshwar HPS	442	502	986	442	502	986	-			
60	Sardar Sarovar HPS	520	405	1,283	520	405	1,283	-			
61	SJVN Rampur HPS	-	4	5	-	4	5	-			
62	SJVN Jhakri HPS	-	15	19	-	15	19	-			
63	Tehri HPS	-	9	2	-	9	2	-			
64	Koteshwar HPP	-	4	1	-	4	1	-			
65	Parbati III	-	5	1	-	1	1	-	4		
66	NHPC Chamera II	-	5	1	-	5	1	-			
67	NHPC Chamera III	-	3	1	-	3	1	-			
68	NHPC Dulhasti	-	6	1	-	1	1	-	4		
69	NHPC Dhauliganga	-	4	1	-	4	1	-			
70	NHPC Sewa II	-	1	0	-	1	0	-			
71	NHPC Uri II	-	4	1	-	4	1	-			
72	NHPC Kishanganga	-	3	1	-	3	1	-			
73	NTPC Koldam HPP I	-	6	1	-	6	1	-			
74	NTPC Singrauli Small HPP	-	0	0	-	0	0	-			
75	DVC (MTPS & CTPS)	2,300	-	-	1,644	-	-	656			
76	DVC DTSPS, Unit 1& Unit 2	103	-	-	64	-	-	39			
77	Torrent Power	630	625	593	44	-	-	586	625	593	
78	BLA Power	17	109	89	-	109	89	17			

Sr. no.	Particulars	Back Down of Power (MUs)									
		Normative Availability			Net Availability			Back Down of Power			
		FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	FY 2017-18 (Prov)	FY 2018-19 (Re-Est)	FY 2019-20 (Proj)	
79	Jaypee Bina Power	2,289	2,305	2,366	1,108	394	410	1,181	1,911	1,956	
80	Lanco Amarkantak TPS Unit 1	2,166	2,135	2,195	1,774	2,135	2,195	392			
81	Reliance UMPP, Sasan	11,268	10,501	9,632	11,235	10,501	9,632	33			
82	Essar Power STPS	74	18	21	74	-	3	-	18	17	
83	Jaiprakash Power STPS, Nigri	3,325	2,790	2,615	3,325	2,790	2,615	1			
84	MB Power STPS	2,565	2,361	1,765	1,859	2,361	1,765	706			
85	Jhabua Power STPS, Unit-1	791	833	884	440	833	884	351			
86	Captive	-	17	30	-	17	30	-			
87	Solar	1,207	1,704	2,993	1,207	1,704	2,993	-			
88	Other Mini Micro	0	84	46	0	84	46	-			
89	Other than Solar	3,745	3,413	4,605	3,745	3,413	4,605	-			
90	Total	82,163	81,635	90,932	69,099	74,271	82,757	13,064	7,365	8,175	

5.10 Allocation Statement at State Boundary Level

The Government of MP vide gazette notification dated 21st March 2016 had 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 Discoms, MPPMCL has considered the monthly energy requirement of the three Discoms' at the state boundary level for the period FY 2017-18 to FY 2019-20 as provided in the table below:

Table 94: Allocation Statement at State Boundary Level

Allocation Statement at State Boundary Level														
Sr.no	Discom	April	May	June	July	August	September	October	November	December	January	February	March	Total
1	FY 2017-18 (Provisional) - MUs excluding UI adjustment													
a	MP State	5,415	5,166	4,333	4,192	4,728	4,785	6,006	6,705	7,015	6,487	5,121	5,419	65,373
b	East	1,666	1,654	1,373	1,269	1,562	1,639	1,773	1,834	1,999	1,971	1,490	1,643	19,871
c	Central	1,940	1,721	1,425	1,556	1,746	1,740	1,999	2,199	2,511	2,138	1,723	1,861	22,560
d	West	1,810	1,790	1,536	1,368	1,419	1,406	2,234	2,672	2,504	2,379	1,908	1,915	22,941
2	FY 2018-19 (Re-Estimate)- Mus													
a	MP State	4,771	5,153	4,675	4,448	4,428	4,856	5,687	6,483	6,703	5,979	5,455	5,176	63,813
b	East	1,440	1,552	1,395	1,336	1,514	1,643	1,709	1,774	1,998	1,838	1,695	1,631	19,525
c	Central	1,362	1,482	1,415	1,416	1,427	1,573	1,733	1,941	1,979	1,749	1,624	1,526	19,227
d	West	1,969	2,119	1,865	1,696	1,487	1,641	2,245	2,768	2,725	2,392	2,136	2,018	25,060
3	FY 2019-20 (Projected)- Mus													
a	MP State	5,338	5,507	4,828	4,646	4,781	5,243	6,139	6,998	7,235	6,454	5,889	5,587	68,644
b	East	1,756	1,834	1,589	1,531	1,639	1,778	1,850	1,920	2,163	1,990	1,835	1,766	21,649
c	Central	1,549	1,630	1,456	1,489	1,540	1,697	1,870	2,095	2,136	1,887	1,752	1,647	20,749
d	West	2,033	2,042	1,783	1,627	1,602	1,768	2,419	2,983	2,936	2,577	2,302	2,175	26,246
4	FY 2017-18 (Provisional)- %													
a	MP State	100%												
b	East	31%	32%	32%	30%	33%	34%	30%	27%	28%	30%	29%	30%	30%
c	Central	36%	33%	33%	37%	37%	36%	33%	33%	36%	33%	34%	34%	35%
d	West	33%	35%	35%	33%	30%	29%	37%	40%	36%	37%	37%	35%	35%
5	FY 2018-19 (Re-Estimate)- %													
a	MP State	100%												
b	East	30%	30%	30%	30%	34%	34%	30%	27%	30%	31%	31%	32%	31%
c	Central	29%	29%	30%	32%	32%	32%	30%	30%	30%	29%	30%	29%	30%
d	West	41%	41%	40%	38%	34%	34%	39%	43%	41%	40%	39%	39%	39%
6	FY 2019-20 (Projected)-%													
a	MP State	100%												
b	East	33%	33%	33%	33%	34%	34%	30%	27%	30%	31%	31%	32%	32%
c	Central	29%	30%	30%	32%	32%	32%	30%	30%	30%	29%	30%	29%	30%
d	West	38%	37%	37%	35%	34%	34%	39%	43%	41%	40%	39%	39%	38%

5.11 Management of Surplus Energy

- 5.6.1 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.
- 5.6.2 The IEX rate for the past **Twelve months** (FY 2017-18) is observed to be at Paisa 326.48 per Unit. For the purpose of computation of revenue from surplus energy, the IEX rate is taken at Paisa 326.48 per Unit for FY 2019-20. The Petitioners have considered the provisional data for FY 2017-18 & FY 2018-19 (till August 18) for calculating surplus sale for FY 2017-18 to FY 2019-20.
- 5.6.3 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. The Petitioner has also considered the net benefit on account of variable cost based on surplus energy.

Table 95: Management of Surplus Power (MUs)

Management of Surplus Energy (MUs)				
Sr. No	Particulars	FY 2017-18 (Prov.)	FY 2018-19 (RE)	FY 2019-20 (Proj.)
1	Ex-Bus Availability	82,163	81,635	90,932
2	Back down of Power including Surplus Sale of Power	13,064	7,365	8,175
3	Energy Available after Back down	69,099	74,271	82,757
4	Ex-Bus Energy Required by Discom's	65,378	65,139	69,968
5	Ex-Bus Energy Required by Discom's including UI Adjustment	65,297	65,139	69,968
6	Surplus Units available for Sale	3,802	9,131	12,789
7	Additional surplus due to RPO obligation	599	1,100	408
8	Total Units Available	4,401	10,231	13,197
11	IEX Rate (Paisa/kWh)	319	260	326
12	Revenue from Sale of Surplus Power (Rs Crores)	1,211	2,661	4,308
13	Purchase Cost of Surplus Power- Variable (Rs Crores) including Renewables	1,100	2,900	3,529
14	Total saving in variable cost of surplus energy from sale of surplus energy (Rs Crore)	111	(239)	779
<i>Prov. → Provisional RE → Revised Estimate Proj. → Projected</i>				

- 5.6.4 **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 basis of considering the Fixed cost (Rs. Crores) and the variable charge (Paise/kWh) of different power stations has been indicated in the below table:

Table 96: Methodology for Power Purchase Cost for FY 2019-20

Fixed (Rs Crores) and Variable Charge (Paisa/kWh)				
Sr. no	Particulars	FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Remarks
I	Central Sector			
1	NTPC Korba	93	124	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
2	NTPC Korba III	28	132	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
3	NTPC Vindyachal I	99	167	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
4	NTPC Vindyachal II	62	156	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
5	NTPC Vindyachal III	80	153	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
6	NTPC Vindyachal IV	129	154	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
7	NTPC Vindyachal V Unit 1	64	157	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
8	NTPC Sipat I	119	121	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
9	NTPC Sipat II	66	130	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
10	NTPC Mouda I	52	333	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
11	NTPC Mouda II Unit 1	34	284	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
12	NTPC Mouda II Unit 2	34	284	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
13	NTPC Kawas GPP	35	237	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
14	NTPC Gandhar GPP	33	266	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
15	NTPC Auraiya GPP	0	413	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)

Fixed (Rs Crores) and Variable Charge (Paisa/kWh)				
Sr. no	Particulars	FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Remarks
16	NTPC Dadri GPP	0	364	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
17	NTPC Anta GPP	0	366	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
18	NTPC Kahalgaon 2	23	226	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Sep 18- Oct 18)
19	KAPP Kakrapar	-	246	Fixed Charge as per Weighted Avg 2 month Bill (Sep 18 - Oct 18) & Energy Charge as per last 2 Month Avg (Nov 17- Oct 18) in absence of supply in previous months
20	TAPP Tarapur	-	307	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
21	RAPP Rawabhatta	-	405	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
22	NAPP Narora	-	320	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
23	NTPC Solapur STPS, Unit-1	181	376	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
24	NTPC Solapur STPS, Unit-2	137	376	As per Solapur STPS Unit 1 (Nov 17- Oct 18) Proportionately
25	NTPC Gadarwara STPS, Unit-1	262	376	As per Solapur STPS Unit 1 (Nov 17- Oct 18) Proportionately
26	NTPC Gadarwara STPS, Unit-2	109	376	As per Solapur STPS Unit 1 (Nov 17- Oct 18) Proportionately
27	NTPC Lara STPS, Raigarh, Unit I	13	376	As per Solapur STPS Unit 1 (Nov 17- Oct 18) Proportionately
28	NTPC Lara STPS, Raigarh, Unit II	8	376	As per Solapur STPS Unit 1 (Nov 17- Oct 18) Proportionately
29	NTPC Firoz Gandhi Unchahar I	0	289	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
30	NTPC Firoz Gandhi Unchahar II	0	289	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
31	NTPC Firoz Gandhi Unchahar III	0	290	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
32	NTPC Firoz Gandhi Unchahar IV	-	290	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
33	NTPC Rihand I	1	133	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months

Fixed (Rs Crores) and Variable Charge (Paisa/kWh)				
Sr. no	Particulars	FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Remarks
34	NTPC Rihand II	0	133	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
35	NTPC Rihand III	1	135	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
36	NTPC NCTP Dadri II	1	348	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
37	NTPC Singrauli	1	141	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
38	NTPC IGPS I Jhajjar	0	884	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18) in absence of supply in previous months
II	MP GENCO (THERMAL & HYDRO)			
1	Amarkantak TPS Ph-III	217	159	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
2	Satpura Phase III	260	259	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
3	Satpura TPS Ph-IV	707	206	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
4	SGTPS Ph-I & II	387	216	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
5	SGTPS Ph-III	389	201	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
6	Shri Singaji STPS, Ph-I	999	262	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
7	Shri Singaji Phase-2, Unit-1	494	262	As per Shri Singaji STPS Phase I Proportionately
8	Shri Singaji Phase-2, Unit-2	494	262	As per Shri Singaji STPS Phase I Proportionately
9	Rani Awanti Bai Sagar, Bargi HPS	9	62	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
10	Bansagar Ph I HPS (Tons)	53	81	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
11	Bansagar Ph-II HPS (Silpara)	5	82	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
12	Bansagar Ph-III HPS (Deolond)	12	172	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per

Fixed (Rs Crores) and Variable Charge (Paisa/kWh)				
Sr. no	Particulars	FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Remarks
				last 12 Month Avg (Nov 17- Oct 18)
13	Bansagar Ph-IV HPS (Jhinna)	8	113	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
14	Birsinghpur HPS	1	93	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
15	Marhikheda HPS	14	269	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
16	Rajghat HPS	2	141	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
17	Gandhisagar HPS	4	68	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
18	Ranapratap Sagar & Jawahar Sagar HPS	-	151	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
19	Pench HPS	10	46	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
III	JV Hydel & Other Hydels			
1	NHDC Indira Sagar HPS	367	137	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
2	NHDC Omkareshwar HPS	271	203	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
3	Sardar Sarovar HPS	163	122	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
4	SJVN Rampur HPS	0	161	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
5	SJVN Jhakri HPS	1	122	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
6	Tehri HPS	1	135	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
7	Koteshwar HPP	0	91	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
8	Parbati III	0	274	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
9	NHPC Chamera II	0	92	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per

Fixed (Rs Crores) and Variable Charge (Paisa/kWh)				
Sr. no	Particulars	FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Remarks
				last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
10	NHPC Chamera III	0	212	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
11	NHPC Dulhasti	1	275	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
12	NHPC Dhauliganga	0	122	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
13	NHPC Sewa II	0	54	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
14	NHPC Uri II	0	237	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
15	NHPC Kishanganga	0	197	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
16	NTPC Koldam HPP I	1	249	Fixed Charge as per Weighted Avg 5 month Bill (Jun 18- Oct 18) & Energy Charge as per last 5 Month Avg (Jun 18- Oct 18)in absence of supply in previous months
17	NTPC Singrauli Small HPP	-	249	As per NTPC Koldam HPP I Proportionately
IV IPPs				
1	Torrent Power	67	511	Fixed Charge as per Weighted Avg 12 month Bill (Aug 17- Jul 18) & Energy Charge as per last 12 Month Avg (Aug 17- Jul 18)
2	BLA Power	24	150	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
3	Jaypee Bina Power	472	301	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
4	Lanco Amarkantak TPS Unit 1	224	210	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
5	Reliance UMPP, Sasan	172	140	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
6	Essar Power STPS	-	350	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
7	Jaiprakash Power STPS, Nigri	631	60	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)

Fixed (Rs Crores) and Variable Charge (Paisa/kWh)				
Sr. no	Particulars	FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Remarks
8	MB Power STPS	438	224	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
9	Jhabua Power STPS, Unit-1	182	247	Fixed Charge as per Weighted Avg 12 month Bill (Nov 17- Oct 18) & Energy Charge as per last 12 Month Avg (Nov 17- Oct 18)
10	Captive	-	229	As approved by the Hon'ble Commission in FY 19 Tariff Order
V	Renewables			
1	Solar	-	487	As per Weighted Avg of all Solar generators with whom PPAs are existing
2	Other Mini Micro	-	381	As per Weighted Avg of all other Mini Micro generators with whom PPAs are existing
3	Other than Solar	-	529	As per Weighted Avg of all Non-Solar generators with whom PPAs are existing

6.2 Merit Order Dispatch

- 6.2.1 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 2019-20 is given in the following table:

Table 97: Merit Order Dispatch for FY 2019-20

MoD Station for FY 2019-20			
Sr. no	Particulars	Variale Charge (Paisa/kWh)	Availability (MUs)
1	KAPP Kakrapar	246	620
2	TAPP Tarapur	307	1,528
3	RAPP Rawabhatta	405	12
4	NAPP Narora	320	7
5	Solar	487	2,993
6	Other Mini Micro	381	46
7	Other than Solar	529	4,605
8	Pench HPS	46	219
9	NHPC Sewa II	54	0
10	Jaiprakash Power STPS, Nigri	60	2,615
11	Rani Awanti Bai Sagar, Bargi HPS	62	332
12	Gandhisagar HPS	68	168
13	Bansagar Ph I HPS (Tons)	81	852
14	Bansagar Ph-II HPS (Silpara)	82	70
15	Koteshwar HPP	91	1
16	NHPC Chamera II	92	1

MoD Station for FY 2019-20			
Sr. no	Particulars	Variale Charge (Paisa/kWh)	Availability (MUs)
17	Birsinghpur HPS	93	28
18	Bansagar Ph-IV HPS (Jhinna)	113	77
19	NTPC Sipat I	121	2,330
20	SJVN Jhakri HPS	122	19
21	NHPC Dhauliganga	122	1
22	Sardar Sarovar HPS	122	1,283
23	NTPC Korba	124	3,472
24	NTPC Sipat II	130	1,392
25	NTPC Korba III	132	529
26	NTPC Rihand II	133	17
27	NTPC Rihand I	133	15
28	NTPC Rihand III	135	19
29	Tehri HPS	135	2
30	NHDC Indira Sagar HPS	137	2,156
31	Reliance UMPP, Sasan	140	9,632
32	NTPC Singrauli	141	31
33	Rajghat HPS	141	29
34	BLA Power	150	89
35	Ranapratap Sagar & Jawahar Sagar HPS	151	359
36	NTPC Vindyachal III	153	1,819
37	NTPC Vindyachal IV	154	2,080
38	NTPC Vindyachal II	156	2,249
39	NTPC Vindyachal V Unit 1	157	876
40	Amarkantak TPS Ph-III	159	1,545
41	SJVN Rampur HPS	161	5
42	NTPC Vindyachal I	167	3,069
43	Bansagar Ph-III HPS (Deolond)	172	88
44	NHPC Kishanganga	197	1
45	SGTPS Ph-III	201	3,439
46	NHDC Omkareshwar HPS	203	986
47	Satpura TPS Ph-IV	206	2,653
48	Lanco Amarkantak TPS Unit 1	210	2,195
49	NHPC Chamera III	212	1
50	SGTPS Ph-I & II	216	4,385
51	MB Power STPS	224	1,765
52	NTPC Kahalgaon 2	226	522
53	Captive	229	30
54	NTPC Kawas GPP	237	1,014
55	NHPC Uri II	237	1
56	Jhabua Power STPS, Unit-1	247	884

MoD Station for FY 2019-20			
Sr. no	Particulars	Variale Charge (Paisa/kWh)	Availability (MUs)
57	NTPC Koldam HPP I	249	1
58	NTPC Singrauli Small HPP	249	0
59	Satpura Phase III	259	2,175
60	Shri Singaji STPS, Ph-I	262	6,229
61	Shri Singaji Phase-2, Unit-1	262	3,138
62	Shri Singaji Phase-2, Unit-2	262	3,138
63	NTPC Gandhar GPP	266	810
64	Marhikheda HPS	269	90
65	Parbati III	274	1
66	NHPC Dulhasti	275	1
67	NTPC Mouda II Unit 1	284	1,086
68	NTPC Mouda II Unit 2	284	970
69	NTPC Firoz Gandhi Unchahar I	289	2
70	NTPC Firoz Gandhi Unchahar II	289	8
71	NTPC Firoz Gandhi Unchahar III	290	4
72	NTPC Firoz Gandhi Unchahar IV	290	9
73	Jaypee Bina Power	301	2,366
74	NTPC Mouda I	333	1,061
75	NTPC NCTP Dadri II	348	16
76	Essar Power STPS	350	21
77	NTPC Dadri GPP	364	15
78	NTPC Anta GPP	366	8
79	NTPC Solapur STPS, Unit-1	376	1,115
80	NTPC Solapur STPS, Unit-2	376	566
81	NTPC Gadarwara STPS, Unit-1	376	1,440
82	NTPC Gadarwara STPS, Unit-2	376	502
83	NTPC Lara STPS, Raigarh, Unit I	376	230
84	NTPC Lara STPS, Raigarh, Unit II	376	155
85	NTPC Auraiya GPP	413	12
86	Torrent Power	511	593
87	NTPC IGPS I Jhajjar	884	14
88	Total		90,932

6.3 Power Purchase Cost for MP

6.3.1 The following tables indicates 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 98: Gross Power Purchase Cost for MP State

Sr.no.	Particulars	Power Purchase Cost- MP State (Rs Crores)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
I	Central Sector	2,485	3,727	6,212	1,139	3,552	4,691	1,667	3,700	5,367
1	NTPC Korba	233	482	715	93	423	517	93	429	522
2	NTPC Korba III	78	75	153	28	71	99	28	70	97
3	NTPC Vidyachal I	247	500	747	99	511	610	99	513	612
4	NTPC Vidyachal II	154	375	529	62	343	405	62	350	412
5	NTPC Vidyachal III	190	299	488	80	287	367	80	279	359
6	NTPC Vidyachal IV	320	341	661	129	320	448	129	321	449
7	NTPC Vidyachal V Unit 1	164	174	338	64	155	220	64	138	202
8	NTPC Sipat I	320	320	640	119	277	396	119	283	402
9	NTPC Sipat II	171	189	359	66	186	252	66	181	247
10	NTPC Mouda I	204	145	350	52	-	52	52	59	111
11	NIITPC Mouda II Unit 1	47	51	98	34	51	85	34	51	85
12	NTPC Mouda II Unit 2	47	51	98	34	46	80	34	46	80
13	NTPC Kawas GPP	87	125	212	35	166	201	35	180	214
14	NTPC Gandhar GPP	91	130	221	33	36	69	33	36	69
15	NTPC Auraiya GPP	-	-	-	0	-	0	0	-	0
16	NTPC Dadri GPP	-	-	-	0	-	0	0	1	1
17	NTPC Anta GPP	-	-	-	0	-	0	0	0	1
18	NTPC Kahalgaon 2	57	76	133	23	86	110	23	88	112
19	KAPP Kakrapar	-	-	-	-	76	76	-	152	152

Power Purchase Cost- MP State (Rs Crores)										
Sr.no.	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
20	TAPP Tarapur	-	323	323	-	494	494	-	469	469
21	RAPP Rawabhatta	-	-	-	-	4	4	-	5	5
22	NAPP Narora	-	-	-	-	2	2	-	2	2
23	NTPC Solapur STPS, Unit-1	75	71	146	181	-	181	181	34	215
24	NTPC Solapur STPS, Unit-2	-	-	-	0	-	0	137	-	137
25	NTPC Gadarwara STPS, Unit-1	-	-	-	0	-	0	262	-	262
26	NTPC Gadarwara STPS, Unit-2	-	-	-	-	-	-	109	-	109
27	NTPC Lara STPS, Raigarh, Unit I	-	-	-	0	-	0	13	-	13
28	NTPC Lara STPS, Raigarh, Unit II	-	-	-	-	-	-	8	-	8
29	NTPC Firoz Gandhi Unchahar I	-	-	-	0	0	0	0	0	0
30	NTPC Firoz Gandhi Unchahar II	-	-	-	0	0	1	0	0	1
31	NTPC Firoz Gandhi Unchahar III	-	-	-	0	0	0	0	0	0
32	NTPC Firoz Gandhi Unchahar IV	-	-	-	-	0	0	-	0	0
33	NTPC Rihand I	-	-	-	1	3	3	1	2	3
34	NTPC Rihand II	-	-	-	0	3	3	0	2	3
35	NTPC Rihand III	-	-	-	1	3	4	1	3	4
36	NTPC NCTP Dadri II	-	-	-	1	-	1	1	1	2
37	NTPC Singrauli	-	-	-	1	8	8	1	4	5
38	NTPC IGPS I Jhajjar	-	-	-	0	-	0	0	-	0
II	MP GENCO (THERMAL & HYDRO)	2,999	3,746	6,745	3,207	3,756	6,964	4,066	3,911	7,976
1	Amarkantak TPS Ph-III	222	264	486	217	227	444	217	246	463
2	Satpura Phase III	298	385	684	260	536	797	260	340	600
3	Satpura TPS Ph-IV	655	594	1,249	707	602	1,309	707	547	1,255
4	SGTPS Ph-I & II	356	875	1,230	387	965	1,352	387	796	1,183
5	SGTPS Ph-III	350	582	932	389	670	1,059	389	693	1,081
6	Shri Singaji STPS, Ph-I	999	891	1,889	999	498	1,496	999	677	1,676

