TARIFF ORDER

True-up of FY 2017-18, Annual Performance Review of FY 2018-19, Aggregate Revenue Requirements (ARR) for 2nd MYT Control Period (FY 2019-20 to FY 2021-22) and Determination of Retail Tariff for FY 2019-20

Petition No. 272/2018

for

Electricity Department of Daman & Diu

20th May 2019

JOINT ELECTRICITY REGULATORY COMMISSION
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List of abbreviations

Abbreviation	Full Form
A&G	Administrative and General
ACoS	Average Cost of Supply
Act	The Electricity Act, 2003
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
ATE	Appellate Tribunal of Electricity
BPL	Below Poverty Line
CAGR	Compound Annualized Growth rate
Capex	Capital Expenditure
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGRF	Consumer Grievance Redressal Forum
CGS	Central Generating Stations
COD	Commercial Operation Date
Cr	Crores
Discom	Distribution Company
EDDD	Electricity Department of Daman & Diu
DSM	Deviation Settlement Mechanism
EA 2003	The Electricity Act, 2003
ED	Electricity Department
EHT	Extra High Tension
ERP	Enterprise Resource Planning
FPPCA	Fuel and Power Purchase Cost Adjustment
FY	Financial Year
GFA	Gross Fixed Assets
HT	High Tension
IEX	Indian Energy Exchange Limited
IPP	Independent Power Producer
ISTS	Inter State Transmission System
JERC	Joint Electricity Regulatory Commission for the state of Goa and Union Territories
JKPDD	Power Development Department , Jammu and Kashmir
LT	Low Tension
MU	Million Units
MYT	Multi Year Tariff
NFA	Net Fixed Assets
NTPC	National Thermal Power Corporation
O&M	Operation and Maintenance
PGCIL	Power Grid Corporation of India Limited
PLF	Plant Load Factor

Abbreviation	Full Form
PLR	Prime Lending Rate
LIG	Low Income Group
POSOCO	Power System Operation Corporation Limited
PPA	Power Purchase Agreement
R&M	Repair and Maintenance
REC	Renewable Energy Certificate
RLDC	Regional Load Despatch Centre
RoE	Return on Equity
RPO	Renewable Purchase Obligation
SBI PLR	SBI Prime Lending Rate
SERC	State Electricity Regulatory Commission
SLDC	State Load Despatch Center
SOP	Standard of Performance
T&D	Transmission & Distribution Loss
TVS	Technical Validation Session
UI	Unscheduled Interchange
UT	Union Territory
WART	Weighted Average Retail Tariff

Before the

Joint Electricity Regulatory Commission

For the State of Goa and Union Territories, Gurugram

QUORUM

Shri. M. K. Goel, Chairperson

Smt. Neerja Mathur, Member

Petition No. 272/2018

In the matter of

Approval for the true-up of FY 2017-18, Annual Performance Review for FY 2018-19, Aggregate Revenue Requirements (ARR) for 2nd MYT Control Period (FY 2019-20 to FY 2021-22) and Retail Tariff for FY 2019-20.

And in the matter of

Electricity Department, Daman & Diu (EDDD)..Petitioner

ORDER

Dated: 20th May 2019

1. This Order is passed in respect of a Petition filed by the Electricity Department, Daman & Diu for approval of True-up of FY 2017-18, Annual Performance Review of FY 2018-19, Aggregate Revenue Requirements (ARR) for 2nd MYT Control Period (FY 2019-20 to FY 2021-22) and Retail Tariff for FY 2019-20.

2. On receipt of the Petition, the Commission scrutinised its contents and requisitioned further information/clarifications on the data gaps observed in the Petition to take a prudent view of the Petition. Further, suggestions/comments were invited from the Public/Stakeholders. A Public Hearing was also held and the Stakeholders/Public were heard.

3. The tariff, as detailed in the Chapter "Tariff Schedule", Open Access Charges and other provisions as approved in this Order shall come into force from 1st June 2019 and shall remain valid till further Orders of the Commission.

4. The licensee shall publish the revised Tariff Schedule and the salient features of tariff within one week of receipt of the Order in three daily newspapers in the respective local languages of the region, besides English, having wide circulation in their respective areas of supply and also upload the Tariff Order on its website.

5. The Commission based on the Petitioner's submission, relevant MYT Regulations, facts of the matter and after proper due diligence has approved the True-up of FY 2017-18, APR of FY 2018-19 and ARR for the 2nd MYT Control Period along with the Retail Tariff for FY 2019-20.

The summary of each year has been provided as follows:

i) The following table provides ARR, Revenue and gap as submitted by the Petitioner and approved by the Commission in the True-up of FY 2017-18:

Table 1: Standalone Revenue Gap/ (Surplus) approved for FY 2017-18 (INR Crore)

S. No	Particulars	Petitioner's Submission	Approved by Commission
1	Net Revenue Requirement	832.54	836.89
2	Revenue from Retail Sales at Existing Tariff	873.59	873.64
3	OA Access Charges	12.83	12.83
4	Total Revenue	886.42	886.47
	Net Gap /(Surplus)	**(53.87)**	**(49.58)**

ii) The following table provides ARR, Revenue and gap as submitted by the Petitioner and approved by the Commission in the APR of FY 2018-19:

Table 2: Standalone Revenue Gap/ (Surplus) approved for FY 2018-19 (INR Crore)

S. No	Particulars	Petitioners submission	Approved by Commission
1	Net Revenue Requirement	1,131.59	1,171.70
2	Revenue from Retail Sales at Existing Tariff	1,003.18	987.72
3	OA Access Charges	0.00	0.00
4	Total Revenue	1,003.18	987.72
	Net Gap /(Surplus)	**128.40**	**183.98**

iii) The following table provides ARR, Revenue and gap as submitted by the Petitioner and approved by the Commission for FY 2019-20:

Table 3: Standalone Revenue Gap/ (Surplus) approved for FY 2019-20 (INR Crore)

S. No	Particulars	Petitioners submission	Approved by Commission
1	Net Revenue Requirement	1,203.86	1,227.60
2	Revenue from Retail Sales at Approved Tariff	1,102.22	1,098.21
	Net Gap /(Surplus)	**101.64**	**129.39**

iv) Accordingly , the following table provides the cumulative revenue Gap/ (Surplus) at approved tariff by the end of FY 2019-20:

Table 4: Cumulative Revenue Gap/ (Surplus) approved by Commission at FY 2019-20 (INR Crore)

S.No.	Particulars	FY 2017-18	FY 2018-19	FY 2019-20
1	Opening Gap /(Surplus) (a)	(236.44)	(306.92)	(140.13)
2	Add: Gap/(Surplus) (b)	(49.58)	183.98	129.39
4	Closing Gap /(Surplus) (c=a+b)	(286.02)	(122.94)	(10.75)
5	Average Gap/ (Surplus) (d=(a+c)/2)	(261.23)	(214.93)	(75.44)
6	Interest Rate on carrying cost (% ,e)	8.00%	8.00%	9.55%
7	Carrying Cost (f=d*e)	(20.90)	(17.19)	(7.20)
8	**Final Closing Gap/ (Surplus) (c+f)**	**(306.92)**	**(140.13)**	**(17.95)**

6. On account of the projected standalone revenue gap during FY 2019-20 at existing tariff, the Commission has decided to increase the tariff by an average of 5.53% by way of increasing the energy charges of all

consumers categories except LIG, Agriculture and hoarding/signboards categories. There has been no change in Fixed Charges for all categories.

7. Further, a new category namely HT Commercial is created which shall include commercial consumers connected at 11 kV and above.

8. The Commission believes that the demand for charging infrastructure for electric vehicles will increase in the near future due to increased commercialization. Furthermore, the Commission is of the opinion that to impart the necessary impetus for the adoption of E-Vehicles in the Territory a sustainable framework has to be developed and having a designated electricity tariff is the first step towards achieving it. Therefore, keeping in view the anticipated demand and need, the Commission introduces a new category namely Electric Vehicle Charging Stations for consumers setting up infrastructure for charging of Electric vehicles/ Electric rickshaws etc. and has fixed the tariff as per the guidelines of Ministry of Power, Govt. of India.