Power Purchase Cost- MP State (Rs Crores)										
Sr.no.	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
7	Shri Singaji Phase-2, Unit-1	-	-	-	130	105	235	494	253	747
8	Shri Singaji Phase-2, Unit-2	-	-	-	0	-	0	494	153	647
9	Rani Awanti Bai Sagar, Bargi HPS	8	15	23	9	22	31	9	21	29
10	Bansagar Ph I HPS (Tons)	54	44	98	53	58	111	53	69	122
11	Bansagar Ph-II HPS (Silpara)	6	3	9	5	4	9	5	6	11
12	Bansagar Ph-III HPS (Deolond)	12	8	19	12	12	24	12	15	27
13	Bansagar Ph-IV HPS (Jhinna)	9	7	16	8	6	14	8	9	17
14	Birsinghpur HPS	2	5	7	1	4	5	1	3	4
15	Marhikheda HPS	15	7	22	14	4	18	14	4	18
16	Rajghat HPS	2	3	5	2	3	5	2	4	6
17	Gandhisagar HPS	3	10	14	4	6	9	4	11	15
18	Ranapratap Sagar & Jawahar Sagar HPS	-	48	48	-	28	28	-	54	54
19	Pench HPS	9	5	14	10	6	16	10	10	20
III	JV Hydel & Other Hydels	1,004	63	1,067	805	308	1,114	805	657	1,462
1	NHDC Indira Sagar HPS	492	13	505	367	148	515	367	295	662
2	NHDC Omkareshwar HPS	349	7	356	271	102	373	271	200	471
3	Sardar Sarovar HPS	163	43	205	163	49	213	163	157	320
4	SJVN Rampur HPS	-	-	-	0	1	1	0	1	1
5	SJVN Jhakri HPS	-	-	-	1	2	2	1	2	3
6	Tehri HPS	-	-	-	1	1	2	1	0	1
7	Koteshwar HPP	-	-	-	0	0	1	0	0	0
8	Parbati III	-	-	-	0	0	1	0	0	0
9	NHPC Chamera II	-	-	-	0	0	1	0	0	0
10	NHPC Chamera III	-	-	-	0	1	1	0	0	0
11	NHPC Dulhasti	-	-	-	1	0	1	1	0	1
12	NHPC Dhauliganga	-	-	-	0	0	1	0	0	0

Power Purchase Cost- MP State (Rs Crores)										
Sr.no.	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
13	NHPC Sewa II	-	-	-	0	0	0	0	0	0
14	NHPC Uri II	-	-	-	0	1	1	0	0	1
15	NHPC Kishanganga	-	-	-	0	1	1	0	0	0
16	NTPC Koldam HPP I	-	-	-	1	1	1	1	0	1
17	NTPC Singrauli Small HPP	-	-	-	-	0	0	-	0	0
IV	DVC	353	346	700	-	-	-	-	-	-
1	DVC (MTPS & CTPS)	337	333	671	-	-	-	-	-	-
2	DVC DTPS, Unit 1 & Unit 2	16	13	29	-	-	-	-	-	-
V	IPPs	2,055	3,065	5,121	2,210	2,728	4,938	2,210	2,554	4,764
1	Torrent Power	67	18	85	67	-	67	67	-	67
2	BLA Power	-	-	-	24	16	41	24	13	38
3	Jaypee Bina Power	427	317	743	472	95	567	472	119	591
4	Lanco Amarkantak TPS Unit 1	239	315	554	224	448	672	224	452	676
5	Reliance UMPP, Sasan	166	1,669	1,835	172	1,469	1,641	172	1,348	1,519
6	Essar Power STPS	-	21	21	-	-	-	-	1	1
7	Jaiprakash Power STPS, Nigri	613	220	833	631	167	799	631	157	788
8	MB Power STPS	400	402	802	438	402	841	438	296	734
9	Jhabua Power STPS, Unit-1	144	104	247	182	126	308	182	163	345
10	Captive	-	-	-	-	4	4	-	5	5
VI	Renewables	-	2,875	2,875	-	2,668	2,668	-	3,911	3,911
1	Solar	-	790	790	-	829	829	-	1,456	1,456
2	Other Mini Micro	-	0	0	-	32	32	-	17	17
3	Other than Solar	-	2,085	2,085	-	1,806	1,806	-	2,437	2,437
VII	Gross Total	8,896	13,823	22,719	7,362	13,012	20,374	8,749	14,732	23,480

Table 99: Gross Power Purchase Cost for East Discom

Sr. no	Particulars	Power Purchase Cost- East Discom (Rs Crores)						FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
I	Central Sector	760	1,137	1,897	350	1,088	1,438	528	1,167	1,695
1	NTPC Korba	71	148	219	29	130	159	30	136	166
2	NTPC Korba III	24	23	47	8	22	30	9	22	31
3	NTPC Vidyachal I	76	153	229	30	157	187	31	163	194
4	NTPC Vidyachal II	47	115	162	19	105	125	20	111	131
5	NTPC Vidyachal III	58	91	149	25	88	113	26	89	114
6	NTPC Vidyachal IV	98	104	202	39	98	137	41	102	143
7	NTPC Vidyachal V Unit 1	50	54	104	20	48	68	20	44	64
8	NTPC Sipat I	98	99	197	37	85	122	38	90	128
9	NTPC Sipat II	52	58	110	20	57	77	21	58	79
10	NTPC Mouda I	63	44	107	16	-	16	16	17	33
11	NTPC Mouda II Unit 1	14	15	29	10	15	25	11	15	26
12	NTPC Mouda II Unit 2	14	15	29	10	13	24	11	13	24
13	NTPC Kawas GPP	27	38	65	11	51	61	11	56	67
14	NTPC Gandhar GPP	28	40	67	10	10	20	11	10	21
15	NTPC Auraiya GPP	-	-	-	0	-	0	0	-	0
16	NTPC Dadri GPP	-	-	-	0	-	0	0	0	0
17	NTPC Anta GPP	-	-	-	0	-	0	0	0	0
18	NTPC Kahalgaon 2	18	23	41	7	26	33	7	28	35
19	KAPP Kakrapar	-	-	-	-	23	23	-	48	48
20	TAPP Tarapur	-	96	96	-	152	152	-	149	149
21	RAPP Rawabhatta	-	-	-	-	1	1	-	2	2
22	NAPP Narora	-	-	-	-	1	1	-	1	1
23	NTPC Solapur STPS, Unit-1	22	21	43	55	-	55	57	10	67

Sr. no	Particulars	Power Purchase Cost- East Discom (Rs Crores)								
		FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
24	NTPC Solapur STPS, Unit-2	-	-	-	0	-	0	44	-	44
25	NTPC Gadarwara STPS, Unit-1	-	-	-	0	-	0	83	-	83
26	NTPC Gadarwara STPS, Unit-2	-	-	-	-	-	-	33	-	33
27	NTPC Lara STPS, Raigarh, Unit I	-	-	-	0	-	0	4	-	4
28	NTPC Lara STPS, Raigarh, Unit II	-	-	-	-	-	-	2	-	2
29	NTPC Firoz Gandhi Unchahar I	-	-	-	0	0	0	0	0	0
30	NTPC Firoz Gandhi Unchahar II	-	-	-	0	0	0	0	0	0
31	NTPC Firoz Gandhi Unchahar III	-	-	-	0	0	0	0	0	0
32	NTPC Firoz Gandhi Unchahar IV	-	-	-	-	0	0	-	0	0
33	NTPC Rihand I	-	-	-	0	1	1	0	1	1
34	NTPC Rihand II	-	-	-	0	1	1	0	1	1
35	NTPC Rihand III	-	-	-	0	1	1	0	1	1
36	NTPC NCTP Dadri II	-	-	-	0	-	0	0	0	1
37	NTPC Singrauli	-	-	-	0	2	3	0	1	2
38	NTPC IGPS I Jhajjar	-	-	-	0	-	0	0	-	0
II	MP GENCO (THERMAL & HYDRO)	918	1,141	2,059	984	1,143	2,127	1,315	1,252	2,567
1	Amarkantak TPS Ph-III	68	81	149	67	70	136	69	78	147
2	Satpura Phase III	93	118	211	80	160	240	83	104	187
3	Satpura TPS Ph-IV	199	181	380	217	185	402	225	174	399
4	SGTPS Ph-I & II	108	266	375	119	297	416	123	250	373
5	SGTPS Ph-III	107	178	285	120	206	326	123	220	344
6	Shri Singaji STPS, Ph-I	306	270	576	306	147	453	338	230	568
7	Shri Singaji Phase-2, Unit-1	-	-	-	39	31	70	158	81	239
8	Shri Singaji Phase-2, Unit-2	-	-	-	0	-	0	158	49	207
9	Rani Awanti Bai Sagar, Bargi HPS	2	5	7	3	7	9	3	7	9

Power Purchase Cost- East Discom (Rs Crores)										
Sr. no	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
10	Bansagar Ph I HPS (Tons)	17	13	30	17	18	35	17	22	39
11	Bansagar Ph-II HPS (Silpara)	2	1	3	1	1	3	2	2	3
12	Bansagar Ph-III HPS (Deolond)	4	2	6	4	4	7	4	5	9
13	Bansagar Ph-IV HPS (Jhinna)	3	2	5	3	2	4	3	3	5
14	Birsinghpur HPS	1	2	2	0	1	2	0	1	1
15	Marhikheda HPS	5	2	7	4	1	5	5	1	6
16	Rajghat HPS	1	1	2	1	1	2	1	1	2
17	Gandhisagar HPS	1	3	4	1	2	3	1	4	5
18	Ranapratap Sagar & Jawahar Sagar HPS	-	14	14	-	9	9	-	17	17
19	Pench HPS	3	1	4	3	2	5	3	3	6
III	JV Hydel & Other Hydels	308	19	328	245	94	338	256	209	465
1	NHDC Indira Sagar HPS	151	4	155	112	45	157	117	94	211
2	NHDC Omkareshwar HPS	107	2	109	83	31	114	86	64	150
3	Sardar Sarovar HPS	50	13	63	49	15	63	52	50	102
4	SJVN Rampur HPS	-	-	-	0	0	0	0	0	0
5	SJVN Jhakri HPS	-	-	-	0	1	1	0	1	1
6	Tehri HPS	-	-	-	0	0	1	0	0	0
7	Koteshwar HPP	-	-	-	0	0	0	0	0	0
8	Parbati III	-	-	-	0	0	0	0	0	0
9	NHPC Chamera II	-	-	-	0	0	0	0	0	0
10	NHPC Chamera III	-	-	-	0	0	0	0	0	0
11	NHPC Dulhasti	-	-	-	0	0	0	0	0	0
12	NHPC Dhauliganga	-	-	-	0	0	0	0	0	0
13	NHPC Sewa II	-	-	-	0	0	0	0	0	0
14	NHPC Uri II	-	-	-	0	0	0	0	0	0

Power Purchase Cost- East Discom (Rs Crores)										
Sr. no	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
15	NHPC Kishanganga	-	-	-	0	0	0	0	0	0
16	NTPC Koldam HPP I	-	-	-	0	0	0	0	0	0
17	NTPC Singrauli Small HPP	-	-	-	-	0	0	-	0	0
IV	DVC	109	107	216	-	-	-	-	-	-
1	DVC (MTPS & CTPS)	104	103	206	-	-	-	-	-	-
2	DVC DTPS, Unit 1 & Unit 2	5	4	9	-	-	-	-	-	-
V	IPPs	628	934	1,563	680	836	1,516	699	781	1,481
1	Torrent Power	20	5	26	21	-	21	21	-	21
2	BLA Power	-	-	-	8	5	13	8	4	12
3	Jaypee Bina Power	130	96	226	145	27	172	150	34	184
4	Lanco Amarkantak TPS Unit 1	74	95	169	69	137	206	71	144	215
5	Reliance UMPP, Sasan	51	510	561	53	452	505	52	404	456
6	Essar Power STPS	-	6	6	-	-	-	-	0	0
7	Jaiprakash Power STPS, Nigri	187	68	255	195	52	246	201	50	251
8	MB Power STPS	122	122	245	135	124	260	139	92	232
9	Jhabua Power STPS, Unit-1	43	31	74	56	38	94	58	51	109
10	Captive	-	-	-	-	1	1	-	2	2
VI	Renewables	-	887	887	-	809	809	-	1,243	1,243
1	Solar	-	241	241	-	251	251	-	463	463
2	Other Mini Micro	-	0	0	-	10	10	-	6	6
3	Other than Solar	-	646	646	-	548	548	-	775	775
VII	Gross Total	2,723	4,225	6,948	2,258	3,970	6,228	2,799	4,652	7,450

Table 100: Gross Power Purchase Cost for Central Discom

Sr. no	Particulars	Power Purchase Cost- Central Discom (Rs Crores)						FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
I	Central Sector	860	1,288	2,148	344	1,072	1,416	505	1,119	1,624
1	NTPC Korba	81	167	248	28	128	156	28	130	158
2	NTPC Korba III	27	26	53	8	22	30	8	21	29
3	NTPC Vindyachal I	86	173	259	30	155	184	30	156	185
4	NTPC Vindyachal II	54	130	184	19	103	122	19	106	125
5	NTPC Vindyachal III	66	103	169	24	87	111	24	84	109
6	NTPC Vindyachal IV	110	118	228	39	96	135	39	97	136
7	NTPC Vindyachal V Unit 1	57	60	117	19	47	66	19	42	61
8	NTPC Sipat I	111	111	222	36	84	120	36	86	122
9	NTPC Sipat II	59	65	125	20	56	76	20	55	75
10	NTPC Mouda I	71	50	121	16	-	16	16	17	33
11	NTPC Mouda II Unit 1	16	17	34	10	15	26	10	15	26
12	NTPC Mouda II Unit 2	16	17	34	10	14	24	10	14	24
13	NTPC Kawas GPP	30	43	73	11	50	61	11	54	64
14	NTPC Gandhar GPP	31	45	76	10	11	21	10	11	21
15	NTPC Auraiya GPP	-	-	-	0	-	0	0	-	0
16	NTPC Dadri GPP	-	-	-	0	-	0	0	0	0
17	NTPC Anta GPP	-	-	-	0	-	0	0	0	0
18	NTPC Kahalgaon 2	20	26	46	7	26	33	7	26	33
19	KAPP Kakrapar	-	-	-	-	23	23	-	46	46
20	TAPP Tarapur	-	110	110	-	150	150	-	142	142
21	RAPP Rawabhatta	-	-	-	-	1	1	-	2	2
22	NAPP Narora	-	-	-	-	1	1	-	1	1
23	NTPC Solapur STPS, Unit-1	26	24	50	54	-	54	55	10	65

Sr. no	Particulars	Power Purchase Cost- Central Discom (Rs Crores)								
		FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
24	NTPC Solapur STPS, Unit-2	-	-	-	0	-	0	42	-	42
25	NTPC Gadarwara STPS, Unit-1	-	-	-	0	-	0	80	-	80
26	NTPC Gadarwara STPS, Unit-2	-	-	-	-	-	-	32	-	32
27	NTPC Lara STPS, Raigarh, Unit I	-	-	-	0	-	0	4	-	4
28	NTPC Lara STPS, Raigarh, Unit II	-	-	-	-	-	-	2	-	2
29	NTPC Firoz Gandhi Unchahar I	-	-	-	0	0	0	0	0	0
30	NTPC Firoz Gandhi Unchahar II	-	-	-	0	0	0	0	0	0
31	NTPC Firoz Gandhi Unchahar III	-	-	-	0	0	0	0	0	0
32	NTPC Firoz Gandhi Unchahar IV	-	-	-	-	0	0	-	0	0
33	NTPC Rihand I	-	-	-	0	1	1	0	1	1
34	NTPC Rihand II	-	-	-	0	1	1	0	1	1
35	NTPC Rihand III	-	-	-	0	1	1	0	1	1
36	NTPC NCTP Dadri II	-	-	-	0	-	0	0	0	1
37	NTPC Singrauli	-	-	-	0	2	3	0	1	2
38	NTPC IGPS I Jhajjar	-	-	-	0	-	0	0	-	0
II	MP GENCO (THERMAL & HYDRO)	1,037	1,291	2,328	967	1,131	2,098	998	1,052	2,050
1	Amarkantak TPS Ph-III	77	92	168	65	68	133	66	75	140
2	Satpura Phase III	104	133	237	79	161	240	79	101	180
3	Satpura TPS Ph-IV	226	205	431	213	182	395	214	166	380
4	SGTPS Ph-I & II	123	302	424	117	291	408	117	239	356
5	SGTPS Ph-III	120	200	320	118	203	321	118	210	328
6	Shri Singaji STPS, Ph-I	346	307	653	301	148	449	180	122	302
7	Shri Singaji Phase-2, Unit-1	-	-	-	38	31	70	94	48	142
8	Shri Singaji Phase-2, Unit-2	-	-	-	0	-	0	94	29	123
9	Rani Awanti Bai Sagar, Bargi HPS	3	5	8	3	7	9	3	6	9

Sr. no	Particulars	Power Purchase Cost- Central Discom (Rs Crores)								
		FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
10	Bansagar Ph I HPS (Tons)	19	15	34	16	18	34	16	21	37
11	Bansagar Ph-II HPS (Silpara)	2	1	3	1	1	3	1	2	3
12	Bansagar Ph-III HPS (Deolond)	4	3	7	4	4	7	4	5	8
13	Bansagar Ph-IV HPS (Jhinna)	3	3	6	3	2	4	3	3	5
14	Birsinghpur HPS	1	2	3	0	1	2	0	1	1
15	Marikheda HPS	5	2	8	4	1	5	4	1	6
16	Rajghat HPS	1	1	2	1	1	2	1	1	2
17	Gandhisagar HPS	1	4	5	1	2	3	1	3	5
18	Ranapratap Sagar & Jawahar Sagar HPS	-	16	16	-	8	8	-	16	16
19	Pench HPS	3	2	5	3	2	5	3	3	6
III	JV Hydel & Other Hydels	348	21	369	242	93	335	244	199	443
1	NHDC Indira Sagar HPS	170	4	175	110	44	155	111	90	201
2	NHDC Omkareshwar HPS	121	2	123	82	31	112	82	61	143
3	Sardar Sarovar HPS	56	14	71	49	15	64	49	47	97
4	SJVN Rampur HPS	-	-	-	0	0	0	0	0	0
5	SJVN Jhakri HPS	-	-	-	0	1	1	0	1	1
6	Tehri HPS	-	-	-	0	0	1	0	0	0
7	Koteshwar HPP	-	-	-	0	0	0	0	0	0
8	Parbati III	-	-	-	0	0	0	0	0	0
9	NHPC Chamera II	-	-	-	0	0	0	0	0	0
10	NHPC Chamera III	-	-	-	0	0	0	0	0	0
11	NHPC Dulhasti	-	-	-	0	0	0	0	0	0
12	NHPC Dhauliganga	-	-	-	0	0	0	0	0	0
13	NHPC Sewa II	-	-	-	0	0	0	0	0	0
14	NHPC Uri II	-	-	-	0	0	0	0	0	0

Power Purchase Cost- Central Discom (Rs Crores)										
Sr. no	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
15	NHPC Kishanganga	-	-	-	0	0	0	0	0	0
16	NTPC Koldam HPP I	-	-	-	0	0	0	0	0	0
17	NTPC Singrauli Small HPP	-	-	-	-	0	0	-	0	0
IV	DVC	123	120	243	-	-	-	-	-	-
1	DVC (MTPS & CTPS)	117	116	233	-	-	-	-	-	-
2	DVC DTPS, Unit 1 & Unit 2	6	5	10	-	-	-	-	-	-
V	IPPs	711	1,058	1,768	667	824	1,491	646	581	1,227
1	Torrent Power	23	6	29	20	-	20	20	-	20
2	BLA Power	-	-	-	7	5	12	7	4	11
3	Jaypee Bina Power	148	109	256	142	28	170	143	35	178
4	Lanco Amarkantak TPS Unit 1	83	108	191	67	135	203	68	137	205
5	Reliance UMPP, Sasan	58	577	635	52	444	496	28	218	246
6	Essar Power STPS	-	7	7	-	-	-	-	0	0
7	Jaiprakash Power STPS, Nigri	212	76	288	190	50	240	191	48	239
8	MB Power STPS	139	139	277	133	123	256	133	89	221
9	Jhabua Power STPS, Unit-1	49	35	85	55	38	93	55	49	104
10	Captive	-	-	-	-	1	1	-	2	2
VI	Renewables	-	1,002	1,002	-	793	793	-	1,186	1,186
1	Solar	-	272	272	-	246	246	-	442	442
2	Other Mini Micro	-	0	0	-	10	10	-	5	5
3	Other than Solar	-	730	730	-	537	537	-	739	739
VII	Gross Total	3,078	4,780	7,858	2,220	3,913	6,132	2,393	4,137	6,530

Table 101: Gross Power Purchase Cost for West Discom

Sr.no	Particulars	Power Purchase Cost- West Discom (Rs Crores)								
		FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
I	Central Sector	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
1	NTPC Korba	81	167	248	37	166	202	35	163	198
2	NTPC Korba III	27	26	53	11	28	39	10	26	37
3	NTPC Vindyachal I	86	174	260	39	200	238	37	194	232
4	NTPC Vindyachal II	54	130	183	24	134	158	24	133	156
5	NTPC Vindyachal III	66	104	170	31	112	143	31	106	136
6	NTPC Vindyachal IV	112	119	231	50	126	176	49	122	170
7	NTPC Vindyachal V Unit 1	57	60	117	25	60	85	24	52	77
8	NTPC Sipat I	111	110	221	46	108	155	45	107	152
9	NTPC Sipat II	59	65	125	26	72	98	25	69	94
10	NTPC Mouda I	70	51	121	20	-	20	20	24	44
11	NTPC Mouda II Unit 1	16	18	35	13	21	35	13	21	34
12	NTPC Mouda II Unit 2	16	18	35	13	19	32	13	19	32
13	NTPC Kawas GPP	30	44	74	14	65	78	13	70	83
14	NTPC Gandhar GPP	32	46	77	13	15	28	13	15	28
15	NTPC Auraiya GPP	-	-	-	0	-	0	0	-	0
16	NTPC Dadri GPP	-	-	-	0	-	0	0	0	1
17	NTPC Anta GPP	-	-	-	0	-	0	0	0	0
18	NTPC Kahalgaon 2	20	27	47	9	34	43	9	34	43
19	KAPP Kakrapar	-	-	-	-	30	30	-	58	58
20	TAPP Tarapur	-	117	117	-	192	192	-	178	178
21	RAPP Rawabhatta	-	-	-	-	2	2	-	2	2
22	NAPP Narora	-	-	-	-	1	1	-	1	1
23	NTPC Solapur STPS, Unit-1	27	26	53	71	-	71	69	14	83
24	NTPC Solapur STPS, Unit-2	-	-	-	0	-	0	52	-	52