9. The Commission in Tariff Order for FY 2018-19 had directed the Petitioner to ensure proper infrastructure and capabilities to roll-out kVAh based tariff for its HT/EHT from the next tariff cycle. The Petitioner has already indicated its readiness for implementation of kVAh billing in both LT and HT categories and that necessary changes in metering has been made by them. The Commission has accordingly approved kVAh based tariff for LT Industry, HT Industry and HT Commercial categories in FY 2019-20.

10. In response to Stakeholder's comments for reduction in tariff for Fishery Industry, the Commission has decided to reduce the Fixed Charges by 25% in the lean season from May to August to provide relief to the Fishery Industry.

11. The Commission has decided to allow FPPCA billing to the consumers, as there is a standalone gap at the end of FY 2018-19.

12. Ordered as above, read with the attached document giving detailed reasons, grounds and conditions.

-Sd-	-Sd-
(Neerja Mathur)	**(M.K. Goel)**
Member	**Chairperson**

Place: Gurugram
Date: 20th May 2019

1. Chapter 1: Introduction

1.1. About Joint Electricity Regulatory Commission (JERC)

In exercise of powers conferred by the Electricity Act 2003, the Central Government constituted a Joint Electricity Regulatory Commission for all the Union Territories except Delhi to be known as "the Joint Electricity Regulatory Commission for the Union Territories" vide notification no. 23/52/2003-R&R dated May 2, 2005. Later with the joining of the State of Goa, the Commission came to be known as "Joint Electricity Regulatory Commission for the State of Goa and Union Territories" (hereinafter referred to as "the JERC" or "the Commission") vide notification no. 23/52/2003-R&R (Vol. II) dated May 30, 2008.

JERC is an autonomous body responsible for regulation of the Power Sector in the State of Goa and the Union Territories of Andaman & Nicobar Islands, Lakshadweep, Chandigarh, Daman & Diu, Dadra & Nagar Haveli and Puducherry, consisting of generation, transmission, distribution, trading and use of electricity. Its primary objective includes taking measures conducive to the development of the electricity industry, promoting competition therein, protecting interest of consumers and ensuring supply of electricity to all areas.

1.2. Union Territory of Daman & Diu

The Union Territory of Daman and Diu (hereinafter referred to as "UT") covers a total area of 112 sq. km, with the Daman District comprising of an area of 72 sq. km and Diu District of 40 sq. km. In FY 2017-18, the power demand of the Territory was predominantly from HT and LT industries, contributing to 91% of sales.

1.3. About Electricity Department of Daman & Diu (ED DD)

The Electricity Department of Daman and Diu (hereinafter called "EDDD"), is a Deemed Licensee under Section 14 of the Electricity Act 2003, and is carrying on the business of transmission, distribution and retail supply of electricity in the UT. It is responsible for ensuring quality and continuous power supply to every resident of Daman and Diu at the most economical rates.

The key duties being discharged by EDDD are:

- Laying and operating of such electric line, sub-station and electrical plant that is primarily maintained for the purpose of distributing electricity in the area of supply of 'Daman & Diu Electricity Department', in accordance with Electricity Act, 2003 (Act) and the Rules framed there under.
- Operating and maintaining sub-stations and dedicated transmission lines connected there with as per the provisions of the Act and the Rules framed there under.
- Arranging, in-coordination with the Generating Company(ies) operating in or outside the UT, for the supply of electricity required within the UT and for the distribution of the same in the most economical and efficient manner;
- Supplying electricity, as soon as practicable to any person requiring such supply, within its competency to do so under the said Act;
- Preparing and carrying out schemes for distribution and generally for promoting the use of electricity within the UT.

EDDD does not have its own generation and procures power from its allocation from various Central Generating Stations (CGS). It receives 70 MW from NTPC-SAIL plant located at Bhilai and 38 MW from Ratnagiri Gas and Power Private Limited (RGPPL).

The UT has also installed Solar capacity of 13.59 MW of which 10 MW is ground mounted and the remaining 3.59 MW is Solar rooftop plants. To promote the usage of Solar power to meet the growing demands of the UT, the Department is in the process of procuring 80 MW of Solar energy from NTPC and another 50 MW of Solar energy from SECI from FY 2019-20 onwards. Further, procurement of Solar power for 40 MW from open tender is also under the process.

Existing Network

The present distribution system of EDDD consists of 32.60 circuit km of 220 kV Double Circuit (D/C) lines, 88.70 kms of 66kV lines, 420.60 circuit kms of 11kV lines (O/H as well as U/G) and 773.71 circuit kms of LT OH & U/G lines. Presently, there are 102 numbers of 11 kV feeders and 6 numbers of 66 kV feeders in the network of Daman & Diu.

Daman gets power at 220/66 kV Magarwada Substation and 220/66 kV Ringanwada Substation. The 220/66 kV Magarwada Substation gets power from 220 kV (D/C) Ambethi-Magarwada line and from 220 kV (D/C) Magarwada (POWERGRID) Magarawada, Daman. The 220/66 KV Ringanwada Substation gets power from 220 kV (D/C) Magarwada (POWERGRID) Magarawada, Daman. Diu gets power from 66 kV Una Substation through 66 kV double circuit line emanating from 220 /66 kV Kansari Substation of GETCO.

The details of the transmission and distribution network of EDDD are as under:

Table 5: Transmission and Distribution System of EDDD

Sr.No.	Details	Daman (ckms)	Diu (ckms)	Total (ckms)
1	220 KV D/C line	33	--	**33**
2	66 KV D/C line	67	22	**89**
3	11KV line O/H	195	4	**199**

Sr.No.	Details	Daman (ckms)	Diu (ckms)	Total (ckms)
4	11KV line U/G	136	85	**221**
5	L.T. Line	442	80	**522**
6	L.T line U/G	144	107	**251**
7	Transformer Centre (Nos.)	778	117	**895**

1.4. Multi Year Distribution Tariff Regulations, 2014

The Commission notified the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (except Delhi) (Multi-Year Distribution Tariff) Regulations, 2014 on June 30, 2014 applicable for a three year Control period starting from FY 2015-16 till FY 2017-18. The Commission subsequently notified the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (except Delhi) (Multi-Year Distribution Tariff) (First Amendment) Regulations, 2015 on August 10, 2015 shifting the MYT Control Period to FY 2016-17 to FY 2018-19. These Regulations are applicable to all the distribution licensees in the State of Goa and Union Territories of Andaman & Nicobar Islands, Lakshadweep, Chandigarh, Daman & Diu, Dadra & Nagar Haveli and Puducherry.

1.5. Multi Year Tariff Regulations, 2018

The Commission notified the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2018 on August 10, 2018. These Regulations are applicable in the 2nd MYT Control Period comprising of three financial years from FY 2019- 20 to FY 2021-22. These Regulations are applicable to all the generation companies, transmission and distribution licensees in the State of Goa and Union Territories of Andaman & Nicobar Islands, Lakshadweep, Chandigarh, Daman & Diu, Dadra & Nagar Haveli and Puducherry.

1.6. Approval of Business Plan for 2nd MYT Control Period

In accordance with the Regulation 8.1 of the JERC MYT Regulations, the Petitioner filed the Petition for approval of Business Plan for 2nd Multi-Year Control Period from FY 2019-20 to FY 2021-22 on September 4, 2018. The Commission issued the Business Plan Order for the MYT Control Period (hereinafter referred to as 'Business Plan Order') on October 31, 2018.

1.7. Filing and Admission of the Present Petition

As per Regulation 9.1 of the JERC MYT Regulations, the Petitioner is required to file for approval of the Commission, the Multi-Year Tariff application with the forecast of Aggregate Revenue Requirement for each year of the Control Period and tariff proposal for the first year of the Control Period.

The Petitioner has submitted the current Petition for approval of True-up of FY 2017-18, Annual Performance Review for FY 2018-19, Aggregate Revenue Requirements (ARR) for 2nd MYT Control Period (FY 2019-20 to FY 2021-22) and Retail Tariff proposal for FY 2019-20 vide letter no. ED/EE/ARR(19-20)/2018-19/12031 dated December 14, 2018. The Petition was received by the Commission on December 18, 2018.

After initial scrutiny/analysis, the Petition was admitted on December 21, 2018 and was marked as Petition no. 272/2018.

1.8. Interaction with the Petitioner

The Order has referred at numerous places to various actions taken by the "Commission." It may be mentioned for the sake of clarity that the term "Commission," except for the Hearing and Orders, denotes the Secretariat of the Commission responsible for carrying out technical due diligence and validation of data of the Petitions filed by the utilities, obtaining and analysing information/clarifications received from the utilities, and submitting relevant issues for consideration of the Commission.