Sr.no	Particulars	Power Purchase Cost- West Discom (Rs Crores)								
		FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
25	NTPC Gadarwara STPS, Unit-1	-	-	-	0	-	0	99	-	99
26	NTPC Gadarwara STPS, Unit-2	-	-	-	-	-	-	44	-	44
27	NTPC Lara STPS, Raigarh, Unit I	-	-	-	0	-	0	5	-	5
28	NTPC Lara STPS, Raigarh, Unit II	-	-	-	-	-	-	3	-	3
29	NTPC Firoz Gandhi Unchahar I	-	-	-	0	0	0	0	0	0
30	NTPC Firoz Gandhi Unchahar II	-	-	-	0	0	0	0	0	0
31	NTPC Firoz Gandhi Unchahar III	-	-	-	0	0	0	0	0	0
32	NTPC Firoz Gandhi Unchahar IV	-	-	-	-	0	0	-	0	0
33	NTPC Rihand I	-	-	-	0	1	1	0	1	1
34	NTPC Rihand II	-	-	-	0	1	1	0	1	1
35	NTPC Rihand III	-	-	-	0	1	2	0	1	1
36	NTPC NCTP Dadri II	-	-	-	0	-	0	0	0	1
37	NTPC Singrauli	-	-	-	0	3	3	0	2	2
38	NTPC IGPS I Jhajjar	-	-	-	0	-	0	0	-	0
II	MP GENCO (THERMAL & HYDRO)	1,044	1,315	2,358	1,256	1,483	2,738	1,752	1,607	3,360
1	Amarkantak TPS Ph-III	77	92	169	85	89	174	82	93	176
2	Satpura Phase III	102	134	236	102	215	317	99	134	233
3	Satpura TPS Ph-IV	229	209	438	277	236	512	268	207	476
4	SGTPS Ph-I & II	125	307	432	151	377	529	147	307	453
5	SGTPS Ph-III	123	204	327	151	261	412	147	263	410
6	Shri Singaji STPS, Ph-I	346	314	660	391	202	594	480	326	806
7	Shri Singaji Phase-2, Unit-1	-	-	-	52	44	96	242	124	366
8	Shri Singaji Phase-2, Unit-2	-	-	-	0	-	0	242	75	317
9	Rani Awanti Bai Sagar, Bargi HPS	3	5	8	3	8	12	3	8	11
10	Bansagar Ph I HPS (Tons)	19	15	34	20	22	43	20	26	46
11	Bansagar Ph-II HPS (Silpara)	2	1	3	2	2	4	2	2	4
12	Bansagar Ph-III HPS (Deolond)	4	3	7	5	5	9	4	6	10

Power Purchase Cost- West Discom (Rs Crores)										
Sr.no	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
13	Bansagar Ph-IV HPS (Jhinna)	3	3	6	3	2	6	3	3	6
14	Birsinghpur HPS	1	2	2	0	1	2	1	1	1
15	Marhikheda HPS	5	3	8	6	2	7	5	2	7
16	Rajghat HPS	1	1	2	1	1	2	1	2	2
17	Gandhisagar HPS	1	4	5	2	2	4	1	4	6
18	Ranapratap Sagar & Jawahar Sagar HPS	-	18	18	-	11	11	-	21	21
19	Pench HPS	3	2	5	4	3	7	4	4	8
III	JV Hydel & Other Hydels	348	22	370	319	122	441	305	249	554
1	NHDC Indira Sagar HPS	171	5	176	145	59	204	139	112	251
2	NHDC Omkareshwar HPS	121	2	123	106	40	146	103	76	179
3	Sardar Sarovar HPS	57	15	72	66	20	85	62	59	121
4	SJVN Rampur HPS	-	-	-	0	0	0	0	0	0
5	SJVN Jhakri HPS	-	-	-	0	1	1	0	1	1
6	Tehri HPS	-	-	-	0	0	1	0	0	0
7	Koteshwar HPP	-	-	-	0	0	0	0	0	0
8	Parbati III	-	-	-	0	0	0	0	0	0
9	NHPC Chamera II	-	-	-	0	0	0	0	0	0
10	NHPC Chamera III	-	-	-	0	0	0	0	0	0
11	NHPC Dulhasti	-	-	-	0	0	0	0	0	0
12	NHPC Dhauliganga	-	-	-	0	0	0	0	0	0
13	NHPC Sewa II	-	-	-	0	0	0	0	0	0
14	NHPC Uri II	-	-	-	0	0	0	0	0	0
15	NHPC Kishanganga	-	-	-	0	0	0	0	0	0
16	NTPC Koldam HPP I	-	-	-	0	0	1	0	0	0
17	NTPC Singrauli Small HPP	-	-	-	-	0	0	-	0	0
IV	DVC	122	120	241	-	-	-	-	-	-
1	DVC (MTPS & CTPS)	116	115	232	-	-	-	-	-	-

Sr.no	Particulars	Power Purchase Cost- West Discom (Rs Crores)								
		FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
2	DVC DTSPS, Unit 1 & Unit 2	5	4	10	-	-	-	-	-	-
V	IPPs	716	1,073	1,789	864	1,067	1,931	865	1,191	2,056
1	Torrent Power	23	6	29	26	-	26	25	-	25
2	BLA Power	-	-	-	9	6	16	9	5	14
3	Jaypee Bina Power	149	112	261	185	40	225	179	49	228
4	Lanco Amarkantak TPS Unit 1	82	111	194	88	176	263	85	172	256
5	Reliance UMPP, Sasan	58	581	639	67	573	640	92	725	817
6	Essar Power STPS	-	8	8	-	-	-	-	1	1
7	Jaiprakash Power STPS, Nigri	214	77	290	247	65	313	239	59	299
8	MB Power STPS	139	141	280	170	155	326	166	115	281
9	Jhabua Power STPS, Unit-1	51	37	88	71	50	121	69	63	132
10	Captive	-	-	-	-	2	2	-	2	2
VI	Renewables	-	986	986	-	1,066	1,066	-	1,482	1,482
1	Solar	-	277	277	-	332	332	-	552	552
2	Other Mini Micro	-	0	0	-	13	13	-	7	7
3	Other than Solar	-	709	709	-	721	721	-	924	924
VII	Gross Total	3,095	4,818	7,913	2,884	5,129	8,013	3,557	5,943	9,500

6.3.2 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 102: Net Power Purchase Cost for MP State

Net Power Purchase Cost- MP State (Rs Crores)										
Sr. No	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
1	Gross Power Purchase Cost	8,896	13,823	22,719	7,362	13,012	20,374	8,749	14,732	23,480
2	Less: Saving in variable cost of surplus energy from sale of surplus energy	-	111	111	-	(239)	(239)	-	779	779
3	Gross Power Purchase Cost after Saving in Variable Cost	8,896	13,711	22,608	7,362	13,250	20,612	8,749	13,953	22,701
4	Add: MPPMCL Cost	(247)	-	(247)	(148)	-	(148)	(309)	-	(309)
5	Net Power Purchase Cost	8,650	13,711	22,361	7,214	13,250	20,464	8,439	13,953	22,392

Table 103: Net Power Purchase Cost for East Discom

Net Power Purchase Cost- East Discom (Rs Crores)										
Sr. No	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
1	Gross Power Purchase Cost	2,723	4,225	6,948	2,258	3,970	6,228	2,799	4,652	7,450
2	Less: Saving in variable cost of surplus energy from sale of surplus energy		34	34		(73)	(73)		246	246
3	Gross Power Purchase Cost after Saving in Variable Cost	2,723	4,191	6,914	2,258	4,043	6,301	2,799	4,406	7,205
4	Add: MPPMCL Cost	(75)		(75)	(45)		(45)	(98)		(98)
5	Net Power Purchase Cost	2,649	4,191	6,839	2,213	4,043	6,256	2,701	4,406	7,107

Table 104: Net Power Purchase Cost for Central Discom

Net Power Purchase Cost- Central Discom (Rs Crores)										
Sr. No	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
1	Gross Power Purchase Cost	3,078	4,780	7,858	2,220	3,913	6,132	2,393	4,137	6,530
2	Less: Saving in variable cost of surplus energy from sale of surplus energy		38	38		(72)	(72)		236	236
3	Gross Power Purchase Cost after Saving in Variable Cost	3,078	4,741	7,819	2,220	3,985	6,204	2,393	3,902	6,294
4	Add: MPPMCL Cost	(85)		(85)	(45)		(45)	(94)		(94)
5	Net Power Purchase Cost	2,993	4,741	7,734	2,175	3,985	6,160	2,299	3,902	6,201

Table 105: Net Power Purchase Cost for West Discom

Net Power Purchase Cost- West Discom (Rs Crores)										
Sr. No	Particulars	FY 2017-18 (Provisional)			FY 2018-19 (Re-Estimated)			FY 2019-20 (Projected)		
		Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total	Fixed Charge	Variable Charge	Total
1	Gross Power Purchase Cost	3,095	4,818	7,913	2,884	5,129	8,013	3,557	5,943	9,500
2	Less: Saving in variable cost of surplus energy from sale of surplus energy		39	39		(94)	(94)		298	298
3	Gross Power Purchase Cost after Saving in Variable Cost	3,095	4,779	7,874	2,884	5,223	8,107	3,557	5,645	9,202
4	Add: MPPMCL Cost	(87)		(87)	(58)		(58)	(118)		(118)
5	Net Power Purchase Cost	3,008	4,779	7,788	2,826	5,223	8,048	3,439	5,645	9,084

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 Western, Eastern & Northern Regions transmission systems. The Petitioners have considered Inter-Transmission Charges for FY 2017-18 as per provisional figures from power purchase statement and the same cost has been considered for FY 2018-19 & FY 2019-20 as shown below:

Table 106: Inter State Transmission Charges (Rs Crores)

Sr. no	Particulars	FY 2017-18	FY 2018-19	FY 2019-20
1	East Discom	468.81	468.81	468.81
2	Central Discom	530.24	530.24	530.24
3	West Discom	533.16	533.16	533.16
4	MP State	1,532.21	1,532.21	1,532.21

6.4.1.2 These Inter-state transmission charges have been allocated to Discoms based on energy allocation from Central Generating Stations and availability at State Boundary.

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

6.4.1.4 The Petitioners have considered Intra-State Transmission Charges including SLDC Charges for FY 2017-18 to FY 2018-19 as per the Orders of Hon'ble Commission in Petition no(s) 70/2016 and 69/2016 both dated 26th April 2017 i.e. Rs. 2,501.16 Crores and Rs. 2,718.82 Crores respectively as per the methodology adopted by Hon'ble Commission in its previous Tariff Order's. For FY 2019-20, in absence of Tariff Order on Intra-State Transmission Charges including SLDC Charges has been considered at the same level of FY 2018-19 i.e. Rs 2,718.82 Crores.

6.4.1.5 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) of MPERC (Terms and Conditions for Allowing Pension & Terminal Benefits Liabilities of Personnel of Board and Successor Entities) Regulations'2012.

6.4.1.6 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

6.4.1.7 Hon'ble Commission, in its Multi Year Transmission Tariff for the control period FY 2016-17 to FY 2018-19 passed in 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, 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 107: Intra State Transmission Charges including SLDC (Rs Crores)

MPPTCL and SLDC charges (Rs Crores)				
Sr. no.	Particulars	FY 17-18 (MPERC order)	FY 18-19 (MPERC order)	FY19-20
1	O&M Expenses	446.58	495.49	Order Still Awaited. Same as approved in FY 2018-19
2	Expenses towards payment of PPP Licensee	37.80	37.80	
3	Depreciation	324.22	345.84	
4	Interest & Finance charges	131.26	143.12	
5	Interest on working capital	67.33	73.40	
6	Return on Equity	364.33	388.46	
7	MPERC Fees & Taxes	1.33	1.47	
8	Less Non-tariff income	(20.00)	(21.00)	
9	MPPTCL charges approved by MPERC (excluding terminal benefits)	1,352.85	1,464.58	
10	Terminal Benefits	1,177.90	1,282.38	
11	MPPTCL charges as approved in Petition No 02/2016 including AKVN	2,530.75	2,746.96	
11	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	2,491.57	2,707.00	
12	MPPTCL Charges	2,491.57	2,707.00	2,707.00
13	SLDC Charges	9.59	11.82	11.82
13	Total Intra-State Transmission Charges allocated to Discoms including SLDC	2,501.16	2,718.82	2,718.82
a	East Discom	747.33	812.38	812.38
b	Central Discom	796.12	865.40	865.40
c	West Discom	957.70	1,041.04	1,041.04

6.4.1.8 The Intra-State Transmission charges have been allocated to Discoms based on energy availability at State Boundary.

6.5 MPPMCL Cost

6.5.1 The MPPMCL Cost for the FY 2017-18 to FY 2019-20 is as follows:

Table 108: MPPMCL Cost Details and Discom Wise Allocation

Sr. no.	Particulars	MPPMCL Cost (Rs Crores)											
		FY 2017-18				FY 2018-19				FY 2019-20			
		MPPMCL	East	Central	West	MPPMCL	East	Central	West	MPPMCL	East	Central	West
1	Revenue	730	222	252	256	650	199	196	255	844	266	255	323
a	Revenue from Operations including Revenue Subsidy	140	42	48	49	-	-	-	-	-	-	-	-
b	Other Income	591	180	204	207	650	199	196	255	844	266	255	323
2	Expenses	484	147	167	170	501	153	151	197	535	169	162	205
a	Purchase of Power from Other Sources	225	68	78	79	248	76	75	97	273	86	82	104
b	Inter-State Transmission Charges	46	14	16	16	50	15	15	20	55	17	17	21
c	Depreciation & Amortization Expenses	4	1	1	1	6	2	2	2	9	3	3	3
d	Interest & Finance Charges	95	29	33	33	86	26	26	34	80	25	24	31
e	Repairs & Maintenance	2	1	1	1	2	1	1	1	2	1	1	1
f	Employee Costs	73	22	25	26	66	20	20	26	68	21	21	26
g	Administration & General Expenses	36	11	13	13	40	12	12	16	44	14	13	17
h	Other Expenses	3	1	1	1	4	1	1	1	4	1	1	1
	(Profit) / Loss for the Period	(247)	(75)	(85)	(87)	(148)	(45)	(45)	(58)	(309)	(98)	(94)	(118)

6.6 Total Power Purchase Cost

6.6.1 Based on the various cost components discussed above, the total power purchase cost for MP state and for each of the Discoms is indicated in the below table:

Table 109: Total Power Purchase Cost

Sr. no	Particulars	UoM	Power Purchase Cost											
			FY 2017-18 (Provisional)				FY 2018-19 (Re-Estimate)				FY 2019-20 (Projected)			
			MP State	East Discom	Central Discom	West Discom	MP State	East Discom	Central Discom	West Discom	MP State	East Discom	Central Discom	West Discom
A	Ex- Bus net Power Purchase Cost excluding Transmission Charges (Inter, Intra & SLDC) etc.													
i	Quantum	MUs	65,378	19,940	22,584	22,854	65,139	19,933	19,628	25,578	69,968	22,070	21,150	26,748
ii	Fixed Cost	Rs Crores	8,896	2,723	3,078	3,095	7,362	2,258	2,220	2,884	8,749	2,799	2,393	3,557
iii	Variable Cost	Rs Crores	13,712	4,191	4,741	4,779	13,250	4,043	3,985	5,223	13,953	4,406	3,902	5,645
iv	MPPMCL Cost	Rs Crores	(247)	(75)	(85)	(87)	(148)	(45)	(45)	(58)	(309)	(98)	(94)	(118)
v	Total Cost	Rs Crores	22,361	6,840	7,734	7,788	20,464	6,256	6,160	8,048	22,392	7,107	6,201	9,084
vi	Average Cost	Paisa/kWh	342	343	342	341	314	314	314	315	320	322	293	340
B	Inter State Transmission													
i	Losses	MUs	1,386	424	479	483	1,326	408	401	518	1,323	420	401	502
ii	Charges- Fixed	Rs Crores	1,532	469	530	533	1,532	471	463	599	1,532	487	465	581
C	Power Purchase Cost at State Boundary													
i	Quantum	MUs	63,992	19,516	22,105	22,371	63,813	19,525	19,227	25,060	68,644	21,649	20,749	26,246
ii	Fixed Cost	Rs Crores	10,429	3,192	3,608	3,628	8,894	2,729	2,683	3,482	10,281	3,286	2,857	4,138
iii	Variable Cost	Rs Crores	13,712	4,191	4,741	4,779	13,250	4,043	3,985	5,223	13,953	4,406	3,902	5,645
iv	Total Cost	Rs Crores	23,894	7,308	8,265	8,321	21,996	6,727	6,623	8,647	23,924	7,594	6,665	9,665
v	Average Cost	Paisa/kWh	373	374	374	372	345	345	344	345	349	351	321	368
D	Intra State Transmission including SLDC													
i	Losses	MUs	1,755	539	595	622	1,729	529	521	679	1,860	587	562	711
ii	Charges- Fixed	Rs Crores	2,501	747	796	958	2,719	812	865	1,041	2,719	812	865	1,041
E	Power Purchase Cost at Discom Boundary													
i	Quantum	MUs	62,236	18,977	21,510	21,749	62,084	18,996	18,706	24,381	66,784	21,063	20,187	25,535
ii	Fixed Cost including Transmission Charges	Rs Crores	12,930	3,940	4,404	4,586	11,613	3,541	3,548	4,523	13,000	4,098	3,723	5,179
iii	Variable Cost	Rs Crores	13,712	4,191	4,741	4,779	13,250	4,043	3,985	5,223	13,953	4,406	3,902	5,645
iv	Total Cost	Rs Crores	26,395	8,056	9,061	9,278	24,715	7,539	7,488	9,688	26,643	8,406	7,531	10,706
v	Average Cost	Paisa/kWh	424	424	421	427	398	397	400	397	399	399	373	419

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

6.7 Reason for Increase in Power Purchase Cost

6.7.1 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 2017-18:

Table 110: Power Purchase Cost for FY 2017-18 (Provisional)

Power Purchase Cost for FY 2017-18				
Sr. No.	Particulars	Quantum (MUs)	Total Cost (Rs Crores)	Avg. Cost (Paisa/kWh)
1	Central Generating Stations	22,680	6,212	274
2	MP Genco & Hydel	18,102	6,745	373
3	JV & Other Hydels	1,798	1,067	593
4	DVC	1,708	700	410
5	IPPs	19,859	5,121	258
6	Renewables	4,952	2,875	581
7	PGCIL	69,099	1,532	22
8	MP Transco including SLDC	69,099	2,501	36
9	Total	69,099	26,752	387

6.7.2 With new generating stations being added up in near future, power purchase costs shall increase further. The Average Power Purchase Cost has increased by 49% over last five years from Paisa 260 per kWh in FY 2011-12 to Paisa 387 per kWh in FY 2017-18. The year wise average power purchase cost is given as per the table below:

Table 111: 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
7	FY 2017-18	69,099	26,752	387

6.7.3 The reasons for the increase in average power purchase cost are given 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;

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

6.7.4.1 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.
- **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 581 per kWh in FY 2017-18 which is much higher than the APPC, thus contributing towards high Power Purchase Cost.

A7: INCOME/EXPENSES OF MPPMCL

- 7.1 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.
- 7.2 As per item No.8 (ii) of State Govt. Notification No.2260-F-3-24-2009-XIII dtd 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 Discoms.
- 7.3 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.
- 7.4 The details of these expenses are given in the table below:

Table 112: MPPMCL Cost (Rs Crores)

Sr. no.	Particulars	FY 2017-18 (Proisional)	FY 2018-19 (Re-estimated)	FY 2019-20 (Projected)
1	Revenue	730	650	666
a	Revenue from Operations including Revenue Subsidy	140	0	0
b	Other Income	591	650	666
2	Expenses	484	501	357
a	Purchase of Power from Other Sources	225	248	101
b	Inter-State Transmission Charges	46	50	55
c	Depreciation & Amortization Expenses	4	6	9
d	Interest & Finance Charges	95	86	78
e	Repairs & Maintenance	2	2	2
f	Employee Costs	73	66	64
g	Administration & General Expenses	36	40	44
h	Other Expenses	3	4	4
3	(Profit)/Loss for the Period	(247)	(148)	(309)

7.5 Income of MPPMCL

7.5.1 Revenue from operations (including Revenue Subsidy)

The revenue from sale of electricity is taken by Discoms 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 129.04 Crores and sale of power to others of Rs 10.77 Crores

has been taken in FY 2017-18 as the credit for the same could not be passed to the Discoms in the monthly bills. However, from FY 2018-19 it is assumed that the same would be passed to the Discoms in the regular monthly bills and thus revenue from operations is NIL from FY 2018-19 onwards.

7.5.2 Other Income

Other Income for FY 2017-18 was Rs 590.53 Crores for MPPMCL. 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 compensation received. The details of other income of MPPMCL received in FY 17-18 are as follows:

Table 113: Other Income (Rs Crores)

Particulars	Amount (in Crores)
i) Compensation received	118.64
ii) Rebate received on a/c of timely/prompt payments	402.00
iii) Generation based incentive	3.62
iv) Interest received (Includes interest on commitment advances)	23.06
v) Income from RRAS	26.09
v) Other Income	17.12
TOTAL	590.53

7.5.3 Further the other income for FY 2018-19 onwards has been worked out by increasing the income of FY 2017-18 by 10%.

7.6 Expenses of MPPMCL

7.6.1 In the Discom-wise ARR, the Discoms 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 Discoms for not being in their control/action. Such costs are therefore included in the power purchase costs of Discoms as MPPMCL specific costs and are taken into consideration in the ARR of MPPMCL, the details of which are given hereunder:-

7.6.2 Energy Purchase

For FY 2017-18 it includes:

- Bills of power purchase & Transmission charges of Rs. (-) 33.70 Crores.
- Liability for banking of energy of Rs 258.66 Crores.
- Others Cost of Rs. 0.27 Crores

7.6.2.1 Bills of Power Purchase:

FY 2017-18 includes bills of generators listed above, which could not be passed to Discoms through monthly bills. From FY 2018-19 onwards all the bills are likely to be passed through the monthly bills to the Discoms, hence will be considered in ARR of Discoms.

7.6.2.2 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.

7.6.2.3 Liability for Banking of energy of Rs. 258.66 Crores:

The Company has a liability to return 1,166.97 MUs of banked energy, received during 2017-18, which translates into a financial liability of about Rs 436.70 Cr considering cost per unit of Rs. 3.74 i.e. the average power purchase rate for 2017-18 calculated on the basis of total power purchase cost except Banking for FY 2017-18. During FY 2017-18, the Company had returned 461.96 MU of banked power received in 2016-17. This was translated into a financial liability of Rs.178.03 Cr @ Rs 3.85 per unit which was the average cost of power purchase for the year 2016-17. Therefore, a net banking liability of Rs.258.66 Crs. is booked in FY 2017-18. For FY 18-19, the liability for banking of energy is calculated as follows:

Table 114: Other Income

Particulars	Rs Crores
MUs to be returned at the end of FY 2017-18	1166.97
MUs to be returned at the end of FY 2018-19 (increasing the units of FY 2017-18 by 10%)	1283.67
Average purchase cost for FY 2017-18	3.74
Average purchase cost for FY 2018-19 (Increasing the rate of FY 2017-18 by 10%)	4.11
Total amount of Banking Liability for FY 18-19	528.10
Credit for 1166.97 Mus billed to Discoms in 2017-18 @ 3.74 Rs/unit	436.70
Net liability to be passed to Discoms for FY 18-19	91.40
For FY 19-20 (Increasing cost for FY 18-19 by 10%)	100.54

7.6.2.4 Other Power Purchase Cost

The other power purchase costs for FY 18-19 and onwards is taken by increasing the expenses of FY 17-18 by 10% p.a.

7.6.3 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 of. 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.

7.6.4 Depreciation:

Depreciation is calculated as under:

Table 115: Depreciation

Fixed assets	FY18	FY19	FY20
(i) Tangible assets			
Gross Block	90.68	103.34	105.34
Depreciation*	3.39	4.39	5.39
(ii) Intangible assets			
Gross Block	2.24	22.14	22.14
Depreciation**	0.32	1.82	3.31
Total Depreciation (i + ii)	3.71	6.21	8.70
*In case of tangible assets, there is assumed to be an addition of Rs. 10.66 Crs on account of ERP Hardware in FY 2018-19. This addition is assumed to be in second half of FY 2018-19. Apart from this, an addition of Rs. 2 Crs. depreciable @ 10% approx. is assumed for FY 2018-19 and onwards.			