A preliminary scrutiny/analysis of the Petition was conducted and certain deficiencies were observed. Accordingly, deficiency notes were issued to the Petitioner. Further, additional information/clarifications were solicited from the Petitioner as and when required. The Commission and the Petitioner also discussed various concerns of the Petitioner and key data gaps, which included retail sales, revenue from retail tariff, capitalisation, tariff proposal etc. The Petitioner submitted its response on the issues through various letters/emails.

The following table provides the list of interactions with the Petitioner along with the dates:

Table 6: List of interactions with the Petitioner

S. No.	Subject	Date
1	Issuance of First Discrepancy Note	January 13, 2019
2	Reply received from Petitioner	January 30, 2019 / February 2, 2019 / February 13, 2019 / February 19, 2019 / Februaru 20, 2019 / February 24, 2019
3	Public hearing	February 6, 2019 (Daman) & February 8, 2019 (Diu)
4	Issuance of Second Discrepancy Note	February 26, 2019
5	Reply received from Petitioner	February 28, 2019

1.9. Notice for Public Hearing

Public notices were published by the Petitioner for inviting suggestions/comments from Stakeholders on the Tariff Petition as given below:

Table 7: Details of Public Notices published by the Petitioner

S.No.	Date	Name of Newspaper	Place of circulation
1	January 30, 2019	Asli Azadi (Hindi)	Daman
2	January 30, 2019	Vartaman Pravah (Gujarati)	Daman
3	January 30, 2019	Savera India Times (Hindi)	Surat

The Commission published Public Notices in the leading newspapers as tabled below, giving due intimation to the Stakeholders, consumers and the public at large about the Public Hearing conducted by the Commission on February 6, 2019 from 3 PM onwards at Swami Vivekanand Auditorium – kunta Rd, Near Government College, Dunetha, Daman and February 8, 2019 from 10 AM onwards at The Auditorium, Malala, Diu:

Table 8: Details of Public Notices published by the Commission

S.No.	Date	Name of Newspaper	Place of Circulation
1	January 17, 2019	Savera India Times (Hindi)	Daman
2	January 17, 2019	Gujarat Samachar (Gujarati)	Surat
3	January 17, 2019	Asli Azadi (Hindi)	Daman
4	January 18, 2019	Times of India (English)	Ahmedabad
5	January 18, 2019	Gujarat Vaibhav (Hindi)	Ahmedabad
6	February 02, 2019	Savera India Times (Hindi)	Daman
7	February 02, 2019	Gujarat Samachar (Gujarati)	Surat
8	February 02, 2019	Asli Azadi (Hindi)	Daman
9	February 02, 2019	Times of India (English)	Ahmedabad
10	February 02, 2019	Gujarat Vaibhav (Hindi)	Ahmedabad

The notice was also uploaded on the Commission's website.

1.10. Public Hearing

The Public Hearing was held on February 6, 2019 from 3 PM onwards at Swami Vivekanand Auditorium – kunta Rd, Near Government College, Dunetha, Daman and February 8, 2019 from 10 AM onwards at The Auditorium, Malala, Diu to discuss the issues related to the Petition filed by the Petitioner. The issues and concerns raised by the Stakeholders in writing and as voiced by them during the Public Hearing have been examined by the Commission. The major issues discussed, the responses of the Petitioner thereon and the views of the Commission have been summarized in Chapter 2.

2. Chapter 2: Summary of Suggestions/Comments received, Response from the Petitioner and the Commission's Views

2.1. Regulatory Process

On admitting the Petition, the Commission directed the Petitioner to make copies of the Petition available to the Public, upload the Petition on the website and also publish the same in the newspapers in an abridged form in the given format duly inviting comments from the Public as per the provisions of the MYT Regulations, 2014 and MYT Regulations, 2018.