7.6.5 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 on loans and cash credit facility, Bank charges, Guarantee Charges, commitment charges, Stamp duty, processing charges etc. FY 2017-18 these amount to Rs. 94.67 Crores.

Interest paid to NHDC in FY 17-18 is Rs. 33.99 Crores. The total interest payable to NHDC as per the financial arrangement for FY 2018-19 and onwards is as below:-

- FY 2018-19: Rs. 17.10 Crores.
- FY 2019-20: Rs. 4.61 Crores.

The other interest and finance charges (other than interest to NHDC) for FY 2017-18 is Rs. 60.68 Crores. (i.e. Rs.94.67 Crores - Rs.33.99 Crores.). For FY 18-19 onwards the interest and finance charges (other than interest to NHDC) are taken by increasing the expenses of FY 17-18 by 10% p.a.

7.6.6 Repairs and Maintenance:

For FY 2017-18 Repairs and Maintenance expenses consist of expense of Rs. 1.89 Crores. The Repairs and Maintenance expenses for FY 18-19 and onwards is taken by increasing the expenses of FY 17-18 by 10% p.a.

7.6.7 Employee expenses:

The employee costs for FY 17-18 is Rs. 73.14 Crores. For FY 17-18 the employee expenses include arrears payable of Rs 12.99 Crores due to wage revision under seventh pay commission. For FY 18-19 the employee expense are taken by increasing the expense of FY 17-18 by 10% excluding the amount of arrears of Rs 12.99 Crores as this was a one-time expense due to wage revision being adopted in FY 17-18. From FY 19-20 onwards the employee expenses are taken by increasing the expense of FY 18-19 by 3%.

7.6.8 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 2017-18 amounts to Rs 36.37 Crores. The administration expenses for FY 2018-19 and onwards is taken by increasing the expenses of FY 2017-18 by 10% p.a.

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

A8: O&M EXPENSES - DISCOMS

The Commission in its Tariff Regulation 2015, had notified O&M expenses for the MYT period FY 2016-17 to FY 18-19. The Commission with its first Amendment of Tariff regulation 2015 had notified the normative O&M expenses for the MYT period FY 2019-20.

The O&M expenses based on the provisions of the 1st Amendment to Tariff Regulation, 2015 as notified on 7th Dec-2018 are as below:

8.1 Employee Costs

As per the provision of 1st Amendment to Tariff Regulation, 2015 Clause 34.6 (b) (i), employee costs has been calculated as below:

Table 116: Employee Costs (Rs Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20
Employees Expenses excluding arrears, DA, terminal benefits and incentives	511	1,049	1,080	370	979	1,009	1,067	1,100	1,133
DA	284	94	157	514	88	145	56	99	164
Leave encashment	-	-	-	40	43	43	38	41	44
NPS Employer contribution	8	9	10	7	4	22	10	11	12
PF/CFA/GTIS/Annuity	13	14	15	10	11	11	18	19	20
Incentives	1	0	0	0	0	0	2	2	3
7th Pay DA Arrear	-	-	-	-	-	-	-	-	-
Expense Capitalized	29	8	23	(28)	-	-	25	-	-
Total	789	1,158	1,239	970	1,126	1,231	1,166	1,272	1,376

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

- For calculation of Employees Expenses excluding arrears, DA, terminal benefits and incentives, for FY 2019-20 the Basic salary has been considered as per the norms provided in the prevalent MPERC regulation.
- For computation of Dearness allowance, % increase in DA has been considered as given in below table:

Table 117: Dearness Allowance Considered (%)

Particulars (As per 7th Pay)	FY '18	FY '19	FY '20
DA as percentage of Basic for first quarter - Apr to June	4%	7%	11%
DA as percentage of Basic for 2nd and 3rd quarter - July to Dec	5%	9%	15%
DA as percentage of Basic for 4th quarter - Jan to March	7%	11%	17%

- Incentive/ Bonus to be paid to the employees have been considered as per the previous trend in the Audited Accounts.
- Leave Encashment and PF/CFA/GTIS/NPS:
 - It is pertinent to mention that MPPTCL is providing fund to Discom's, only to meet out Terminal Benefits liability of Gratuity, Pension and Commutation of pension.
 - Other than these components, Discom's 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 Discom's.
- 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 the Commission in regulation 34.6 (b) (ii) of 1st Amendment to Tariff Regulation, 2015, had notified A&G expenses for the MYT period FY 2016-17 to FY 18-19. The Commission with its first Amendment of Tariff regulation 2015 had notified the normative A&G expenses for the MYT period FY 2019-20.

As per the above provision A&G expenses have been calculated as below:-

Table 118: Administrative & General Expenses (Rs Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20
A&G Expenses excluding MPERC fees and Taxes	216	192	205	103	110	118	109	147	157
Taxes payable to Government	3	4	3	3	4	4	15	16	17
MPERC Fees	0	1	1	0	0	0	0	0.49	0.51
Total	218	196	209	107	114	122	124	163	174

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

- a. As per the provision of the para 34.1 of the 1st Amendment to Tariff Regulation, 2015, 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

The Commission in regulation 34.6 (a) of 1st Amendment to Tariff Regulation, 2015, had notified R&M expenses for the MYT period FY 2016-17 to FY 18-19. The Commission with its first Amendment of Tariff regulation 2015 had notified the normative R&M expenses for the MYT period FY 2019-20.

As per the above provision R&M expenses have been calculated as below:

Table 119: Repair & Maintenance Expenses (Rs Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20
Opening GFA of FY year	4,856	7,407	7,942	8,668	9,505	10,159	5,927	6,500	7,153
R&M Expenses as 2.3% of GFA	112	170	183	199	219	234	136	149	165

8.4 Gist of O&M Expenses

The Gist of O&M expense as per the provisions of 1st Amendment to Tariff Regulation, 2015 is summarized as below:

Table 120: Gist of O&M Expenses (Rs Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20
Employee Cost (including arrears, DA and others)	789	1,158	1,239	970	1,126	1,231	1,166	1,272	1,376
A&G Expenses	218	196	209	107	114	122	124	163	174
R&M expenses	112	170	183	199	219	234	136	149	165
Total	1,119	1,525	1,631	1,276	1,458	1,587	1,427	1,584	1,715

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

- 9.1.1 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.
- 9.1.2 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. Discoms 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.
- 9.1.3 Scheme wise Capital Expenditure Plan of Discom's for FY'18 to FY'20 is given in table below:

Table 121: Capital expenditure Plan (Rs. Crores)

EAST DISCOM - CAPEX			
Name of Scheme	FY '18	FY '19	FY '20
ST&D (GoMP)	78	225	207
Feeder Separation Scheme	116	250	0
New Agricultural Pumps	0	0	0
Renovation of 33/11kV SS & DTR Metering	0	20	0
RAPDRP	0	20	0
RGGVY	78	220	0
DDUGVY	116	180	176
DDUGVY Phase II	0	0	0
IPDS	109	252	0
Coversion of TC to PC	279	568	523
Procurement of DTR against failure	0	0	0
Procurement of smart meters	0	0	150
Balance Urban Households Connections (147509 no) not covered elsewhere	0	0	0
Total	775	1,735	1,056

CENTRAL DISCOM - CAPEX			
Name of Scheme	FY '18	FY '19	FY '20
SYSTEM STRENGTHING	-	130	120
FEEDER SEPERATION	128	140	109
NEW PUMP CONNECTION	128	763	-
ADB-II	-	-	-
ADB-III	-	-	-
RGGVY	255	72	63
RAPDRP PART A	-	-	-
RAPDRP PART B	-	-	-
HUDCO	-	-	-
IPDS	191	150	311
DDUGJY	255	635	200
ST&D (GoMP)	64	-	-
Renovation of 33/11kv Sub-Stations & DTR metering (NEW SCHEME) TO BE POSED AS EAP)	128	-	-
Procurement of Distribution Transformers against Failure	64	76	84
Procurement of Smart Meters	64	93	96
Total	1,276	1,666	983

WEST DISCOM - CAPEX			
Name of Scheme	FY '18	FY '19	FY '20
ADB	53	30	-
TSP and SCSP	66	122	130
GOMP Scheme	80	162	145
FSP - ADB Loan	-	-	-
Grant Scheme(Govt. Contribution)	-	-	-
New Agricultural pumps	-	-	-
Mukyamantri Sthai Krishi pump Connection Scheme	232	833	219
Conversion of Temporary Pump Connections to Permanent Pump Connections (Govt. Contribution)	-	-	-
Transformore failuer reduction Schenme	20	53	55
Procurement of Smart Meters	13	61	86
RAPDRP (GOI)	-	-	-
JBIC	-	-	-
Others (New EAP)	-	-	-
RGGVY	66	117	21
IPDS	86	175	53
DDUGVY	46	277	280
Central Govt. Assistance (FS)	-	-	-
REC(Departmental Works)	-	-	-
Equity for Nepa Ltd, Nepanagar	-	-	-
Total	663	1,830	989

9.2 Scheme Wise Capitalization

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

Table 122: Scheme Wise Capitalization (Rs. Crores)

Scheme Wise Capitalization - East Discom			
Name of Scheme	FY '18	FY '19	FY '20
Opening CWIP	0	0	0
ST&D (GoMP)	49	66	105
Feeder Separation Scheme	87	73	-
New Agricultural Pumps	-	-	-
Renovation of 33/11kV SS & DTR Metering	24	6	-
RAPDRP	15	6	-
RGGVY	58	65	-
DDUGVY	87	53	89
DDUGVY Phase II	-	-	-
IPDS	68	74	-
Coversion of TC to PC	97	167	265
Procurement of DTR against failure	-	-	-
Procurement of smart meters	-	-	76
Balance Urban Households Connections (147509 no) not covered elsewhere	-	-	-
Total	485	509	535

Scheme Wise Capitalization - Central Discom			
Name of Scheme	FY '18	FY '19	FY '20
SYSTEM STRENGTHING	93	41	82
FEEDER SEPARATION	62	44	75
NEW PUMP CONNECTION & MMSKPY	93	242	-
ADB-II	-	-	-
ADB-III	-	-	-
RGGVY	75	23	43
RAPDRP PART A	-	-	-
RAPDRP PART B	-	-	-
HUDCO	-	-	-
IPDS	62	48	213
DDUGJY	125	202	137
Others	-	-	-
ST&D (GoMP)	56	-	-

Scheme Wise Capitalization - Central Discom			
Name of Scheme	FY '18	FY '19	FY '20
Renovation of 33/11kv Sub-Stations & DTR metering (NEW SCHEME) TO BE POSED AS EAP)	25	-	-
Procurement of Distribution Transformers against Failure	25	24	58
Procurement of Smart Meters	6	30	66
Total	623	654	675

Scheme Wise Capitalization - West Discom			
Name of Scheme	FY '18	FY '19	FY '20
ADB	18	6	6
TSP and SCSP	24	24	51
GOMP (Equity)	30	32	61
FSP - ADB Loan	-	-	-
Grant Scheme(Govt. Contribution)	-	-	-
New Agricultural pumps	-	-	-
Mukyamantri Sthai Krishi pump Connection Scheme (Govt. Contribution)	314	167	210
Conversion of Temporary Pump Connections to Permanent Pump Connections (Govt. Contribution)	-	-	-
Transformore failuer reduction Schenme	6	11	22
Procurement of Smart Meters	12	12	29
RAPDRP (GOI)	-	-	-
JBIC	-	-	-
Others (New EAP)	-	-	-
RGGVY	54	23	28
IPDS	48	35	46
DDUGVY	97	55	112
Central Govt. Assistance (FS)	-	-	-
REC(Departmental Works)	-	-	-
Equity for Nepa Ltd, Napanagar	-	-	-
Capitalization of opening CWIP		287	287
Total	604	653	851

9.3 Capital Work in Progress

Following table shows the year wise bifurcation of CWIP of the three Discoms.

Table 123: Discom Wise Capital Work in Progress (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20
Opening Balance of CWIP	1,457	1,748	2,973	559	1,213	2,619	2,173	2,232	3,409
Fresh Investment during the year	775	1,735	1,056	1,276	2,060	983	663	1,830	989
Investment capitalised	485	509	535	623	654	675	604	653	851
Closing Balance of CWIP	1,748	2,973	3,495	1,213	2,619	2,927	2,232	3,409	3,547

9.4 Fixed Assets Addition

The year wise fixed assets addition is as follows:

Table 124: Fixed Assets Addition (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20
Land & land rights	0	0	0	0	0	0	0	0	0
Buildings	0	0	0	5	6	6	32	30	37
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	132	139	146	83	87	89	190	180	224
Lines, cables, networks	348	366	384	301	316	332	356	339	420
Vehicles	1	1	1	0	0	0	0	0	0
Furniture & fixtures	0	0	0	0	0	0	0	0	0
Office equipments	3	3	3	4	4	4	15	14	18
RGGVY	0	0	0	173	182	184	0	79	139
Intangible Assets	0	0	0				0	0	0
Spervision assets				56	59	60			
Capital Stores & Spares				0	0	0	10	10	12
Total	485	509	535	623	654	675	604	653	851

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 regulation 32 of 1st Amendment to Tariff Regulations, 2015, 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 1st Amendment to Tariff Regulations, 2015.

The depreciation during the FY as worked out for FY 2017-18 to FY 2019-20 is shown below:

Table 125: Discom Wise Depreciation- As per Regulation (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20
Land under Lease	0	0	0	0	0	0	0	0	0
Building	0	0	0	3	3	3	4	5	6
Hydraulic Works	2	2	2	0	0	0	0	0	0
Other Civil Works	0	0	0	0	0	0	0	0	0
Plant & Machinery	149	156	164	96	112	122	91	106	121
Line Cable Networks etc.	156	164	172	129	151	163	133	119	147
Vehicles	0	0	0	0	0	0	0	0	0
Furniture & fixtures	0	0	0	0	0	0	0	0	0
Office Equipments	18	19	20	8	10	10	8	11	12
RGGVY	0	0	0	33	38	42	0	34	47
Intangible Assets	0	0	0				6	8	6
Supervision assets				17	20	21			
Capital Stores & Spares				14	17	18	15	0	0
Total	325	341	358	300	351	381	257	282	340

10.2 Interest and Finance Charges

10.2.1 Interest on Project Loans

Regulation 31 of 1st Amendment to Tariff Regulations, 2015 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 2018-19 has been adopted for projecting the interest and finance charges on project loan. The details are elaborated in following table:

Table 126: East Discom Interest on Project Loan - As per Regulation (Rs. Crores)

Particulars In Rs Crores	MYT 2017-18 to 2019-20		
	2017-18	2018-19	2019-20
FY 17			
Debt identified with GFA as on 1st April 2016	1,324	1,324	1,324
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	1,365	1,365	1,365
FY 18	-	-	-
Debt identified with GFA as on 1st April 2017	1,365	1,365	1,365
70% of addition to net GFA considered as funded through Loan net of consumer contribution	127	127	127
Debt repayment (Equal to depreciation)	325	325	325
Total debt associated with GFA as on 31st March 2018	1,167	1,167	1,167
FY 19	-	-	-
Debt identified with GFA as on 1st April 2018	-	1,167	1,167
70% of addition to net GFA considered as funded through Loan net of consumer contribution	-	122	122
Debt repayment (Equal to depreciation)	-	341	341
Total debt associated with GFA as on 31st March 2019	-	948	948
FY 20	-	-	-
Debt identified with GFA as on 1st April 2018	-	-	948
70% of addition to net GFA considered as funded through Loan net of consumer contribution	-	-	117
Debt repayment (Equal to depreciation)	-	-	358
Total debt associated with GFA as on 31st March 2020	-	-	707
Average of Loan Balance	1,266	1,057	827
Weighted average rate of interest (%) (as per Interest on Project Loans)	0	0	0
Interest and Finance charges on Project Loans	97	15	10
Cost of Raising finance	17	18	20
Discount to consumer on timely repayment	1.61	1.77	1.95
Total	115.72	35.13	31.64

Table 127: Central Discom Interest on Project Loan - As per Regulation (Rs. Crores)

Particulars In Rs Crores	MYT 2017-18 to 2019-20		
	2017-18	2018-19	2019-20
1. Addition to GFA during the year	623	654	675
2. Consumer contribution during the year	32	31	31
3. Net addition to GFA during the year (1-2)	591	623	643
4. 30% of addition to net GFA considered as funded through equity (4=3*30%)	177	187	193

Particulars In Rs Crores	MYT 2017-18 to 2019-20		
	2017-18	2018-19	2019-20
5. Balance addition to net GFA during the year funded through debt(5=3-4)	414	436	450
6. Debt Repayment due during the year (equal to the depreciation claim)	300	351	381
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	114	85	69
8. Weighted average rate of interest % on all loans	9%	5%	7%
9. Total Interest on project loans(9=7*8)	11	4	5
10. Finance Charges	20	22	24
Discount to consumer on timely repayment			
Total	30	26	28

Table 128: West Discom Interest on Project Loan - As per Regulation (Rs. Crores)

Particulars In Rs Crores	MYT 2017-18 to 2019-20		
	2017-18	2018-19	2019-20
Debt identified with GFA as on 1st April 2016	599	599.13	599.13
70% of addition to net GFA considered as funded through Loan net of consumer contribution	97	97.09	97.09
Debt repayment (Equal to depreciation)	235	234.55	234.55
Total debt associated with GFA as on 31st March 2017	462	461.66	461.66
FY 18	-	0.00	0.00
Debt identified with GFA as on 1st April 2017	462	461.66	461.66
70% of addition to net GFA considered as funded through Loan net of consumer contribution	338	337.95	337.95
Debt repayment (Equal to depreciation)	257	257.04	257.04
Total debt associated with GFA as on 31st March 2018	543	542.58	542.58
FY 19	-	0.00	0.00
Debt identified with GFA as on 1st April 2018	-	542.58	542.58
70% of addition to net GFA considered as funded through Loan net of consumer contribution	-	71.81	71.81
Debt repayment (Equal to depreciation)	-	292.87	292.87
Total debt associated with GFA as on 31st March 2019	-	321.52	321.52
FY 20	-	0.00	0.00
Debt identified with GFA as on 1st April 2018	-	0.00	321.52
70% of addition to net GFA considered as funded through Loan net of consumer contribution	-	0.00	559.11
Debt repayment (Equal to depreciation)	-	0.00	334.64
Total debt associated with GFA as on 31st March 2020	-	0.00	545.99
Average of Loan Balance	502.12	432.05	433.75
Weighted average rate of interest (%) (as per Interest on Project Loans)	0.09	0.06	0.06
Interest and Finance charges on Project Loans	45.98	27.30	27.57
Cost of Raising finance	8.88	9.77	10.75
Discount to consumer on timely repayment	3.08	3.38	3.72
Total	57.93	40.46	42.03

10.2.2 Interest on Working Capital

Regulation 36 of 1st Amendment to Tariff Regulations, 2015 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 129: East Discom Interest on Working Capital- As per Regulation (Rs. Crores)

Sr. no.	Particulars	MYT 2017-18 to 2019-20		
		2017-18	2018-19	2019-20
I	Wheeling			
A)	1/6th of annual requirement of inventory for 1% GFA of previous year	8	8	1
B)	O&M expenses			
	R&M expenses	162	170	183
	A&G expenes	218	196	209
	Employee expenses	994	1158	1239
B) i)	Total of O&M expenses	1375	1525	1631
B) ii)	1/12th of total	115	127	136
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)]	122	136	137
E)	Rate of Interest *	13.85 %	13.75 %	13.75 %
F)	Interest on Working capital (Wheeling)	17	19	19
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**	11,569	9,791	10,683
B) ii)	Receivables equivalent to 2 months average billing	1,928	1,632	1,780
C)	Power Purchase expenses	8,374	6,256	7,079
C) i)	1/12th of power purchase expenses	698	521	590
D)	Consuner Security Deposit	725	803	881
E)	Total Working capital (A+B ii) - C i) - D)	506	308	309
F)	Rate of Interest *	13.85 %	13.75 %	13.75 %
G)	Interest on Working capital (Retail Supply)	70	42	43
	Total Interest on Working Capital (Wheeling + Retail Supply)	87	61	61

Table 130: Central Discom Interest on Working Capital- As per Regulation (Rs. Crores)

Sr. no.	Particulars	MYT 2017-18 to 2019-20		
		2017-18	2018-19	2019-20
I	Wheeling			
A)	1/6th of annual requirement of inventory for 1% GFA of previous year	8	9	10
B)	O&M expenses			
	R&M expenses	199	219	234
	A&G expenes	107	114	122
	Employee expenses (incl. terminal benefits)	969	1,125	1,231
B) i)	Total of O&M expenses	1,276	1,458	1,587
B) ii)	1/12th of total	106	122	132
C)	Receivables			
C) i)	Annual Revenue from wheeling charges**	1	1	1
C) ii)	Receivables equivalent to 2 months average billing of wheeling charges	0	0	0
D)	Total Working capital [A) + B) ii) - C) ii)]	114	131	142
E)	Rate of Interest *	13.85%	13.75%	13.75%
F)	Interest on Working capital (Wheeling)	16	18	20
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**	9,389	9,559	10,343
B) ii)	Receivables equivalent to 2 months average billing	1,565	1,593	1,724
C)	Power Purchase expenses	7,734	6,160	6,648
C) i)	1/12th of power purchase expenses	645	513	554
D)	Consuner Security Deposit	937	1,099	1,154
E)	Total Working capital (A+B ii) - C i) - D)	(14)	(17)	18
F)	Rate of Interest *	13.85%	13.75%	13.75 %
G)	Interest on Working capital (Retail Supply)	(2)	(2)	2
III	Total Interest on Working Capital (Wheeling + Retail Supply)	14	16	22

Table 131: West Discom Interest on Working Capital- As per Regulation (Rs. Crores)

Sr. no.	Particulars	MYT 2017-18 to 2019-20		
		2017-18	2018-19	2019-20
I	Wheeling			
A)	1/6th of annual requirement of inventory for previous year	8	9	9
B)	O&M expenses			
	R&M expenses	109	149	162
	A&G expenes	124	163	174
	Employee expenses	1,039	1,272	1,376
B) i)	Total of O&M expenses	1,272	1,584	1,712
B) ii)	1/12th of total	106	132	143
C)	Receivables			
C) i)	Annual Revenue from wheeling charges**	8	6	3
C) ii)	Receivables equivalent to 2 months average billing of wheeling charges	1	1	1

Sr. no.	Particulars	MYT 2017-18 to 2019-20		
		2017-18	2018-19	2019-20
D)	Total Working capital [A) + B) ii) - C) ii)]	115	142	153
E)	Rate of Interest *	13.85%	13.75%	13.75%
F)	Interest on Working capital (Wheeling)	16	19	21
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**	11,928	12,439	13,047
B) ii)	Receivables equivalent to 2 months average billing	1,988	2,073	2,175
C)	Power Purchase expenses	7,788	8,048	9,027
C) i)	1/12th of power purchase expenses	649	671	752
D)	Consumer Security Deposit	1,032	1,148	1,265
	Net Consumer Security Deposit	1,032	1,148	1,265
E)	Total Working capital (A+B ii) - C i) - D)	309	256	160
F)	Rate of Interest *	13.85%	13.75%	13.75%
G)	Interest on Working capital (Retail Supply)	43	35	22
	Summary			
1	For wheeling activity	15	19	21
2	For Retail Sale activity	43	35	22
III	Total Interest on working Capital	58	55	43

10.2.3 Interest on Consumer Security Deposit

As per 1st amendment to Tariff Regulations, 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% for FY 2018-19 and 6.75% for FY 2019-20.