The Public Hearing was held on February 6, 2019 from 3 PM onwards at Swami Vivekanand Auditorium – kunta Road, Near Government College, Dunetha, Daman and February 8, 2019 from 10 AM onwards at The Auditorium, Malala, Diu on Petition for the True-up of FY 2017-18, Annual Performance Review of FY 2018-19 and Aggregate Revenue Requirements (ARR) for 2nd MYT Control Period (FY 2019-20 to FY 2021-22). During the Public Hearing, few of the Stakeholders who had submitted their comments in writing also presented their views in person before the Commission. There were other participants from the general Public, who had not submitted written comments earlier, were also given an equal opportunity to present their views/suggestions in respect to the Petition.

2.2. Suggestions/ Comments, Response of the Petitioner and Commission's Views

The Commission is appreciative of the efforts of various Stakeholders in providing their suggestions/comments/observations to make the Electricity Distribution Sector responsive and efficient. The Commission has noted the concerns of all the Stakeholders and has tried to address them to the extent possible in determination of ARR, tariff design and Directives. Relevant observations have been suitably considered by the Commission while finalising the Tariff Order. The submissions of the Stakeholders, response of the Petitioner and views of the Commission are summarized below:

2.2.1. No Tariff Increase

Stakeholder's Comment:

As a revenue surplus is expected in FY 2019-20, it is proposed that the tariff should remain same.

Petitioner's Response

The present tariff approved by the Commission is not adequate to meet the expenses of the EDDD and the Department is incurring operational losses in order to meet the power demand of the UT of Daman and Diu. The EDDD is not able to recover the power purchase cost from the present tariff and is incurring loss on every unit of power sold to the consumers of the UT of Daman and Diu. Therefore, the present tariff does not incentivize the Department to meet the full demand of the consumers of the UT of Daman and Diu. Further, the difference between the average cost of supply and the average revenue realization during the FY 2019-20 is INR 0.57/unit and the tariff will have to be increased in the subsequent years to meet this gap. Meeting this gap in a single year might lead to a tariff shock for the consumers and the EDDD therefore proposes to adjust the cumulative revenue surplus of INR 161.91 Crores at the end of FY 2018-19, in two years i.e. FY 2019-20 and FY 2020-21. Hence, the EDDD has submitted a proposal for increase in tariff for the FY 2019-20.

Commission's View

The Commission appreciates the concern of the Stakeholder and informs that the Commission determines the tariff after thorough examination of the Petitioner's submissions, analysis of the audited/provisional accounts, prudence check and other relevant factors submitted before it. Accordingly, based on the resultant gap or surplus, the tariff is approved in a manner so that interest of both the consumers and the Utility are balanced. Taking the above into consideration, the Commission has dealt with this issue related to determination of tariff and change in tariff structure in *Chapter 6: Tariff Principles and Design*.

2.2.2. Installation of Pending connections

Stakeholder's Comment:

The Stakeholders expressed their concerns on pendency of connections and the Petitioner's inadequate response to the applications of the consumers.

Petitioner's Response

The Department releases the connections on a first come first serve basis. Further, the consent for all the connections has been given by the Department, however, the connections have not been released due to non-compliance of mandatory procedures by the applicant like non-submission of security deposit, non-submission of service connection charges, non-submission of test report from the electrical inspector, non-submission of the list of machinery etc.

Commission's View

The Commission has noted the concern of the Stakeholders. The Commission directs the Petitioner to timely respond to all requests of the consumers as per the JERC (Electricity Supply Code) Regulations, 2018 and JERC (Standards of Performance for Distribution Licensees) Regulations, 2015 as amended from time to time.

2.2.3. CGRF Appointments

Stakeholder's Comment

The CGRF should have a Chairman and a Member occupant at all times. The Stakeholders are concerned about the non-appointment of the Chairman at CGRF.

Petitioner's Response

The Department is pursuing the matter with the UT Administration of Daman and Diu for the appointment of the Chairman and Member of the CGRF.

Commission's View

The Commission is concerned about the hardship faced by the electricity consumers because of inaction of the Department to maintain the minimum Quorum in the CGRF. The Commission has viewed with concern this lapse on the part of the Department and directed it to recommend to the Commission the panel of candidates for appointment of the CGRF Chairman and Member for its approval at the earliest failing which the Commission shall be constrained to treat the matter as non-compliance of the relevant JERC Regulations and initiate appropriate action as per provisions of the Act.

2.2.4. Delayed Payment Surcharge

Stakeholder's Comment

The Delayed Payment Surcharge of 2% is on the higher side and should be reduced to 1% as in the neighboring States like Gujarat and Rajasthan. Further, the Stakeholders requested for waiver of interest on arrears.

Petitioner's Response

The interest/Delayed Payment Surcharge levied on the electric bills is as per the Tariff Order issued by the Commission. It is a useful mechanism to ensure timely payment of bills and therefore the Department would like to request the Commission not to reduce the Delayed Payment Surcharge from the present level of 2%.

Commission's View

The Commission is of the view that the Delayed Payment Surcharge is being levied as a penalty/deterrent to discourage the consumers from delaying/defaulting in payment of the bill towards the energy consumption. Further, timely payment of bill leads to improved cash flows thus enabling the Petitioner to provide better services at reasonable charges. Thus, the Commission finds it appropriate to retain the delayed payment surcharge at the present level.

2.2.5. New Connection

Stakeholder's Comment

It is mandatory to present an Occupancy Certificate before the electricity department to obtain a new connection and also to get the connection changed from domestic to commercial or industrial. It is not always possible to present an Occupancy Certificate before the Department.

Petitioner's Response

The Department releases the connections as per the norms specified by the Commission in the Supply Code Regulations.

Commission's View

The Commission has notified the JERC (Electricity Supply Code) Regulations, 2018 on November 26, 2018 wherein certain procedures including obtaining of a new connection have been simplified and the requirement of number of documents has been reduced. The Petitioner is directed to refer to the new Supply Code Regulations and accordingly review all the applications of the consumers in light of the new Supply Code Regulations.

2.2.6. Solar Plant in Daman

Stakeholder's Comment

A Solar Plant of capacity 40-45 MW should be installed in Daman along the lines of Diu and the benefit of reduced tariff from the Solar Plant should be passed on to the consumers.

Petitioner's Response

There is a constraint with respect to the availability of the land in Daman and therefore the installation of a Solar plant of capacity 40-45 MW would not be feasible. However, the Department is exploring all the possibilities of augmenting the capacity of the Solar Rooftop Plants in Daman.

Commission's View

The Petitioner is directed to explore more opportunities for installation of Solar plants in the territory of Daman and submit the details regarding the potential for Solar Plants installations to the Commission.

2.2.7. Public Hearing Publicity

Stakeholder's Comment

The Commission and the UTs should work towards ensuring strong attendance and participation in the Public Hearings. Specifically, the Daman Industries Associations should be informed of the Public Hearings so that they are able to participate and contribute in the tariff determination process.

Petitioner's Response

The Department has ensured wide publicity regarding the Public Hearings held in Daman and Diu. Advertisements were published in three Daily Newspapers. Further, Notice regarding the Public Hearing was uploaded on the Department's website. Additionally, Member of Parliament, all Sarpanches of Gram Panchayat, President – Daman Municipal Council, President – District Panchayat were also informed though separate letters.

Commission's View

The Petitioner is directed to ensure wide publicity to the Public Hearing process and may inform the key Stakeholders and consumers about the process well in advance.

2.2.8. Rebate on timely payment of bills

Stakeholder's Comment

Rebate may be provided to the consumers for timely payment of the electricity bills.

Petitioner's Response

As per the Tariff Schedule approved by the Commission, there is a provision of Advance Payment Rebate and Prompt Payment Rebate, which is being given to the consumers of UT of Daman and Diu by the Department.

Commission's View

The Commission has already made a provision for Advance Payment Rebate and Prompt Payment Rebate in the Tariff Schedule. The Commission directs the Petitioner to ensure that the Consumers are passed on the rebate accordingly.

2.2.9. Relaxation in Tariff

Stakeholder's Comment

The Tourism and Fishery Industries are central to the UT's economy and should be provided a relaxation in tariff.

Further, the Stakeholders submitted that Fishery Industry is a seasonal industry but is still liable to pay the Minimum Charges in the lean season. This Minimum Charge is unjustifiably high as the Fishery Industry currently fall in the HT category. It is requested that this minimum charge be abolished for the fisheries.

Petitioner's Response

The Commission is empowered to take any decision in the matter of fixation of tariff and tariff categories.