(https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/0RBLF11102018_FLC9CB5A969ECB4DAF896161D3DC684455.PDF) and calculated the same for FY 2019-20 as shown in the table below:

Table 132: Discom Wise Interest on Consumer Security Deposit – As per Regulation (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20
Interest on Consumer Security Deposit	56	50	59	53	69	78	64	72	85

10.3 Return on Equity

Regulation 36 of 1st Amendment to Tariff Regulations, 2015 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 2019-20. 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 133: East Discom Return on Equity- As per Regulation (Rs. Crores)

Particulars	MYT 2017-18 to 2019-20		
	2017-18	2018-19	2019-20
FY 2016-17			
Equity identified with GFA as on 1st April 2016	1,379	1,379	1,379
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 2017	1,522	1,522	1,522
FY 2017-18			
Equity identified with GFA as on 1st April 2017	1,522	1,522	1,522
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	54	54	54
Total Equity associated with GFA as on 31st March 2018	1,576	1,576	1,576
FY 2018-19			
Equity identified with GFA as on 1st April 2018	-	1,576	1,576
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	-	52	52
Total Equity associated with GFA as on 31st March 2019	-	1,628	1,628
FY 2019-20			
Equity identified with GFA as on 1st April 2018	-	-	1,628
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	-	-	50
Total Equity associated with GFA as on 31st March 2019	-	-	1,678
Average Equity	1,549	1,602	1,653
Rate of Return	16%	16%	16%
Return on Equity	247.80	256.33	264.51

Table 134: Central Discom Return on Equity- As per Regulation (Rs. Crores)

Sr.no.	Particulars	MYT 2017-18 to 2019-20		
		FY18	FY19	FY20
A	Gross Fixed Assets at the beginning of year (net of consumer contributions)	6,851	7,471	8,125
A1	Opening balance of GFA identified as funded through equity	1,606	1,784	1,980
A2	Opening balance of GFA identified as funded through debt	5,245	5,687	6,144

Sr.no.	Particulars	MYT 2017-18 to 2019-20		
		FY18	FY19	FY20
B	Proposed capitalisation of assets as per the investment plan (net of consumer contribution)	623	654	675
B1	Proportion of capitalised assets funded out of equity, internal reserves	178	241	263
B2	Balance Proportion of capitalised assets funded out of project loans	445	413	412
C1	Normative additional equity	187	196	202
C2	Normative additional debt	436	458	472
D1	Excess / shortfall of additional equity over normative	(9)	45	60
D2	Excess / shortfall of additional debt over normative	9	(45)	(60)
E	Equity eligible for Return, whichever is lower	1,695	1,882	2,081
	Return on Equity (16%)	271	301	333

Table 135: West Discom Return on Equity- As per Regulation (Rs. Crores)

Particulars	FY18	FY19	FY20
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	42	42	42
Total Equity associated with GFA as on 31st March 2017	1,111	1,111	1,111
FY 2017-18			
Equity identified with GFA as on 1st April 2017	1,111	1,111	1,111
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	145	145	145
Total Equity associated with GFA as on 31st March 2018	1,255	1,255	1,255
FY 2018-19			
Equity identified with GFA as on 1st April 2018	-	1,255	1,255
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	-	31	31
Total Equity associated with GFA as on 31st March 2019	-	1,286	1,286
FY 2019-20			
Equity identified with GFA as on 1st April 2018	-	-	1,286
30% of addition to net GFA considered as funded through Equity net of consumer contribution for half year	-	-	240
Total Equity associated with GFA as on 31st March 2019	-	-	1,526
Average Equity	1,182.94	1,270.75	1,405.95
Rate of Return	16%	16%	16%
Return on Equity	189	203	225

10.4 Provision for Bad & Doubtful Debts

Regulation 35 of 1st Amendment to Tariff Regulations, 2015 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 Since the Hon’ble Commission in its previous Tariff Order’s for previous FYs has considered Rs 2 Crores for Bad & Doubtful debts. Accordingly, the petitioner has claimed the expenses against bad and doubtful debts of 2 crore of each Discom’s for FY 2019-20.

The detail calculation of the same is shown below:

Table 136: Discom Wise Provision for Bad & Doubtful Debts- As per Regulation (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY18	FY19	FY20	FY18	FY19	FY20	FY18	FY19	FY20
Bad and Doubtful Debts	97	112	2	131	146	2	360	124	2

10.5 Other Income & Non-Tariff Income

The main components of Non-Tariff Income are wheeling charges, supervision charges, sale of scrap and miscellaneous charges from consumers as per 1st Amendment to 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 miscellaneous charges have been projected as a percentage of tariff income. The Petitioner have projected their Other Income & Non-Tariff Income for FY 2018-19 & FY 2019-20 based on with certain percentage increase line item wise including adjustments during the previous FY. The Petitioner has made the projections for FY 2018-19 and FY 2019-20 as per the Regulatory Requirement specified under the 1st Amendment to Tariff Regulations, 2015 and other applicable Regulations.

Proposal to Abolish the recovery of the Metering charges/Meter Rent from consumer:-

- The Hon’ble Madhya Pradesh Electricity Regulatory Commission (hereinafter referred ‘the Commission’) vide Notification No. 1902/MPERC/2009 Dated 7th September 2009, in exercise of powers conferred under Section 181 read with Section 45 (3)(b) and 46 of the Electricity Act, 2003 (No. 36 of 2003), has made the “Madhya Pradesh Electricity Regulatory Commission (Recovery of Expenses and other charges for providing electric line or plant used for the purpose of giving supply) Regulation (Revision-I), 2009” to specify manner & quantum of recovery of Expenses and other charges for providing electric line or plant used for the purpose of giving supply.
- The said schedule of metering and other charges read as follows:

Table 137: Annexure I - Schedule of Metering and Other Charges

I. Metering Charges		
Sr.	Particular	Rs./meter/month
	HT Meters	
1	For 220 KV system meter along with CTs, PTs Cable etc.	25,000
2	For 132 KV system meter along with CTs, PTs Cable etc.	15,000
3	For additional CTs, PTs, meter box etc.	13,500
4	For 33 KV System meter, CTs, PTs meter box etc.	2,000
5	For 11 KV System meter, CTs, PTs meter box etc.	1,500
	LT Meters	
i)	Single phase energy meter without MCB	10
ii)	Single phase meter with MCB	15
iii)	Three phase meter with M.C.B	25
iv)	Three phase meter with MCB	30
v)	Three phase LT meter with CTs	75
vi)	Demand or special type Meter	125
If Consumer either opts for paying in advance for the entire cost of the meter along with metering equipment procured by Licensee only or purchase meter/metering as per specification provided by the Licensee subject to payment of testing charges for meter/metering equipment, then no metering charges will be levied.		

- The meter rent/ metering charges are being recovered by licensee in accordance with aforesaid regulations.
- It is submitted that among all the components of electrical infrastructure, only meters are being subjected to levy of meter rent/metering charges. Cost of all other network components (viz. service lines and sub-stations etc) is built into the electricity tariff itself. It is noteworthy to mention that like other electrical infrastructure metering equipment is also form part of the asset base of the Discom therefore Discom receives all type of return on the said asset in accordance with the provision of the regulation i.e depreciation, return on equity, interest & finance charges etc. Therefore practice of charging metering charges/meter rent results duplicity of recovery from consumer.
- It is submitted that state like Uttarakhand has already abolished the levy of the meter rent citing it as the duplicity of recovery from consumers. The relevant observation of the Hon'ble Uttarakhand Electricity Regulatory Commission in its Tariff Order for FY 2005-06 dated April 25, 2005 is reproduced as under: —
 - *“As per the present practice, meters for which rent is being charged from consumers have been purchased and installed by UPCL and form part of Company’s fixed assets. While scrutinizing the ARR, revenue coming to UPCL by way of meter rent is either added to UPCL’s revenue from sale of electricity or deducted from its total expenditure. The revenue is then matched with the allowed expenditure to work out surplus or deficit in such revenue. Since revenue by way of meter rent is already being accounted for in the ARR, UPCL does not get any additional benefit from this rental income but the same*

is a recurring irritant to consumers. The financing cost of installation of such meters is recovered through Tariff by way of interest on loans while computing the allowable expenditure in the ARR. Since these meters form a part of UPCL's fixed assets, the advantage that accrues to UPCL is by way of permissible depreciation. The real benefit flowing from such meters is by way of proper accounting and billing of energy sold.

- *UPCL's investment in such meters is, thus, fully provided for through interest and depreciation costs. Since income by way of meter rent is taken into account in computing the total revenue, it would not make any difference to UPCL if this portion of revenue did not come to it. On the other hand, continuing with meter rent chargeable from each consumer results in avoidable complexities in billing and accounting on UPCL's part and as stated earlier is a recurring irritant to consumers. In fact, this also acts as an impediment to converting unmetered connections into metered ones or for that matter replacement of existing meters by precision tamper-proof meters. The Commission is of the view that licensee's investment in such meters having already been provided for through interest costs and depreciation in the Tariff, there is no merit in the licensee charging rent for such meters from each consumer and then adding it to its sales revenue for computing Tariffs. The Commission has, therefore, decided to do away with recovery of meter rent altogether for all consumers."*
- The aforesaid observation of Hon'ble UERC is squarely applicable in case of MP Discom also. Billing of meter rent as separate item creates complexities in billing and it is revenue neutral from the perspective of the Discoms. Kind attention is also drawn towards the Conclusions/Recommendation/Decisions arising out of Power Ministers Conference held on 7th December, 2017. The relevant extract of Minutes of the Conference is reproduced as under:

"7. Prepare roadmap for reduction of cross subsidies as per Tariff Policy by March 2018 and bring in Tariff reforms by simplification of Consumer Tariff categories and rationalization of Electricity Tariff."

- It is also submitted that in the scenario of the two part tariff ideally there should be only two kind of charges. The first part called the fixed charges in two part tariff represents the fixed component of charges which is independent of consumption level and depends on the fixed cost incurred by the utility in providing the electricity supply irrespective of actual energy consumed by the consumer. The second part called the energy charges in two-part tariff represents the variable component of charges, which depends solely on the actual energy consumed. Therefore to simplify the tariff structure meter rent/ metering charges should be part of the fixed charges instead of a separate billing item in the energy bill of consumer.

- In view of above in the interest of consumers, the Hon'ble Commission is requested to abolish the recovery of the Metering Charges/Meter Rent from Consumers and allow for suitable adjustments in the electricity tariffs by increasing fixed charges to compensate the recovery of meter rent/ metering charges. Suitable amendment in the “Madhya Pradesh Electricity Regulatory Commission (Recovery of Expenses and other charges for providing electric line or plant used for the purpose of giving supply) Regulation (Revision-I), 2009” may also be carried out.

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

Table 138: Other Income & Non-Tariff Income (Rs. Crores)

Particulars	East Discom			Central Discom			West Discom		
	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20	FY '18	FY '19	FY '20
Income from Investment, Fixed & Call Deposits	10	8	4	42	22	10	30	24	36
Interest on loans and Advances to staff	1	1	0	0	0	0	0	0	0
Interest on Advances to Suppliers / Contractors	12	10	5	0	0	0	0	0	-
Income/Fee/Collection against staff welfare activities	0	0	0	0	0	0			
Miscellaneous receipts	31	25	14	11	8	5	12	10	7
Misc charges	0	0	0	24	20	14	0	0	0
Deferred Income (Consumer Contribution)	112	0	0	125	0	0	0	0	0
Wheeling charges	0	0	0	1	1	1	8	6	3
Income from Trading other than Power (i.e sale of scrap, tender form)	76	72	73	111	60	35	12	10	9
Supervision charges	11	9	5				18	15	16
Recovery from theft	6	5	3	0	0	0	0	0	0
Others									
Total	259	129	104	314	111	65	80	64	71

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 139: Summary of ARR for MPPMCL (Rs. Crore)

Particulars	FY 18	FY 19	FY 20
Purchase of Power from Other Sources	225	248	101
Inter State Transmission & Wheeling	46	50	55
Depreciation & Amortization Expenses	4	6	9
Interest & Finance Charges	95	86	78
Repairs & Maintenance	2	2	2
Employee Costs	73	66	64
Administration & General Expenses	36	40	44
Other Expenses	3	4	4
Expenses	484	501	357
Revenue Other Income	730	650	666
(Profit)/Loss for the Period	(247)	(148)	(309)

11.2 Aggregate Revenue Requirement of Discom's

The True-up gap amounting to Rs. 3,919.48 Crs for MP Discoms for FY 2013-14 as determined by MPERC vide order dated 21.05.2019 has been considered.

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 2016-17 and MPPGCL True up for FY 2016-17) is detailed in the table below:

Table 140: Summary of ARR, Revenue and (Gap)/Surplus (Rs. Crores)

Particular	Unit	FY 18				FY 19				FY 20			
		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 Crores	29,792	8,475	9,389	11,928	31,608	9,610	9,559	12,439	34,065	10,656	10,348	13,061
Expenditure													
Purchase of Power	Rs Crores	22,608	6,914	7,819	7,874	20,612	6,301	6,204	8,107	22,701	7,205	6,294	9,202
MPPMCL Cost	Rs Crores	(247)	(75)	(85)	(87)	(148)	(45)	(45)	(58)	(309)	(98)	(94)	(118)
Inter-State Transmission charges	Rs Crores	1,532	469	530	533	1,532	469	530	533	1,532	469	530	533
Intra-State Transmission (MP Transco) Charges and SLDC Charges	Rs Crores	2,501	747	796	958	2,719	812.38	865	1041.04	2,719	812	865	1,041
R&M Expense	Rs Crores	447	112	199	136	538	170	219	149	581	183	234	165
Employee Expenses incl. 7th Pay & Arrears	Rs Crores	2,924	789	970	1,166	3,556	1,158	1,126	1,272	3,847	1,239	1,231	1,376
A&G Expense	Rs Crores	449	218	107	124	474	196	114	163	505	209	122	174
Depreciation and Related debits	Rs Crores	881	325	300	257	975	341	351	283	1,078	358	381	340
Interest & Finance Charges	Rs Crores	536	259	97	180	435	146	122	167	451	152	128	170
Other Debits, Write-offs (Prior period and bad debts)	Rs Crores	588	97	131	360	383	112	146	124	6	2	2	2
Total Expenses	Rs Crores	32,221	9,855	10,864	11,502	31,064	9,662	9,621	11,781	33,111	10,532	9,695	12,885
RoE	Rs Crores	708	248	271	189	761	256	301	203	823	265	333	225
Total Expenses Including RoE	Rs Crores	32,929	10,103	11,135	11,691	31,825	9,918	9,922	11,985	33,934	10,796	10,028	13,110
Other income	Rs Crores	653	259	314	80	304	129	111	64	240	103	66	71
Total ARR	Rs Crores	32,276	9,843	10,822	11,611	31,521	9,789	9,811	11,921	33,693	10,693	9,962	13,039
Revenue Gap	Rs Crores	2,485	1,369	1,433	(317)	(87)	179	253	(518)	(372)	37	(386)	(23)
Impact of Transco - True-up FY 2016-17	Rs Crores										67	21	20
Impact of Genco - True-up FY 2016-17	Rs Crores										483	144	154
Impact of True Up MP DISCOMs FY 2013-14	Rs Crores										3,919	1,056	1,509
Total Revenue Gap (including true up)	Rs Crores										4,098	1,259	1,296
Total ARR including true up	Rs Crores	32,276	9,843	10,822	11,611	31,521	9,789	9,811	11,921	38,163	11,915	11,644	14,604
ACoS (excluding True Up)	Rs./kWh	7.02	6.98	8.15	6.24	6.06	6.12	6.33	5.81	6.02	6.04	5.96	6.06
ACos (including True Up)	Rs./kWh	7.02	6.98	8.15	6.24	6.06	6.12	6.33	5.81	6.82	6.73	6.96	6.79

A12: TARIFF PROPOSAL FOR FY 2019-20**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. In FY 2018-19, there was zero percent hike. 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. 18,910 MW as on 27th December 2018. With a vision of 24x7 electricity supply for all the consumers in the state, electrification under Saubhgaya 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 order to respect the power purchase agreements with such generators substantial quantum of power was backed down in previous years also and the petitioners have to pay the fixed cost to the generators against power which was not availed.
- 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 MPPMCL has already foreclosed 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.

- 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, the licensee in their previous years petition have introduced several rebates to encourage Captive and Open Access Consumers to shift their demand to Discoms and the same have been admitted in the Tariff order of the Commission. With the existence of these rebates many Captive and OA consumers have inclined to shift their demand to Discoms. 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 order to bridge the revenue gap, 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 2019-20 are already on the lower side and are based on the normative loss levels as specified by Hon'ble Commission in the 1st Amendment to Tariff Regulations, 2015 notified on 7th Dec'2018. The Petitioners submit that the actual costs run higher based on the actual loss levels experienced in its distribution network and the external network.
- 12.1.8 In view of the above submission, the Petitioners are proposing a hike of 12.03%. 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.
- 12.1.9 A summary of the proposed tariff hike and resultant additional revenue is given in the table below:

Table 141: Summary of proposed tariff for FY 2019-20 (Rs. Crores)

Formulae	Particulars	MP State	East Discom	Central Discom	West Discom
A	Total ARR excluding True-Up Impact	33,693	10,693	9,962	13,039
B	True-Up Impact	4470	1,222	1,683	1,565
C=A+B	Total ARR including True-Up Impact	38,163	11,915	11,644	14,604
D	Revenue at Existing Tariffs	34,065	10,656	10,348	13,061
E=C-D	Gap to be recovered	4,098	1,259	1,296	1,542
F	Average Cost of Supply	6.82	6.73	6.96	6.79
G	Additional Revenue from Proposed Tariffs	4,098	1,259	1,296	1,542
H=G+D	Total Revenue at Proposed Tariff	38,163	11,914	11,644	14,604
I=H-C	Remaining revenue Gap	-	-	-	-

12.1.10 In view of above the licensees pray to the Hon'ble Commission to consider and approve the said tariff proposal for FY 2019-20 to recover the costs for the ensuing year for the State as a whole.

12.1.11 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 142: Category-wise proposed revenue for FY 2019-20 (Rs. Crores)

Tariff Category / Sub-category	MP State		East Discom		Central Discom		West Discom	
	Rev. at current tariffs	Rev. at propose d tariffs						
LT CATEGORIES								
LV-1	Domestic	9,577	10,727	3,503	3,933	3,389	3,820	2,684
LV-2	Non-Domestic	2,899	3,214	982	1,086	862	957	1,055
LV-3	Public Waterworks and Street Light	775	866	250	285	224	245	301
LV-4	LT Industry	1,186	1,327	359	412	285	316	542
LV-5	Agriculture	11,007	12,308	3,186	3,563	2,935	3,300	4,886
LV-6	EV Charging	2	2	1	1	1	1	1
TOTAL - LT		25,445	28,443	8,281	9,280	7,695	8,638	9,469
HT CATEGORIES								
HV-1	Railway Traction	54	54	27	27	27	27	-
HV-2	HV 2: Coal Mines	390	442	366	415	24	27	-
HV-3.1	Industrial Use	4,994	5,637	1,056	1,144	1,899	2,155	2,040
HV-3.2	Non-Industrial	861	972	237	266	276	318	348
HV-3.3	Shopping Mall	81	91	7	9	16	18	57
HV-3.4	Power Intensive Industries	1,256	1,418	409	468	168	189	679
HV-4	Seasonal & Non Seasonal	20	22	8	8	2	2	11
HV-5	PWW Works & Other Agri	648	732	88	100	141	160	419
HV-6	Bulk Residential Users	288	324	170	192	98	109	20

Tariff Category / Sub-category		MP State		East Discom		Central Discom		West Discom	
		Rev. at current tariffs	Rev. at proposed tariffs	Rev. at current tariffs	Rev. at proposed tariffs	Rev. at current tariffs	Rev. at proposed tariffs	Rev. at current tariffs	Rev. at proposed tariffs
HV-7	RECs/Synchro of power for Generator connected to Grid	22	23	4	4	2	2	17	17
HV-8	EV Charging	6	6	1	1	2	2	2	2
TOTAL - HT		8,620	9,720	2,375	2,634	2,652	3,006	3,593	4,079
TOTAL (LT+HT)		34,065	38,163	10,656	11,914	10,348	11,644	13,061	14,604

12.2 Salient Features of the Tariff Proposal

In order to meet out the Revenue gap, the licensees have proposed nominal hike 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 2019-20 is enclosed with this petition.

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

- 1. Rebate for supply through feeders feeding supply to predominantly rural area to be abolished***

Reasons for proposed changes:

It is stated that HT consumers are receiving supply through Industrial feeders which are having supply 24x7 and as of now no framework exists for classification of feeders as Urban or Rural. This leads to avoidable disputes with consumers regarding applicability of above mentioned rebate. In fact many consumers have approached forum for adjudication of such disputes. It is further stated that other rebates to promote consumption from Discom are provided to consumers.

- 2. Amendment in additional conditions of Temporary supply at LT***

Reasons for proposed changes:

For Clarity in billing it has been proposed to amend the condition as “The sanctioned load/connected load (for sanctioned load based tariff) or contract demand (for demand based tariff) as the case may be, shall not exceed 112 KW/150 HP.”

- 3. Increase in prompt payment rebate and change in limit of current monthly billing amount for prompt payment incentive.***

In order to give impetus to prompt payment by the consumers the current rebate of 0.25% is proposed to be increased to 0.50%. Further the existing clause 7(a) of the “General terms and conditions for LT Tariff” in respect of prompt payment incentive has been proposed to be modified so as to cover LT consumers where the current monthly billing amount is equal to or greater than Rs. 10000/-.

Reasons for proposed changes:

These changes have been incorporated to attract more consumers for making prompt payments and early realisation of licensee's revenue.

4. *Prompt payment incentive to be calculated on amount excluding government subsidy*

Reasons for proposed changes:

It is stated that there are certain category where subsidy is being provided to the consumer for example power loom, street light, HT irrigation, subsidy of wheeling charges etc. Presently as per aforesaid clause prompt payment incentive is required to be given on the whole bill amount even if consumer is not liable to pay the whole amount due to subsidy given by the government. Hence, point 1.12 of General Terms and Conditions of High Tension Tariff and point 7(a) of General Terms and Conditions of Low Tension Tariff is proposed to be amended for excluding any government subsidy.

5. *Amendments in clause for Tripartite agreement in the HV-6, HV-3.3 category:*

Reasons for proposed changes:

At present as per the specific terms and conditions of HV6 (Bulk Residential Users) and HV 3.3 (Shopping Malls) categories, all end-users (i.e. occupier of individual houses/shops) are required to enter into a tripartite agreement with Management Firm/developer of the shopping mall and licensee for availing supply of electricity in the shopping mall in order to get the benefit of the tariff under these respective category. In this regard, it is stated that the contract of supply of power is between licensee and Developer/Management firm. However, the Licensee has no control over change in the occupier of individual houses/shops situated in shopping malls. As per current provision, if any occupier/tenant changes, the tripartite agreement is required to be changed again. Further, there is no practical mechanism through which licensee can effectively ensure that developer/management is not charging the tariff in excess of applicable tariff from the individual occupier of house/shop. In view of above, the tariff order condition is proposed to be amended for ensuring compliance of this condition.

6. *Increase tolerance limit from 15% to 20% for Additional Charge for Excess connected load or Excess Demand*

Reasons for proposed changes:

In view of power surplus scenario in the state the licensees propose to increase the existing tolerance limit of 15% as specified at clause 6 of “*General Terms & Conditions for LT Tariff*” and clause 1.15 of “*General Terms & Conditions for HT Tariff*” to 20% in respect of maximum demand recorded in any month for excess demand of the consumers due to their transient requirements.

7. *Reduction in the slabs of Power Factor incentive*

Reasons for proposed changes:

To reduce the complexity of the Tariff, It is proposed that the Range of Power Factor Incentive 05% to 10% at different power factor to be reduced to three slabs – 2% (85.01%-90%), 3.5% (90.01% to 95%) and 7% (95.01% to 100%) only.

8. *Removal of welding surcharge.*

Reasons for proposed changes:

Since the low power factor of the consumer is checked by the existing power factor surcharge, it is proposed to withdraw the welding surcharge being imposed on the consumers separately for the same purpose.

9. *Delayed Payment Surcharge to be calculated on current demand only i.e. excluding arrears.*

Reasons for proposed changes

For avoiding dissatisfaction amongst consumers, due to compounding effect on surcharge on arrears along with current bill, It is proposed that the surcharge on delayed payment will be calculated on the current Bill Amount only i.e. Excluding Arrears

10. *Urban and Rural Bifurcation to be removed*

Reasons for proposed changes

The Discoms, in present scenario, are providing 24 hours supply to both Urban & Rural area. Thus in view of equal supply hours in both urban and rural areas the Licensees proposes to remove the Urban and Rural tariff bifurcation and to apply a common tariff for both Urban and Rural Areas so as to annihilate the complexity in tariff structure.

11. *All Temporary connection at 1.25 times normal tariff of respective category*

Reasons for proposed changes

In order to rationalize the tariff categories, it is proposed that if a consumer demands a temporary connection in a certain category of LV, then the Fixed Charge and Energy Charge for temporary supply shall be billed at 1.25 times the normal charges as applicable to respective category throughout LV structure.

12. Rationalization of Slabs in Domestic Unmetered category for up to 500 Watts

Reasons for proposed changes

It is stated that load verification/ physical verification of unmetered connection is required for billing purpose in this category which creates unnecessary confusion, so a single slab for all unmetered connections is proposed in domestic category. It may also be noted that as per the Saral bill Yojna, consumer have to pay only INR 200, so the impact of load is negligible.

13. Rationalization of Slabs in Non- Domestic Category

Reasons for proposed changes

To reduce the complexity in tariff structure and to reduce the no of enforcement cases for checking the consumer's premises for connected load which causes consumer dissatisfaction it is proposed that the no of slabs in non-domestic category be reduced to 2 slabs i.e. sanction load based tariff up to 2kw and demand based tariff above 2 KW

14. Merger of Slabs in existing LV-3 Public Water Works & Street light category

Reasons for proposed changes

To reduce the complexity in tariff structure it is proposed that a single tariff for both fixed and energy charge be applicable to both Public water works and Street Light as it already have a same tariff structure.

15. Paperless bills to consumers of Discoms:

In order to ensure timely and proper delivery of Bills along with the commitment to reduce the carbon footprint, the East Discoms has proposed to deliver the consumer bills through electronic medium like email, whatsapp etc. after obtaining the consent of the interested consumers

16. Inclusion of irrigation for fodder farming in fields associated to Gaushalas in LV-5.1 & LV-5.4 Agricultural tariff.

A13: SIMPLIFICATION IN TARIFF STRUCTURES FOR ELECTRICITY CONSUMERS IN MP

- 13.1 The State of Madhya Pradesh has a very elaborate tariff structure, with tariff categories and slabs defined for various segments of consumers. These have been developed over the years taking into account the socio-economic profile of the state, consumption patterns, etc. Multiple sub-categories and slabs in each tariff category make the tariff structure highly complex and difficult for the consumer to understand. A comparison with other states with a similar socio-economic and consumer profile shows that Madhya Pradesh has high number of electricity tariff categories, sub-categories and slabs.
- 13.2 Even the Economic Survey of India for FY 2015-16 notes the following key points regarding electricity tariffs:
- *“Complexity of tariff schedules prevents economic factors from responding sufficiently to price signals”*
 - *“Average tariffs in some cases are set below the average cost of supplying electricity”*
 - *“High industrial tariffs and variable quality of electricity adversely affects ‘Make in India’”*
- 13.3 The survey also notes looking at typical tariff structures that the existence of separate and multiple tariff categories, sub-categories and slabs create a complexity which may prevent consumers from fully responding to tariffs due to the high cost of processing the price information.

With this context, the power Distribution companies of Madhya Pradesh desire to reduce the number of tariff categories, sub-categories and energy slabs, i) to simplify the existing tariff structure, ii) bring in a progressive tariff structure that helps promote efficiency, and iii) rationalise tariffs for the ease of consumers in the State.

- 13.4 Currently, there are 18 categories/sub categories. After Tariff simplification, 11 Categories/sub categories is expected to exist. Some of the key objectives of the new tariff structure design include:
- Ensuring that an adequate balance is maintained between the interest of consumers and the distribution utility,
 - Enabling consumers to efficiently and effectively plan their expenditure on electricity
 - Ensuring that tariffs progressively reflect the prudent and efficient cost of supply to the consumers, and
 - Incentivising the consumer for efficient utilisation of electricity.

13.5 The Discoms have followed the given below key guiding principles for proposing the new tariff structure and tariffs, which they wish to introduce in the ensuing financial year viz. FY 2019-20.

- Merging or elimination of category / sub-category has been done based on relevance, whether the categorisation is still valid in the current scenario;
- Ensure that each major tariff category has a maximum of 3-4 energy slabs to maintain simplicity of structure;
- Unmetered tariff category to be phased out with the large metering drives that the Discoms are planning to undertake over the next twelve to eighteen months;

13.6 Based on the above, the new tariff structures proposed are as under:

1. Removal of Separate Urban-Rural Tariff for all LT Categories

Monthly fixed charge and energy charge is separate for both Urban & Rural area. Discom is providing 24 hours supply to both Urban & Rural as of today and so having separate tariff for both Urban and Rural Consumers creates unnecessary complexity in tariff structure. So it is proposed the common tariff for both Rural & Urban area.

2. Domestic Un-metered Category:

Rationalization of tariff slabs in Domestic unmetered category for upto 500 watts. As load verification/ physical verification of various unmetered connection is required for billing purpose in this category which creates unnecessary confusion. So it is proposed to rationalize to one slab.

The revised tariff structure is proposed below:

Slabs as per Tariff Order	Proposed
Un-metered connection in Rural area having connected load more than 300 watt and up to 500 watt	Un-metered connection having connected load up to 500 watt
Un-metered connection in Rural area having connected load more than 200 watt and up to 300 watt (With two rooms and having television)	Fixed Charge: 75 per connection as fixed charge
Un-metered connection in Rural area having connected load up to 200 watt (Up to two rooms and without television)	Energy Charge: 400 paisa per unit.

3. Non-Domestic:

Merging of sub-category LV2.1 and LV 2.2, as Energy rate is same for both LV2.1 & LV 2.2.

Rationalization of slabs in Non-domestic category is introduced to reduce the complexity in tariff structure and to reduce the no of enforcement cases for checking the consumer's premises for connected load, which causes consumer dissatisfaction.

It is proposed that also the no of slabs in non-domestic category be reduced to 2 slabs i.e. sanction load based tariff up to 2kw and demand based tariff above 2 KW.

Slabs as per Tariff Order		Proposed
LV 2.1	Sanctioned load based tariff (only for connected load up to 10KW)	Sanctioned load based tariff (only for connected load up to 2KW)
	Mandatory Demand Based Tariff for contract demand above 10 kW	
	On all units if monthly consumption is not more than 50 units	
	On all units in case monthly consumption exceeds 50 units	
	Mandatory Demand based tariff: For contract demand above 10 KW	
	Temporary connections including Multi point temporary connection at LT for Mela *	
	Temporary connection for marriage purposes at marriage gardens or marriage halls or any other premises covered under LV 2.1 and 2.2 categories	
	For X-Ray plant	
	Single Phase	
	Three Phase	
	Dental X-ray machine	

4. Public Water Works & Street Lights

The tariff LV-3 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 and 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.

To reduce the complexity in tariff structure it is proposed that a single tariff for both fixed and energy charge be applicable to both Public water works and Street Light as it already have a same tariff structure.

Slabs as per Tariff Order	Proposed
LV 3.1 Public Water Works	LV 3 Public Water Works & Street Lights
Municipal Corporation/ Cantonment board	
Municipality/ Nagar Parishad	
Gram Panchayat	
Temporary supply	
LV 3.2 Street light	
Municipal Corporation/ Cantonment board	
Municipality/ Nagar Parishad	
Gram Panchayat	

5. LT Industrial

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.)

Seasonal variations is to be abolished as less no. of beneficiaries in this category.

Terms & Conditions of LT Tariff

The foregoing tariffs are subject to the following conditions:

6. Rebate for prompt payment

In order to give impetus to prompt payment by the consumers the current rebate of 0.25% is proposed to be increased to 0.50%. Further the existing clause 7b of the “General terms and conditions for LT Tariff” in respect of prompt payment incentive has been proposed to be modified so as to cover LT consumers where the current monthly billing amount is equal to or greater than Rs. 10000/- . These changes have been incorporated to attract more consumers for making prompt payments and early realisation of licensee’s revenue.

7. Delayed Payment Surcharge

For avoiding dissatisfaction amongst consumers, due to compounding effect on surcharge on arrears along with current bill, It is proposed that the surcharge on delayed payment will be calculated on the current Bill Amount only i.e. Excluding Arrears.

8. Reduction in the slabs of power factor Incentive

To reduce the complexity of the Tariff, It is proposed that the Range of Power Factor Incentive 05% to 10% at different power factor to be reduced to three slabs – 2% (85.01%-90%), 3.5% (90.01% to 95%) and 7% (95.01% to 100%) only.

9. Removal of Welding surcharge

Since the low power factor of the consumer is checked by the existing power factor surcharge, it is proposed to withdraw the welding surcharge being imposed on the consumers separately for the same purpose.

A14: VOLTAGE WISE COST OF SUPPLY

14.1 Commissions Directives

- 14.1.1 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.
- 14.1.2 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.
- 14.1.3 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.

14.2 Voltage-wise Losses

- 14.2.1 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.
- 14.2.2 Determination of voltage-wise losses would require detailed technical studies of the Distribution network of the three Discoms. 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.

14.3 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

14.2.3 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.

14.4 Calculation

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

Table 143: Cost of Supply Calculation for MP State for FY20

Sr. No	Particulars	UoM	EHT System (400 kV, 220 kV & 132 kV)	33 KV System	11 KV + LT System	Total
A	MP State					
1	Sales	MUs	4,441	7,417	44,078	55,936
2	Loss %	%	4.55%	5.89%	14.00%	20.06%
3	Energy Input	MUs	4,652	8,257	57,058	69,968
4	Energy Lost (Technical upto 33 kV voltage & 11 kV +LT technical and Commercial)	MUs	212	840	12,980	
5	Commercial Loss assumed as 50% of 11 kV and LT overall losses	MUs			6,490	
6	Balance 50% Commercial loss for all voltage in proportion to Sales	MUs	515	861	5,114	
7	Net Energy Input	MUs	5,168	9,118	55,683	69,968
8	Power Purchase Costs - allocated based on voltage-wise losses	Rs Cr	1,968	3,472	21,203	26,643
9	Other costs - allocated based on voltage-wise sales	Rs Cr	934	1,559	9,267	11,760
10	Less: Other income - allocated based on voltage-wise sales	Rs Cr	19	32	189	240
11	Total Costs (ARR requirement)	Rs Cr	2,882	4,999	30,281	38,163
12	Average Cost of Supply	Rs/kWh	6.49	6.74	6.87	6.82

Table 144: Cost of Supply Calculation for East Discom for FY20

Sr. No	Particulars	UoM	EHT System (400 kV, 220 kV & 132 kV)	33 KV System	11 KV + LT System	Total
A	East Discom					
1	Sales	MUs	1,840	1,495	14,366	17,701
2	Loss %	%	4.56%	6.62%	12.65%	19.79%
3	Energy Input	MUs	1,927	1,678	18,464	22,070
4	Energy Lost (Technical upto 33 kV voltage & 11 kV +LT technical and Commercial)	MUs	88	183	4,098	
5	Commercial Loss assumed as 50% of 11 kV and LT overall losses	MUs			2,049	
6	Balance 50% Commercial loss for all voltage in proportion to Sales	MUs	213	173	1,663	

Sr. No	Particulars	UoM	EHT System (400 kV, 220 kV & 132 kV)	33 KV System	11 KV + LT System	Total
7	Net Energy Input	MUs	2,140	1,851	18,078	22,070
8	Power Purchase Costs - allocated based on voltage-wise losses	Rs Cr	802	693	6,770	8,265
9	Other costs including true up adjustment - allocated based on voltage-wise sales	Rs Cr	374	304	2,917	3,594
10	Less: Other income - allocated based on voltage-wise sales	Rs Cr	11	9	84	103
11	Total Costs (ARR requirement)	Rs Cr	1,164	988	9,604	11,756
12	Average Cost of Supply	Rs/kWh	6.33	6.61	6.68	6.64

Table 145: Cost of Supply Calculation for Central Discom for FY20

Sr. No	Particulars	UoM	EHT System (400 kV, 220 kV & 132 kV)	33 KV System	11 KV + LT System	Total
A	Central Discom					
1	Sales	MUs	1,426	2,285	13,015	16,725
2	Loss %	%	4.56%	6.09%	14.51%	20.92%
3	Energy Input	MUs	1,494	2,549	17,107	21,150
4	Energy Lost (Technical upto 33 kV voltage & 11 kV +LT technical and Commercial)	MUs	68	264	4,093	
5	Commercial Loss assumed as 50% of 11 kV and LT overall losses	MUs			2,046	
6	Balance 50% Commercial loss for all voltage in proportion to Sales	MUs	174	280	1,592	
7	Net Energy Input	MUs	1,668	2,829	16,653	21,150
8	Power Purchase Costs - allocated based on voltage-wise losses	Rs Cr	621	1,052	6,196	7,869
9	Other costs - allocated based on voltage-wise sales	Rs Cr	353	566	3,222	4,141
10	Less: Other income - allocated based on voltage-wise sales	Rs Cr	6	9	51	66
11	Total Costs (ARR requirement)	Rs Cr	968	1,609	9,366	11,943
12	Average Cost of Supply	Rs/kWh	6.79	7.04	7.20	7.14

Table 146: Cost of Supply Calculation for West Discom for FY20

Sr. No	Particulars	UoM	EHT System (400 kV, 220 kV & 132 kV)	33 KV System	11 KV + LT System	Total
A	West Discom					
1	Sales	MUs	1,175	3,637	16,697	21,509
2	Loss %	%	4.54%	5.47%	13.87%	19.59%
3	Energy Input	MUs	1,231	4,030	21,487	26,748
4	Energy Lost (Technical upto 33 kV voltage & 11 kV +LT technical and Commercial)	MUs	56	393	4,790	
5	Commercial Loss assumed as 50% of 11 kV and LT overall losses	MUs			2,395	
6	Balance 50% Commercial loss for all voltage in proportion to Sales	MUs	131	405	1,859	
7	Net Energy Input	MUs	1,362	4,435	20,951	26,748
8	Power Purchase Costs - allocated based on voltage-wise losses	Rs Cr	535	1,742	8,232	10,509
9	Other costs - allocated based on voltage-wise sales	Rs Cr	220	681	3,125	4,025
10	Less: Other income - allocated based on voltage-wise sales	Rs Cr	4	12	55	71
11	Total Costs (ARR requirement)	Rs Cr	751	2,411	11,301	14,463
12	Average Cost of Supply	Rs/kWh	6.39	6.63	6.77	6.72

A15: CROSS SUBSIDY SURCHARGE AND ADDITIONALS SURCHARGE

15.1 Cross Subsidy Surcharge

- 15.1.1 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 2.83 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.
- 15.1.2 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.
- 15.1.3 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.

15.2 Additional Surcharge

- 15.2.1 The Licensees submit that the National Tariff Policy 2016 also provides for the determination of additional surcharge to be levied from consumers who are permitted open access.
- 15.2.2 The Petitioners would like to submit that financial position of the Discoms 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.
- 15.2.3 The Petitioner would further 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.

15.2.4 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 2017 to August 2018.

15.2.5 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 147: Additional Surcharge for FY 2019-20

Sr.	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-17	582.27	542.27	40.00	1.73	1.95	3.36
2	Oct-17	625.61	595.34	30.27	1.31	2.42	3.18
3	Nov-17	629.52	590.20	39.32	0.70	2.71	1.90
4	Dec-17	687.19	609.35	77.84	0.86	2.13	1.83
5	Jan-18	705.24	633.47	71.76	1.02	2.85	2.91
6	Feb-18	632.14	544.77	87.38	1.31	3.41	4.46
7	Mar-18	703.18	637.64	65.54	1.41	3.06	4.30
8	Apr-18	697.04	632.75	64.29	1.23	2.77	3.40
9	May-18	674.50	631.23	43.27	1.45	3.07	4.43
10	Jun-18	729.85	621.06	108.79	1.14	2.55	2.91
11	Jul-18	648.03	589.03	58.99	1.51	3.16	4.78
12	Aug-18	684.06	607.53	76.53	1.39	2.38	3.31
Total		7998.63	7234.66	763.97		32.46	40.79
Additional Surcharge on OA Consumers (Rs./Unit) = (8/7)							1.26

15.2.6 The Petitioner has thus determined the additional surcharge of Rs 1.26 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.

A16: MANNER OF BILLING OF NET METERED CONSUMERS

16.1 As per MPERC (Grid Connected Net Metering) Regulations 2015 notified on 14th October 2015 and amendments issued therein, net metering facility has to be made available to Consumers. To incorporate the provisions of Net Metering Regulations for giving credit of energy through billing software, procedure for same is required to be incorporated in the Tariff Order, so that the same can be uniformly applied in all the three Discoms of MP.

The following process needs to be followed:

- i. Manner of billing of fixed charges to the net metered domestic Consumer.
- ii. Applicable slab / Tariff for billing of net import units to the net metered consumer.
- iii. Applicability of subsidy.

The detailed explanations of some of the key points are explained below:

16.2 Manner of billing of fixed charges to the net metered domestic Consumer:

As per the Tariff Order for FY 2018-19, the authorized load of Domestic consumer is required to be calculated based on the units consumed i.e. 15 units treated as 0.1 kW of authorized load. Therefore for levy of fixed charges, connected load should be calculated based on the total energy imported from grid by net metering consumer. An illustration clarifying above is given below:-

Table 148: Computation of Authorized load for a net metered domestic Consumer

Sr. no.	Month	Import	Export	Net Read (+Import / -Export)	Authorized Load (in kW)
A	B	C	D	E	F
1	April	95	100	-5	0.70
2	May	215	200	15	1.50
3	June	315	300	15	2.10
4	July	395	400	-5	2.70
5	August	530	100	430	3.60
6	September	650	200	450	4.40
7	October	725	300	425	4.90
8	November	400	400	0	2.70
9	December	100	500	-400	0.70
10	January	1045	1500	-455	7.00
11	February	1132	200	935	7.60
12	March	400	800	-400	2.70

In the above table, authorized load should only be calculated based on total drawl of power from the grid without any netting of injected units.

16.3 Applicable slab/Tariff for billing of net import:

In the tariff order, for the purpose of billing, different slabs are provided based on the consumption pattern of consumer. For example in case LV-1.2 category following slabs are prescribed in the tariff order of FY 2017-18:

Monthly Consumption Slab(units)	Energy Charge with telescopic benefit (paisa per unit) Urban/ Rural areas	Monthly Fixed Charge (Rs)	
		Urban areas	Rural areas
Up to 50 units	385	50 per connection	35 per connection
51 to 100 units	470	90 per connection	65 per connection
101 to 300 units	600	20 for each 0.1 kW of authorized load	17 for each 0.1 kW of authorized load
Above 300 units	630	22 for each 0.1 kW of authorized	21 for each 0.1kW of authorized

In the scenario of net metering, only net units (net of import & export units) are required to be billed to the consumer. Therefore in view of different slabs with telescopic benefit, it is decided that netting of import & export units shall also be done slab wise and remaining units shall be billed in the respective higher slab. An illustration clarifying above is given below:-

Sr. no.	Month	Import	Export	Net Read (3-4)	Billed units	Up to 50 Units	51-100 Units	101-300 Units	Above 300 Units
1	2	3	4	5	6	7	8	9	10
1	April	95	100	-5	0	0	0	0	0
2	May	215	200	15	10			10	
3	June	315	300	15	15				15
4	July	395	400	-5	0	0	0	0	0
5	August	530	100	430	425			200	225
6	September	650	200	450	450			100	350
7	October	725	300	425	425				425
8	November	400	400	0	0	0	0	0	0
9	December	100	500	-400	0	0	0	0	0
10	January	1045	1500	-455	0	0	0	0	0
11	February	1132	200	932	77 (932-855)				77
12	March	400	800	-400	(-) 400*APPC	0	0	0	0

APPC → Average Power Purchase Cost

16.4 Applicability of subsidy :

Government of Madhya Pradesh (GoMP) is providing subsidy to various type of consumers as per order No 6794/F-5-15/2011/THIRTEEN dated 1st Sept'2018. In case of domestic consumers having consumption up to 50 units, a subsidy of Rs. 0.20 per unit in the energy charges is being provided to the consumers. Since this subsidy is based on the consumption units, it is decided that eligibility of subsidy shall be considered based on the import units from grid instead of net billed units. An illustration clarifying above is given below:-

Sr. no.	Month	Import	Export	Net Read (Import-Export)	Billed units	Remark
1	April	40	20	20	20	Subsidy shall be available, as import from Discom is less than 50.
2	May	215	200	15	15	Although net billed units are less than 50, subsidy shall not be given to the consumer because consumption of consumer from Discom is more than 50 units.

Subsidy should therefore only be triggered when the actual drawl of the consumer from Discom (without any netting of energy injected by the consumer) exceeds the threshold limit of consumption on which subsidy becomes eligible and it should only be worked out on net energy billed.

A17: TERMINAL BENEFITS (PENSION, GRATUITY AND LEAVE ENCASHMENT) PROVISION

- 17.1 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.
- 17.2 According to actuarial valuation the liability as on 31st March 2009 for the three Discoms 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 149: 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 2017-18 to FY 2019-20 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 150: Calculation of Terminal Benefits Provisions (Rs. Crores)

Particular	East Discom				West Discom				Central Discom				MP State			
	Pension	Gratuity	Leave Enc. Enc.	Total	Pension	Gratuity	Leave Enc.	Total	Pension	Gratuity	Leave Enc.	Total	Pension	Gratuity	Leave Enc.	Total
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

Particular	East Discom				West Discom				Central Discom				MP State			
	Pension	Gratuity	Leave Enc.	Total	Pension	Gratuity	Leave Enc.	Total	Pension	Gratuity	Leave Enc.	Total	Pension	Gratuity	Leave Enc.	Total
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
Provision as on 31.03.2019	2,406	503	105	3,014	1,767	397	179	2,343	2,083	379	103	2,565	6,347	1,287	311	7,945
Discount @7%	168	35	7	211	124	28	13	164	146	27	7	180	444	90	22	556
Current Service cost	269	57	9	334	263	61	8	331	233	53	6	292	764	170	23	957
Total Provision for FY 20	2,843	594	121	3,559	2,154	485	200	2,839	2,462	458	116	3,036	7,555	1,547	356	9,459

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 estimated to have been accumulated till FY 2017. However the Discoms were not able to contribute the same due to scarcity of funds. 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 2018-19 and FY 2019-20.

Table 151: 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	91	25	39	313	800	173	31	1,005
2017-18	324	71	13	408	287	65	11	363	87	25	38	349	892	194	34	1,120
2018-19	390	86	15	490	349	79	13	441	343	78	18	420	1,076	235	41	1,351
Total up to 2019	2,406	503	105	2,668	1,857	406	103	1,937	1,486	333	163	2,347	6,347	1,287	311	6,952
2019-20	437	91.7586	16.1716	545	378	79.1694	13.443	471	387	88	20	497	1,209	260	44.4809	1,513
Total Up to 2020	2,843	594.38	121.471	3,213	2,462	458.11	116.426	2,818	1,873	421	184	2,434	7,555	1,547	355.799	8,465

A18: POWER PURCHASE COST ADJUSTMENT (PPCA)

- 18.1 Hon'ble Commission in its Tariff Order for FY-19 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.
- 18.2 The petitioners in their ARR & Tariff petitions of past few years are regularly submitting that the existing calculation mechanism and FCA formula as provided by the Commission does not covers the recovery of incremental power purchase, which is due to other factors other than increase in fuel costs. These factors 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.
- 18.3 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.
- 18.4 The Commission however on the analysis of the same has come out with the following formula for recovery 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:

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

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.

- 18.5 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 kind consideration of Hon'ble Commission:

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

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

- 18.6 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”.
- 18.7 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. It is proposed that M.P. Power management Co. Ltd., Jabalpur shall be working out the rate of PPCA every quarter and shall be submitting the same to Hon’ble Commission for its approval.

- 18.8 The petitioners also proposes that 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.
- 18.9 Further, 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.
- 18.10 Thus the 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.
- 18.11 After reviewing the details submitted by the M.P. Power management Co. Ltd. Jabalpur, if the Commission finds 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.
- 18.12 Consequent to the approval of Hon’ble Commission 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.

A19: COMPLIANCE OF DIRECTIVES

The response of Discoms on the directives issued by Hon'ble Commission in the Retail Supply Tariff Order for FY 2018-19 is given below:

19.1 Meterization of Unmetered Connections

Commission's Directive:

Commission has observed that the progress of the DISCOMs regarding DTR Meterization for the year 2017-18 is not satisfactory. To achieve 100% Meterization of pre-dominant Agricultural DTRs adhering to the timeline submitted to the Commission by the DISCOMs.

Petitioners Compliance to Directive:

East Discom Reply: The Compliance of directives has been submitted vide letter no EZ/CGM/COMM/TRAC/96 dated 08/01/2019. Absolute year depends up on the funding realization. The Discom will intimate the same to Hon'ble Commission.

Central Discom Reply: The Quarterly reports of meterization is being submitted to MPERC regularly. The meterization plan of Central Discom for agriculture predominant DTR and Rural DLF is as follows:-

Sr. no.	Particulars	Unit	Total	Balance for meterisation	Proposed Quarterly Plan for Meterisation					
					Dec.'18	Mar.'19	June'19	Sept.'19	Dec.'19	Mar.'20
1	Agriculture predominant DTR	No.	2,57,955	1,71,446	28500	28500	28500	28500	28500	28946
2	DLF Un-metered	No.	8,25,888	8,25,888	140000	140000	140000	140000	140000	125888

West Discom Reply:

The meterization of predominantly agricultural DTRs has already been incorporated in the Capex plan of the Discom and the same has already been submitted before Hon'ble commission. It involves an expenditure of around Rs 273 crores to complete the meterization of such DTRs. Discom would execute the work as per availability of financial assistance from appropriate agencies. During the meeting held in Hon'ble MPERC, Discom has raised concern over implementation of meterization of agriculture DTRs. Accordingly it was decided that a team comprising officers of Hon'ble MPERC, Discoms and MPPMCL may be deputed to visit other states such as West Bengal and Gujarat and based on feedback of the visit further methodology would be decided.

19.2 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: East Discom has got printed Tariff Booklets for FY 2018-19 and has arranged to provide the same to HT Consumers. For LT consumers' message regarding no hike in tariff for FY 2018-19 has been delivered in Hindi through consumer bill.

Central Discom Reply: The Petitioner hereby submits that information related to tariff of different categories for FY 2018-19 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 2018-19 was provided to the consumers. Further, tariff schedule booklets for all HT Consumers were provided to the consumers.

19.3 Accounting of Rebates/Incentives/Surcharges

Commission Directive:

To submit a comprehensive report to the Commission by 30th September 2018 including consumer wise and category wise increase/decrease in sales and revenue, for each rebate/incentives/surcharge with analysis of impact on consumer wise sales/revenue. A proper and meaningful information derived from the available data by using professional Data analytics should be submitted to the Commission.

Petitioner Compliance to Directive:

East Discom Reply: The Petitioner hereby submits that a comprehensive report on this issue has been submitted to the Hon'ble Commission vide letter no 2201 dated 29/12/2018.

Central Discom Reply: The petitioner submits that the report is under progress. This report would be submitted soon to the Hon'ble Commission.

West Discom Reply: The Petitioner hereby submits that a comprehensive report on this issue has been submitted to the Hon'ble Commission vide letter no MD/WZ/05/COM/TRAC/1452 dated 19/01/2019.

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

Commission Directive:

The Commission noted the submission of Discom's. The Commission directs the Discom's to submit the report on the subjected study by 30th Sep, 2018.

East Discom/ Central Discom / West Discom Reply: Detailed technical study of distribution network to ascertain the voltage wise cost of supply is associated with the study of segregation of technical and commercial losses. The study of Segregation of Technical and Commercial losses has been carried out by the consultant on the selected feeders proposed from each Discom's and a comprehensive report has prepared. The Central Discom has submitted the study report to the Hon'ble Commission, whereas the East and the West Discoms are analysing the data and shall be submitted the report shortly. Further, once the Commission approves the recommendations of the said report, a comprehensive study regarding ascertaining of voltage wise cost of supply will be taken by the Discoms.

19.5 Segregation of Technical and Commercial losses.

Commission Directive:

The Commission noted the submission of Discom's. The Commission directs the Discom's to submit the report on the subjected study by 30th Sep, 2018.

Petitioner Compliance to Directive:

East Discom Reply: The Petitioner hereby submits that a study has been carried out by the consultant on the selected feeders from each Discom's and a comprehensive report has prepared. The data of the said report is under the scrutiny of Discom and shall be submitted shortly to the Hon'ble Commission.

Central Discom Reply: The Petitioner hereby submits that a comprehensive report on this issue has been submitted to the Hon'ble Commission vide letter no.2007 dated 28/12/2018.

West Discom Reply: The Petitioner hereby submits that a study has been carried out by the consultant on the selected feeders from each Discom's and a comprehensive report has prepared. The data of the said report is under the scrutiny of Discom and shall be submitted shortly to the Hon'ble Commission.

Here it is noteworthy to mention that results in the report are based on sample feeder selected and these results may vary from the actual technical losses in the entire network of Discom on the account of following factors:-

- Length of the feeder
- Overloading of the feeder

- Power factor
- Conductor type
- DTR type
- Loading during season and off season of agricultural feeders

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

Commission Directive:

The report is not supported with the supporting data linked in excel sheets with system generated monthly MIS reports. Petitioners are therefore directed to submit the revised report as mentioned above latest by 15th July 2018.

Petitioner Compliance to Directive:

East Discom/ Central Discom / West Discom Reply: The Petitioner hereby submits that a comprehensive report on this issue duly linked with excel sheet has been submitted by MPPMCL to the Hon'ble Commission vide letter no CGM (RM)/COD TO FY-19/1027 dated 02/01/2019.

19.7 Transfer of Funds to Pension & Terminal Benefit Trust Fund

Commission Directive:

The Commission is not satisfied by the submission of the DISCOMs as the fund has been allowed for TBT which is a part of ARR admitted by the Commission for FY 2017-18 and therefore the petitioners need to submit a compliance report on transfer of funds to TBT in line with admitted ARR for 2017-18 latest by 30th September 2018.

Petitioner Compliance to Directive:

East Discom/Central Discom/West Discom Reply: The MP Vidyut Abhiyanta Sangh has filed a petition (13/2018) before the Commission. PMCL/Discom has filed its reply before Hon'ble Commission. The matter is under adjudication before Hon'ble MPERC.

19.8 Replacement of Stopped and Defective Meters

Commission Directive:

The Commission has notified the timeline for replacement of stopped and defective meters. However, it has been observed that number of stopped and defective meters is showing an increasing trend over the past few years thereby defeating the very objective of 100% Meterization as emphasized by the Commission. Hence, the Commission directs the Licensees to Carry out the age-wise analysis of stopped and defective meters and submit an action plan for replacement to the Commission by 31st July, 2018. The Commission has observed

that many feeder meters are also lying defective which needs immediate replacement for proper energy audit/accounting.

Petitioner Compliance to Directive:

East Discom Reply:

The petitioner hereby submits that the 61,917 stopped/defective meters replaced under IPDS scheme till November'18 and 1,48,133 stopped/defective meters attended departmentally from Nov'18 to Dec'18.

The Discom is working on meterization plan approved by Energy Department GoMP on dated 3.11.2018 . As per this plan 100% meterization have to be achieved by March'2020.

Central Discom Reply:

The petitioner submits that the status of Stop defective meters as on Sept.2018 & action plan for replacement thereof is as follows:-

Consumers with defective meters as on Sept' 2018	Proposed Meterization Plan						
	Nov-Dec'18	Jan-Mar'19	Apr-Jun'19	Jul - Sep'19	Oct-Dec'19	Jan-Mar'20	Total
238015	39798	39774	39618	39618	39618	39589	238015

The Status of Energy Audit Metering at 33/11 KV levels as on Sept.2018 is tabulated below:

S.No.	Particulars	33KV Feeders	11KV Feeder
1	No. of feeders (Points)	1911	5239
2	No. of feeders which are provided with energy audit metering	1911	5239
3	Out of Sr.No.2 above, the no. of feeders where energy audit meters are lying defective	2*	42*
4	No. of feeders on which energy audit meters are yet to be provided	0	0

West Discom Reply:

The petitioner hereby submits that the replacement of Stopped/defective meters is a continuous process. 40,800 stopped/defective meters has been replace upto sept 2018. The Discom has prepared comprehensive meterization plan and working on the same.

19.9 Capital Expenditure and Capitalisation details

Commission Directive:

Petitioners are directed to prepare and submit asset register to the Commission by next tariff filing and re-submit Capital expenditure and capitalization details in the format reconciled with the Audited Accounts.

Petitioner Compliance to Directive:

East Discom Reply:

The Petitioner hereby submits that the Capital expenditure and Capitalisation details has been submitted to the Hon'ble Commission vide EZ letter no.1300 dtd 23.07.2018.

Asset register in notepad format has been submitted to the Commission on dated 15.03.2018 during the meeting conducted by the Commission at Bhopal regarding GFA issue w.r.t. filling of ARR of FY 2018-19. The Commission vide email dated 22.10.2018 has directed to provide asset register in Excel Format, development of same is under progress and will be submitted to the Commission on completion.

Central Discom Reply:

The Discom submits that the asset register in Central Discom is maintained at a Division Level. As the ERP for Central Discom is still under implementation, the Discom requests Hon'ble Commission for time extension.

West Discom Reply:

Assets Register generated via ERP System of the Company showing full details of Assets according to assets class wise duly tallied with Audited Account up to FY 2016-17 has already been submitted to the Hon'ble Commission at the time of ARR of 2018-19.

The Assets register up to FY 2017-18 shall be submitted as per the instructions of Hon'ble Commission.

With regard to scheme wise detail of capital expenditure it is submitted that such bifurcated scheme wise detail is not available in the audited accounts.

However, the format in which hon'ble Commission has desired assets register shall be submitted in further course of time and for this the Board of Directors of the Company has also directed Civil and works sections of company to make initially it on pilot basis of one circle. Thus, the preparation of Assets Register in the format of Hon'ble Commission is in process.

TARIFF SCHEDULES

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. 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)	Existing		Proposed	
	Energy Charge (paisa per unit) Urban & Rural	Monthly Fixed Charge	Energy Charge (paisa per unit)	Monthly Fixed Charge
	Urban and Rural			
Up to 30 units	310	NIL	320	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)	Existing		Proposed	
	Energy Charge with telescopic benefit (paisa per unit)	Monthly Fixed Charge (Rs)	Energy Charge with telescopic benefit (paisa per unit)	Monthly Fixed Charge (Rs)
Urban / Rural areas	Urban areas	Rural areas		
Up to 50 units	385	50 per connection	35 per connection	410
51 to 100 units	470	90 per connection	65 per connection	515
101 to 300 units	600	20 for each 0.1 kW of authorized load	17 for each 0.1 kW of authorized load	660
Above 300 units	630	22 for each 0.1 kW of authorized load	21 for each 0.1 kW of authorized load	680

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

Note: The fixed charges shall be levied considering every 15 units of consumption per month or part thereof equal to 0.1 kW of load. **Example:** If consumption during the month is 125 units, then the fixed charges shall be levied for 0.9 kW. In case the consumption is 350 units then the fixed charges shall be levied for 2.4 kW.

Minimum Charges: Rs. 1000/- per connection per month is applicable towards energy charges for temporary connection

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

Existing			Proposed		
Particulars	Units and Energy Charge to be billed per month for unmetered connections (Paise per Unit)	Monthly Fixed Charge (Rs)	Particulars	Units and Energy Charge to be billed per month for unmetered connections (Paise per Unit)	Monthly Fixed Charge (Rs)
Un-metered connection in Rural area having connected load more than 300 watt and up to 500 watt	75 units	75 per connection @ 430 per unit	Un-metered connection having connected load up to 500 watt	75 units	80 per connection @ 515 per unit
	@ 430 per unit				
Un-metered connection in Rural area having connected load more than 200 watt and up to 300 watt (With two rooms and having television)	60 units	50 per connection @ 417 per unit			
	@ 417 per unit				
Un-metered connection in Rural area having connected load up to 200 watt (Up to two rooms and without television)	50 units	45 per connection @ 310 per unit			
	@ 310 per unit				

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

Specific Terms and Conditions for LV-1 category:

- a) 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.
- b) In case of prepaid consumers, a rebate of 25 paise 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.

- c) Additional charge for Excess connected load or Excess demand: No extra charges are applicable on the energy/fixed charges due to the excess demand or excess connected load.
- d) In case of temporary requirement for renovation/upgradation of premises, additional load is allowed to be used from existing metered connection on the same tariff applicable for permanent connection. Provided that the total load is being used in the premises at a time should not exceed 130% of its sanctioned load.
- e) Other terms and conditions shall be as specified under General Terms and Conditions for Low Tension Tariff.

Tariff Schedule – LV-2

NON-DOMESTIC:

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, light, fan and power to Railways (for purposes other than traction and supply to Railway Colonies/water supply), Shops/showrooms, Parlors, All Offices, Hospitals and medical care facilities including Primary Health Centers, 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 which is not covered in other LV categories.

Tariff:

Tariff shall be as given in the following table:

Existing			Proposed		
Sub category	Energy Charge (paise/unit)	Monthly Fixed Charge (Rs.)	Sub category	Energy Charge (paise /unit)	Monthly Fixed Charge (Rs.)
	Urban/ Rural areas	Urban Area		LV 2	LV-2.1 Sanctioned load based tariff (only for connected load up to 2KW)
LV 2.1	Sanctioned load based tariff (only for connected load up to 10KW)	610	130 per kW	100 per kW	660
	Mandatory Demand Based Tariff for contract demand above 10 kW	610	240 per kW or 192 per kVA of billing demand	200 per kW or 160 per KVA of billing demand	
LV 2.2	On all units if monthly consumption is not more than 50 units	620	70 per kW	55 per kW	150 per kW
	On all units in case monthly consumption exceeds 50 units	740	115 per kW	100 per kW	

Mandatory Demand based tariff: For contract demand above 10 KW	640	260 per kW or 208 per KVA of billing demand	190 per kW or 152 per KVA of billing demand				
Temporary connections including Multi point temporary connection at LT for Mela *	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				
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)	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	LV-2.2 Demand Based Tariff Mandatory for contract demand above 2 kW	700	220 per kW or 152 per KVA of billing demand	
For X-Ray plant	Additional Fixed Charge (Rs. per machine per month)						
Single Phase	540						
Three Phase	760						
Dental X-ray machine	120						

Specific Terms and Conditions for LV-2 category:

- a) **Minimum consumption:** The consumer shall guarantee a minimum annual consumption of 180 units per kW 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) For LV-2.2: For the consumers having connected load in excess of 2 kW, demand based tariff is mandatory. The Distribution Licensee shall provide Trivector /Biverctor Meter capable of recording Demand in kVA/kW, kWh, kVAh.
- d) In case of prepaid consumers, a rebate of 25 paise 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.
- e) Other terms and conditions shall be as specified under General Terms and Conditions of Low Tension Tariff.

Tariff Schedule – LV-3

PUBLIC WATER WORKS AND STREET LIGHTS

Applicability:

The tariff **LV-3** 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 and 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.

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.

Tariff:

Existing				Proposed			
Category of consumers/area of applicability	Energy Charge	Monthly Fixed Charge	Minimum charges(Rs)	Category of consumers/area of applicability	Energy Charge	Monthly Fixed Charge	Minimum charges(Rs)
LV 3.1 Public Water Works	(Paise per unit)	(Rs per KW)		LV 3 Public Water Works & Street Lights	(Paise per unit)	(Rs per KW)	
Municipal Corporation/ Cantonment board	520	240	No minimum charges	Municipal Corporation/ Cantonment board / Municipality/ Nagar Parishad / Gram Panchayat	585	180	No minimum charges
Municipality/ Nagar Parishad	500	230					
Gram Panchayat	490	100					
Temporary supply	1.3 times the applicable tariff						
LV 3.2 Street light							
Municipal Corporation/ Cantonment board	520	350	No Minimum charges				
Municipality/ Nagar Parishad	500	320					
Gram Panchayat	490	100					

Specific Terms and Conditions for LV-3 category:

- a) Other terms and conditions shall be as specified under General Terms and Condition 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:

Sub Category	Category of consumers	Existing			Proposed		
		Monthly Fixed Charge (Rs.)		Energy Charge (paise per unit)	Sub Category	Monthly Fixed Charge (Rs.)	Energy Charge (paise per unit)
		Urban Areas	Rural Areas	Urban/Rural area			
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	630	LV 4 Industrial (Contract Demand up to 150HP / 112KW)	275 per kW or 220 per KVA of billing demand	705
4.1 b	Temporary connection	1.3 times of the applicable tariff					

* In case of consumers having contract demand up to 20 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 LV-4 Sub-category

Sub Category	Category of consumers	Existing			Proposed		
		Monthly Fixed Charge (Rs.)		Energy Charge (paise per unit)	Sub Category	Monthly Fixed Charge (Rs.)	Energy Charge (paise per unit)
		Urban Areas	Rural Areas	Urban / Rural area			
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.						
4.2a	During Season	Normal tariff as for Non seasonal consumers	Normal tariff as for Non seasonal Consumers	Normal tariff as for Non seasonal consumers		No tariff proposed in this category	

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	
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Specific Terms and Conditions for LV-4 category:

- (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:** Shall be as per following:
 - i. The consumer shall guarantee a minimum annual consumption (kWh) based on 180 units per HP or part thereof of contract demand irrespective of whether any energy is consumed or not during the year.
 - ii. The consumer shall be billed monthly minimum 15 units per HP per month in case the actual consumption is less than above specified units.
 - iii. Method of billing of minimum consumption shall be as given in the General Terms and Conditions of Low Tension tariff.
- (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.

Tariff Schedule – LV-5**AGRICULTURE AND ALLIED ACTIVITIES****Applicability:**

The tariff **LV-5.1** shall apply to connections for 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. This tariff shall also apply for irrigation in fodder farming in fields associated to Gaushalas.

The tariff **LV-5.2** shall apply to connections for nurseries, farms growing flowers/ plants/ saplings/ fruits, mushroom and grasslands.

The tariff **LV-5.3** 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- 5.4** 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. This tariff shall also apply for irrigation in fodder farming in fields associated to Gaushalas.

Tariff:

Existing				Proposed			
Sr. no.	Sub-Category	Monthly Fixed charges (Rs.)	Energy charges (Paise per unit)	Sr. no.	Sub-Category	Monthly Fixed charges (Rs.)	Energy charges (Paise per unit)
LV- 5.1				LV- 5.1			
a)(i)	First 300 units per month	35	430	a)(i)	First 300 units per month	40	470
(ii)	Above 300 units up to 750 units in the month	45	515	(ii)	Above 300 units up to 750 units in the month	45	580
(iii)	Rest of the units in the month	45	545				
b)	Temporary connections	45	559	(iii)	Rest of the units in the month	50	630
c)	DTR metered group consumers	NIL	390				
LV- 5.2				LV- 5.2			
a)(i)	First 300 units per month	35	430	a)(i)	First 300 units per month	40	470
(ii)	Above 300 units up to 750 units in the month	45	515	(ii)	Above 300 units up to 750 units in the month	45	580
(iii)	Rest of the units in the month	45	545				
b)	Temporary connections	45	559	(iii)	Rest of the units in the month	50	630
LV-5.3				LV-5.3			
a)	Up to 25 HP in urban areas	90 per HP	490	Sanctioned Load based Tariff			
				a)	Sanctioned Load / Connected Load Up to 25 HP	100 per HP	490

Existing				Proposed			
Sr. no.	Sub-Category	Monthly Fixed charges (Rs.)	Energy charges (Paise per unit)	Sr. no.	Sub-Category	Monthly Fixed charges (Rs.)	Energy charges (Paise per unit)
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	b)	Demand based Tariff		
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		Contract demand up to 150 HP. Mandatory for Sanctioned Load or Connected Load above 25 HP	160 per kW or 128 per kVA of billing demand	620
LV 5.4				LV 5.4			
	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		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
a)	Three phase- urban	700	700	a)	Three phase	700	700
b)	Three phase- rural	700	700				
c)	Single phase urban	700	700	b)	Single phase	700	700
d)	Single phase rural	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 as per consumption recorded in the meter. Existing unmetered consumers may be billed as per flat rate till meters are installed. Discoms must ensure that meters on all such connections are installed by 31st March, 2020.

Specific Terms and Conditions for LV-5 category:

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 5.4:

Rates payable by the consumer under tariff schedule LV 5.4 are exclusive of subsidy. The bill for the consumer covered under the tariff schedule LV 5.4 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. Energy Department GoMP vide letter No.F 05-15/2011/13 dated

14.3.2018 has conveyed that the flat rate agriculture consumers will continue to pay Rs 1400/- per HP per annum in two six monthly instalments. The state government would pay subsidy to the Discoms for the difference of applicable tariff for this category and bill payable by the flat rate consumers. The matter regarding subsidy due to revised norms was also discussed with the Principal Secretary Energy Department and flat rate consumers shall continue to pay Rs 1400 per HP per annum after revision of the normative units.

1.3 Basis of energy audit and accounting for categories LV 5.1 and LV 5.4:

- i) For energy audit and accounting purposes, actual billed consumption of metered consumers covered under tariff schedule LV-5.1 and LV-5.4 shall be considered.
- ii) For unmetered agriculture consumers under LV-5.4 category, assessed consumption shall be as per following norms:

Particulars	No. of units per HP of sanctioned load per month	
	Urban/Rural Area	
Type of Pump/Motor	April to Sept	Oct to March
Three Phase	95	170
Single Phase	95	180

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

Particulars	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 Minimum consumption

- (i) **For Metered agricultural consumers (LV-5.1 and LV-5.2):** 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-5.3) :**

- a) The consumer will guarantee a minimum annual consumption (kWh) based on 180 units/HP or part thereof of contract demand irrespective of whether any energy is consumed or not during the year.
- b) The consumer shall be billed monthly minimum 15 units per HP per month in case the actual consumption is less than monthly minimum consumption (kWh).
- c) **Method of billing of minimum consumption** shall be as given in the General Terms and Conditions of Low Tension Tariff.

- 1.6 **Additional Charge for Excess Demand:** Shall be billed as given in the General Terms and Conditions of Low Tension Tariff.
- 1.7 **Delayed payment surcharge** in case of agriculture consumers on LV - 5.4 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.
- 1.8 One CFL/ LED lamp up to 20W is permitted at or near the pump in the power circuit.
- 1.9 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.
- 1.10 Other terms and conditions shall be as specified under General Terms and Conditions of Low Tension Tariff.

Tariff Schedule - LV-6

E- VEHICLE / E-RICKSHAWS CHARGING STATIONS

Applicability:

The tariff is applicable exclusively for Electric Vehicle / Electric Rickshaws charging stations. However, tariff for other consumers who use electricity for charging their own Vehicle / Rickshaws shall be the same as applicable for the relevant category of metered connection from which the Vehicle / Rickshaws are being charged.

Tariff:

Category	Existing		Proposed	
	Monthly Fixed Charges	Energy Charge (Paise/unit)	Monthly Fixed Charges	Energy Charge (Paise/unit)
Electric Vehicle/ Rickshaw charging installations	Rs 100 per kVA or 125 per kW of Billing Demand	600	Rs 100 per kVA or 125 per kW of Billing Demand	600

Specific Terms and Conditions for LV-6 category:

- (a) **Additional Charge for Excess demand:** Shall be billed as given in General Terms and Conditions of Low Tension tariff.
- (b) For the consumers in this category, demand based tariff is mandatory. The Distribution Licensee shall provide Trivector /Biverctor Meter capable of recording Demand in kVA/kW, kWh, kVAh.
- (c) 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 consumers horticulture activity - LV 5.1 and LV 5.2:** 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 120% of the contract demand, the tariff in this schedule shall apply to the extent of 120% of the contract demand only. The consumer shall be charged for demand recorded in excess of 120% of contract demand (termed as Excess Demand) 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 Demand:** These charges shall be billed as per following:
 - 1. **Fixed Charges for Excess Demand when the recorded maximum demand is up to 120% of the contract demand:** Fixed Charges for Excess Demand up to 20 % of contract demand shall be charged at normal rate of Fixed Charges.
 - 2. **Fixed Charges for Excess Demand when the recorded maximum demand exceeds 120% of contract demand:** Fixed Charges for recorded demand over and above 20 % 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 120%

the sanctioned load, the tariff in this schedule shall apply to the extent of 120 % of the sanctioned load only. The consumer shall be charged for the connected load found in excess of 120% 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 120% of the sanctioned load:** Fixed Charges for Excess load up to 20 % of sanctioned load shall be charged at normal rate of Fixed Charges.
 2. **Fixed Charges for Excess load when the connected load exceeds 130% of sanctioned load:** Fixed Charges for connected load found over and above 20 % 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.
- d) 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.
- e) In case it is found that the actual recorded maximum demand or connected load, as the case may be, of an LT consumers exceeds maximum permissible contract demand or sanctioned load as per supply code 2013, as amended from time to time, the billing shall be done according to the applicable LT tariff, with additional charge for excess connected load or excess demand calculated in accordance with above clause a or b. Further in such case provisions of clause 8 (a) of the other terms and conditions of LT Tariff shall also be applicable.

7. Incentives/Rebates:

- (a) **Incentive for prompt payment:** An incentive for prompt payment @0.5% of the bill amount (excluding arrears, security deposit, meter rent, any subsidy given by the government 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.

10,000/- (Rs Ten thousand only). The consumers in arrears shall not be entitled for this incentive.

- (b) **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 net rebate will be provided after deducting the applicable gateway charges payable to the PSP.

(c) 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 85.01% up to 90%	2%
Above 90.01% up to 95%	3.5%
Above 95.01% up to 100%	7%

For this purpose, the “average monthly power factor” is defined as the ratio in percentage of total kilowatthours to the total kilovoltampere hours recorded during the 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.

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 two occasions in two billing months during the tariff period, the Distribution Licensee may insist on the consumer to avail HT supply.
- (b) **Metering Charges 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 shall not be applicable on the retail consumers.**
- (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 plus applicable taxes (GST) shall be levied in addition to delayed payment surcharge
- (d) Other charges as stated in Schedule of Miscellaneous Charges shall also be applicable.

(e) Existing LT power consumer 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 for guidance. 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 consumer 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.

Note:

For this purpose, the “average monthly power factor” is defined as the ratio expressed in percentage of total kilo-watt-hours to the total kilo-volt-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 off to next higher figure and the fraction of less than 0.5 shall be ignored.

2. For LT Power consumer 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 . It is further clarified that billing of PF Surcharge in respect of unmetered LT Consumers shall also be done as per this clause(clause 8(e)2).

- (f) Levy of 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.
- (g) In case of any dispute on applicability of tariff on a particular LT category, the decision of the Commission shall be final.
- (h) The tariff and other miscellaneous charges prescribed in this tariff order does not include any tax, cess or duty etc. that may be payable at any time in accordance with any law then in force. Such tax, cess or duty etc., if any, shall also be payable

by the consumer in addition to the tariff charges and applicable miscellaneous charges.

- (i) **Delayed payment Surcharge for all categories:** Surcharge at the rate of 1.25% per month or part thereof on the amount outstanding (excluding arrears) will be payable if the bills are not paid up to due date subject to a minimum of Rs 10/- per month . 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.
- (j) 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.
- (k) Use of mix loads in one connection: Unless otherwise permitted specifically in the tariff category, the consumer using mix loads for different purposes shall be billed for the purpose for which the tariff is higher.
- (l) Consumers in the notified Industrial Growth Centres/Industrial areas/Industrial parks receiving supply under urban discipline shall be billed urban tariff.
- (m) 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.
- (n) 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.
- (o) 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.
- (p) **Paperless bills to consumers of Discoms:** In order to ensure timely and proper delivery of Bills along with the commitment to reduce the carbon footprint, the consumer bills to the willing consumers will be delivered through electronic medium like email, whatsapp etc.

9. Additional conditions for Temporary Supply at LT:

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.

- (a) Fixed Charge and Energy Charge for temporary supply shall be billed at **1.25** times the normal charges as applicable to relevant category.
 - (b) 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.
 - (c) The Sanctioned load / connected load (for sanctioned load based Tariff) or contract demand (for demand based tariff), as the case may be, shall not exceed 112kW / 150 HP.
 - (d) 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.
 - (e) Connection and disconnection charges and other miscellaneous charges shall be paid separately as may be specified in the Schedule of Miscellaneous Charges.
 - (f) **Load factor concession shall not be allowed on the consumption for temporary connection.**
 - (g) Power factor incentive/penalty shall be applicable at the same rate as applicable for permanent connection.
10. Wherever, there is contradiction in general terms & conditions and specific terms & conditions given for any particular category, the specific terms and conditions shall prevail for that category.

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 up to FY 2021-22.

Specific Terms and Conditions for HV-1 category:

- (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 projects shall be allowed for a period up to FY 2021-22 for new projects. 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 120% of the contract demand, the tariffs given in various schedules shall apply to the extent of the 120% of the contract demand only. The consumer shall be charged for excess demand computed as difference of recorded maximum demand and 120% 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 additional fixed charges on 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 120% of contract demand — at normal rate.
- (b) When the recorded maximum demand is exceeds 120% of contract demand - Excess Demand over and above 120 % of the contract demand—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	700	670	750	580	700
33 kV supply	630	710	650	730	570	630
132 kV supply	640	720	630	715	560	625
220 kV supply	650	730	600	680	530	600

Specific Terms and Conditions for HV-2 category:

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

Supply Voltage	Guaranteed annual minimum consumption in units (kWh) per kVA of contract demand
<i>For supply at 220 / 132 kV</i>	1620
<i>For supply at 33 / 11 kV</i>	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. This tariff shall also apply to 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 subject to the condition that the HT consumer shall not redistribute/sub-let the energy in any way to other person.

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 (i) 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	400	750	690
	33 kV supply	510	650	550	580	740	650
	132 kV supply	610	605	525	680	660	560
	220/400 kV supply	620	565	500	690	590	525
3.2	Non- Industrial						
	11 kV supply	300	680	630	400	770	720
	33 kV supply	430	670	610	500	710	660
	132 kV supply	540	620	550	600	680	620
3.3	Shopping Malls						
	11 kV supply	270	680	625	350	780	725
	33 kV supply	375	660	590	430	740	650
	132 kV supply	510	600	540	580	590	540
3.4	Power intensive industries*						
	33 kV supply	530	500	500	600	565	565
	132 kV supply	640	480	480	690	535	535
	220 kV supply	660	450	450	720	480	480

Specific Terms and Conditions for HV-3 category:

- (a) **Guaranteed Minimum Consumption** for all the above categories shall be on 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 in energy charges is applicable for incremental monthly consumption w.r.t corresponding month of FY 2015-16. For any new consumer other than green field connection served during and after FY 2015-16, the **base months** for calculation of incremental monthly consumption shall be the first 12 months after availing the connection. The incremental consumption for any month shall be worked out considering the consumption of the corresponding base month.
- (d) **Rebate for new HT connections:** A rebate of Rs 1/Unit or 20% whichever would be less is applicable in energy charges for new connection for the consumption recorded. The rebate shall be allowed upto FY 2021-22 from the date of connection for such new projects for which agreements for availing supply from licensee are finalized during and after FY 2016-17.

Provided these connections are served to **green field projects** only and no rebate is applicable for new connections obtain by virtue of change in ownership in existing connection. The consumer availing this rebate shall not be entitled for the rebate of incremental consumption under clause (c) above.

Note: the green field project shall be those projects where the consumer invests in the construction of new industry/plant from the ground up and there was no prior construction/structure on that particular land.

- (e) **Rebate for Captive power plant consumers:**

Applicability: The rebate shall be applicable to consumers-

- i. Who have been meeting their demand either fully or partially during FY 2016-17 and/or FY 2017-18 through their captive power plants located in Madhya Pradesh.
- ii. The rebate shall be applicable upto FY 2021-22 from the date of request submitted by the consumer to the Licensee during and after FY 2017-18. The consumer shall be required to apply to 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.
- iii. The **base year** shall be the financial year preceding the year during which the consumer has applied for switching consumption from his captive power plant to the licensee.

e.g., if a consumer applies for switching his consumption from captive power plant to Licensee in August, 2019, then his base year for calculation of incremental consumption would be FY 2018-19.

- iv. 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 2019-20) compared to the same month in **base year**.
- v. A rebate of Rs 2 per unit shall be applicable on incremental units of the consumer subject to reduction in captive generation as per the methodology given below:-

	Base Year		Current Financial Year (FY 2019-20)		Incremental Consumption from Discom	Reduction in Captive Generation	Units eligible for 60 paise rebate in energy charges as per Clause (c) of specific terms & conditions	Units eligible for Rs 2/ Unit rebate on incremental units
	Consumption from Discom (Units)	Captive Generation Units	Consumption from Discom (Units)	Captive Generation (Units)	Units	Units	Units	Units
	(A1)	(B1)	(A2)	(B2)	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: 1) Captive power plant referred above shall be the "Captive Generating Plant" as defined in Rule 3 of the Electricity Rules, 2005.

2) For new consumers added during this tariff period who were fully meeting their demand from their captive power Plants during the previous financial year then their consumption from Discom may be treated as zero for the base year.

X = the incremental consumption recorded by the captive consumer in any month of the current financial year compared to the same month of base year.

And

Y = the quantum of reduction in units consumed from captive plant (selfconsumption) achieved by the captive consumer in any month of the current financial year compared to the same month in the base year.

For all other cases of incremental consumption i.e when X>Y, the existing rebate of 60 paise per unit in energy charges will be applicable on X-Y units (as per the rebate for incremental consumption given in clause c in the Specific Terms & Conditions for HV-3).

Scenario 1: There is no reduction in Captive Generation but only incremental consumption from Discom; hence a rebate of 60 paise in energy charges per unit is applicable on incremental consumption from Discom (as per the rebate

for incremental consumption given in clause c in the Specific Terms & Conditions for HV-3).

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

Scenario 3: There is higher reduction in Captive Generation as compared to incremental Consumption from Discom hence incremental units consumed from the Discom as shown in the table, shall qualify for a Rebate of Rs 2 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 higher incremental consumption from Discom (X) than reduction in Captive Generation (Y) hence units corresponding to (X-Y) shall qualify for rebate of 60 paise in energy charges per unit (as per the rebate for incremental consumption given in clause c in the Specific Terms & Conditions for HV-3) while units Y shall qualify for Rebate of Rs 2 per unit.

(f) Rebate for Open Access Consumers

Applicability: The rebate shall be applicable to consumers

- i. Who have been availing open accesses during the last financial year (FY 2018-19).
- ii. Who have recorded an incremental consumption i.e., an increase in the units consumed from the Licensees in any month of the current year (FY 2019-20) compared to the same month in last year (FY 2018-19).
- iii. The rebate shall be applicable from the date of request submitted by the consumer to the Licensee during FY 2019-20.
- iv. 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 open access.
- v. A rebate of Rs 1 per unit shall be applicable on incremental units of the consumer subject to reduction in open access consumption as per the methodology given below:

	FY 2018-19		FY 2019-20		Incremental Consumption from Discom X= A2-A1	Reduction in OA units Y = B1-B2	60 paisa rebate applicable units as per clause (c) of specific terms & conditions	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

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

And

Y = the quantum of reduction in units consumed from open access by the consumer in any month of the current financial year as compared to the same month in the base year.

For all other cases of incremental consumption i.e when X>Y, the existing rebate of 60 paise per unit in energy charges will be applicable on X-Y units (as per the rebate for incremental consumption given in clause c in the Specific Terms & Conditions for HV-3).

Scenario 1: There is no reduction in open access consumption but only incremental consumption from Discom, hence a rebate of 60 paise per unit in energy charges is applicable on incremental consumption from Discom (as per the rebate for incremental consumption given in clause c in the Specific Terms & Conditions for HV-3).

Scenario 2: The incremental consumption from Discom is due to the reduction of open access consumption by same quantum of units hence it will attract a rebate of Rs 1 per unit on incremental units.

Scenario 3: There is higher reduction in open access consumption as compared to incremental Consumption from Discom hence incremental units consumed from the Discom as shown in the table, shall qualify for a Rebate of Rs 1 per unit.

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

Scenario 5: This scenario depicts incremental consumption from Discom (X) and reduction in open access consumption (Y) hence units corresponding to (XY) shall qualify for rebate of 60 paise per unit in energy charges (as per the rebate for incremental consumption given in clause c in the Specific Terms & Conditions for HV-3) while units Y shall qualify for Rebate of Rs 1 per unit.

(g) Conversion of Existing LT Industrial/Non domestic connection to corresponding HT connection

A rebate of Rs. 1 per unit in the energy charges on the HT tariff shall be provided to those existing LT consumers who convert to HV 3 category during FY 2019-20 and onwards. This rebate is applicable for FY 2019-20 onwards up to FY 2021-22 for the units billed only after the commencement of HT Agreement.

(h) Additional specific terms and conditions for shopping mall

- (i) Individual end user shall not be levied a rate which is exceeding non-domestic-commercial tariff (LV 2.2) in case of LT connection and HT non-industrial tariff (HV 3.2) in case of HT connection, as determined by the Commission. A Specific clause to ensure compliance of this condition shall be incorporated in the supply agreement entered by the Management Firm/developer with the licensee.

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	400	630	680	570	610
33 kV supply	370	430	620	670	540	580
	During Off-Season					
11 kV supply	Rs. 340 on 10% of contract demand or actual recorded demand whichever is higher	Rs. 360 on 10% of contract demand or actual recorded demand whichever is higher	756 i.e. 120% of seasonal energy charge	775 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. 390 on 10% of contract demand or actual recorded demand whichever is higher	744 i.e. 120% of seasonal energy charge	765 i.e. 120% of seasonal energy charge	Not applicable	Not applicable

Specific Terms and Conditions for HV-4 category:

- 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 current financial year within 60 days of issue of this tariff order and inform the same to

the licensee. If the consumer has already informed the Licensee of his season/offseason 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 36% of CD (120% 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	300	550	600
	33 kV supply	270	330	530	590
	132 kV supply	300	350	500	550
5.2 Other allied agricultural use					
	11 kV supply	260	320	555	615
	33 kV supply	280	340	535	595
	132 kV supply	310	370	505	565

Specific Terms and Conditions for HV-5 category:

- (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 as 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 9th 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 Consumptio n 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		Proposed				
1	For Tariff Sub-Category 6.1							
	11 kV supply	290	585	530	370	685	630	
	33 kV supply	310	570	510	390	630	570	
	132 kV supply	340	530	480	430	530	480	
2	For Tariff Sub-Category 6.2							
	11 kV supply	180	580	520	230	600	540	
	33 kV supply	185	560	500	235	575	515	
	132 kV supply	195	520	470	245	530	480	

Specific Terms and Conditions for HV-6 category:

- (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) The individual end user shall not be levied a rate exceeding the tariff applicable to the corresponding LT category. A Specific clause to ensure compliance of this condition shall be incorporated in the supply agreement entered by the Management Firm/developer with the licensee.
- (c) Other terms and conditions shall be as specified under General Terms and Conditions of High Tension Tariff.

Tariff Schedule - HV-7**SYNCHRONIZATION OF POWER FOR GENERATORS CONNECTED TO THE GRID****Applicability:**

This Tariff shall apply to those generators who are already connected to the grid and seek to avail power for synchronization with the grid.

Tariff:

S. No.	Category of consumers	Energy (paisa/unit)	Energy (paisa/unit)
		Existing	Proposed
	Requirement of Power for Generators Connected to the Grid	875	890

Specific Terms and Conditions for HV-7 category:

- (a) The supply for synchronization with 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 on each occasion of availing supply during the billing month.
- (c) The supply shall not be allowed to the CPP for production purpose for which they may avail stand-by support under the relevant Regulations.
- (d) The synchronization with the grid shall only be made available after commissioning of the plant.
- (e) For the synchronization with the grid, power shall be provided for a maximum period of 2 hours on each occasion.
- (f) The generator including CPP shall execute an agreement with the Licensee for meeting the requirement of synchronization with the grid incorporating the above terms and conditions.

Tariff Schedule - HV-8**E- VEHICLE / E- RICKSHAWS CHARGING STATIONS****Applicability:**

The tariff is applicable exclusively for Electric Vehicle / Electric Rickshaws charging stations. However, tariff for other consumers who use electricity for charging their own Vehicles/Rickshaws shall be the same as applicable for the relevant category of connection from which the Vehicles/Rickshaws is being charged at such premises.

Tariff:

Category	Existing		Proposed	
	Monthly Fixed Charges	Energy Charge (Paise/unit)	Monthly Fixed Charges	Energy Charge (Paise/unit)
Electric Vehicle/ Rickshaw charging installations	Rs 120 per kVA of Billing Demand	590	Rs 120 per kVA of Billing Demand	590

Specific Terms and Conditions for HV-8 category:

- (a) **Additional Charge for Excess demand:** Shall be billed as given in General Terms and Conditions for High Tension tariff.
- (b) For the consumers in this category the Licensee shall provide Trivector /Biverctor Meter capable of recording Demand in kVA/kW, kWh, kVAh.
- (c) Other terms and conditions shall be as specified under General Terms and Conditions for High Tension Tariff.

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:**

If the average monthly power factor of the consumer is above 95%, Power factor incentive shall be payable as follows:

Power Factor	Percentage incentive payable on billed energy charges
Above 95% and up to 96%	1.0 (one percent)

Power Factor	Percentage incentive payable on billed energy charges
Above 96% and up to 97%	2.0 (two percent)
Above 97% and up to 98%	3.0 (three percent)
Above 98 % up to 99%	5.0 (five percent)
Above 99 %	7.0 (seven percent)

Note:

- (i) For this purpose, the “average monthly power factor” is defined as the ratio expressed in percentage of total kilo-watt-hours to the total kilo-volt-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.
- (ii) For the removal of doubt it is clarified that in case the consumer is getting power through open access, net energy charges (after deducting units drawn from other sources, from the consumed units) billed to consumer shall only be taken for the purpose of working out power factor incentive

1.9 Load factor calculation

- 1) The **Load Factor** shall be calculated as per the following formula:

$$\text{Load Factor \%} = \frac{\text{Monthly Consumption} \times 100}{\text{No. of Hours in the billing month} \times \text{Demand (kVA)} \times \text{PF}}$$

- 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 applicable for making online payment of bill. The net rebate will be provided after deducting the applicable gateway charges payable to the PSP.
- 1.12 **Prompt payment incentive:** An incentive for prompt payment @0.25% of bill amount (excluding arrears, security deposit, meter rent, any subsidy given by the government 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 kilowatthours 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.
- (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.
- (vi) For removal of doubts, it is clarified that in case the consumer is getting power through open access, net energy charges (after deducting units drawn from other sources, from the consumed units) billed to consumer shall only be taken for the purpose of working out power factor penalty.

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 120% of the contract demand, the tariffs given in various schedules shall apply to the extent of the 120% of the contract demand only. The consumer shall be charged for excess demand computed as difference of

recorded maximum demand and 120% 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 120% of the contract demand:** Fixed charges for Excess Demand up to 20 % of contract demand shall be charged at normal fixed charges.
 2. **Fixed charges for Excess Demand when the recorded maximum demand exceeds 120% of contract demand:** Fixed charges for recorded demand over and above 20 % of the contract demand shall be charged at 2 times the normal fixed charges.

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 150 kVA, the consumer shall be billed towards fixed charges as under:-

- a) Up to 120 kVA at normal tariff.
 - b) Above 120 kVA up to 150 kVA i.e. for 30 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/- plus applicable

taxes (GST) per cheque shall be levied in addition to delayed payment surcharge as 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 1.25 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:

$$\text{Minimum consumption for additional supply for temporary period} = \frac{\text{Annual minimum consumption as applicable to permanent supply}}{\text{No. of days in the year}} \times \text{No. of days of temporary connection}$$

- (c) The billing demand shall be the demand requisitioned by the consumer or the highest monthly maximum demand during the period of supply commencing from the month of connection ending with the billing month, whichever is higher. For example:

Month	Recorded Maximum Demand (kVA)	Billing Demand (kVA)
April	100	100
May	90	100
June	80	100
July	110	110
August	100	110
September	80	110
October	90	110
November	92	110
December	95	110
January	120	120
February	90	120
March	80	120

- (d) 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.

- (e) No rental for the metering system shall apply on the consumer.
- (f) Connection and Disconnection Charges shall also be paid.
- (g) 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 1.25 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.
 - 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.
 - 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.
 - 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.
 - iv. The consumption corresponding to Permanent connection i.e. (A) during the month shall be billed in the following manner:

$$A = \frac{\text{Contract demand (Permanent)}}{\text{Deemed contract demand or actual demand whichever is higher}} \times \text{Total Consumption}$$

- v. The consumption corresponding to temporary sanctioned demand during the month i.e. (B) shall be billed at 1.25 times the normal energy charges and shall be billed in the following manner:

$$B = \frac{\text{Sanctioned demand for temporary connection}}{\text{Deemed contract demand or actual demand whichever is higher}} \times \text{Total Consumption}$$

- vi. 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)

- vii. 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 the normal fixed charges and energy charges for temporary connection. 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

Energy charges for consumption corresponding to excess demand = energy charges per unit for temporary connection * 1.2*(consumption corresponding to excess demand i.e. C)

- (h) Load factor incentive shall not be allowed on the consumption for temporary connection.
- (i) Power factor incentives/penalties and the condition for Time of Day Surcharge/ rebate shall be applicable at the same rate as for permanent connection.

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 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 shall not be applicable on the retail consumers.
- 1.23 The tariff and other miscellaneous charges prescribed in this tariff order does not include any tax, cess or duty etc. that may be payable at any time in accordance with any law then in force. Such tax, cess or duty etc., if any, shall also be payable by the consumer in addition to the tariff charges and applicable miscellaneous 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 shall 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.
- 1.30 Wherever, there is contradiction in general terms & conditions and specific terms & conditions given for any particular category, the specific terms and conditions shall prevail for that category.

1.31 **Paperless bills to consumers of Discoms:** In order to ensure timely and proper delivery of Bills along with the commitment to reduce the carbon footprint, the consumer bills to the willing consumers will be delivered through electronic medium like email, whatsapp etc.