Commission's View

The Commission would like to highlight that the fixed charges are paid towards maintenance of the Infrastructure and the Cost of tied up/allocated power, which the Utility has to pay/incur irrespective of whether the Power is purchased or not. At the request of the Stakeholders, the Commission, in Tariff Order for FY 2018-19 dated March 13, 2018 had directed the Petitioner to submit the commercial data for past five year including the number of consumers, load and sales for the Fishery Industry in its Territory. On perusal of the data received, it is observed that the lean season falls in the months from May to August. Accordingly, as an interim measure, the Commission has decided to reduce the Fixed Charges by 25% in the lean season to provide relief to the Fishery Industry. For the Tourism Industry, the Commission directs the Petitioner to provide data regarding the number and types of Industries covered under the Tourism Industry, number of consumers, connected load and the energy sales etc. along with the petition for Determination of Tariff for FY 2020-21.

2.2.10. Load Limit for LT Category

Stakeholder's Comment

The load limit for the LT Industry category may be increased from 99 HP to 150 HP as the existing slab often result in higher fixed charges that are not justifiable for small local industries like Ice factories for preservation etc.

Petitioner's Response

The Commission is empowered to take any decision in the matter of determination of tariff and its terms and conditions.

Commission's View

As per the New Supply Code Regulations, 2018, the LT category shall include consumers with load upto 100 kVA. Applying a standard power factor of 0.9 for conversion from kVA to kW as per the Supply Code Regulations, 2018 and the factor of 0.746 for conversion from HP to kW as also mentioned in the Regulations, the load limit for LT category comes to 120 HP, which has been changed as such in the Terms and conditions of Tariff.

2.2.11. Exemption from payment of Security Deposit

Stakeholder's Comment

The ice factories in Diu may be exempted from payment of security deposit as the fishing and allied industries are facing a crisis.

Petitioner's Response

The lean season for the ice factories engaged in the fishing and allied industries is for a period of three to four months every year during the monsoon season. However, for the rest of the year the consumption of electricity by the ice factories is normal. Hence, if any consumer defaults in payment of the monthly bill, the Department would not be able to recover the dues if the consumers are exempted from payment of security deposit. Therefore, the Department requests the Commission not to give exemption to the ice factories from payment of security deposit and to levy security deposit as per the provisions of the Supply Code Regulations.

Commission's View

The security deposit serves as an instrument of safeguarding the Petitioner in case of payment default by the consumers. While determining the tariff, the working capital requirement is reduced to the extent of amount of security deposit available as cash, effectively reducing the end consumer tariff (as the interest on working capital is reduced due to reduced working capital). Thus, security deposit on one hand safeguards the Utility, on the other hand it reduces the consumers tariff. The Commission considering the submission by fisheries related industries has already reduced the fixed tariff for such industries by 25% in the lean season. Further, the consumer can opt to give BG or FD against the security deposit as provided in JERC Supply Code, 2018. Hence, the Commission finds it appropriate to retain amount of security deposit.

3. Chapter 3: True-up for FY 2017-18

3.1. Background

Under the first MYT Control Period, Order on Aggregate Revenue Requirement (FY 2016-17 to FY 2018-19) and Wheeling & Retail Supply Tariff for FY 2016-17 was issued by the Commission on April 6, 2016 (hereinafter referred to as the "MYT Order"). The Tariff Order determining the true-up for FY 2015-16, Annual Performance review of FY 2016-17 and Aggregate Revenue Requirement and tariff for FY 2017-18 was issued on May 29, 2017 (hereinafter referred to as the "ARR Order" for the purposes of true-up of FY 2017-18). The Tariff Order determining the true-up for FY 2016-17, Annual Performance review of FY 2017-18 and Aggregate Revenue Requirement and tariff for FY 2018-19 was issued on March 13, 2018 (hereinafter referred to as the "APR Order" for the purposes of true-up of FY 2017-18).

The true up for FY 2017-18 has to be carried out in accordance to Regulation 8 of the MYT Regulations, 2014, stated as follows:

"(2) After audited accounts of a year are made available, the Commission shall undertake similar exercise as above with reference to the final actual figures or the provisional actual accounts as available as per the audited accounts. This exercise with reference to audited accounts shall be called 'Truing Up'.

The Truing Up for any year will ordinarily not be considered after more than one year of 'Review'.

(3)The revenue gap/surplus, if any, of the ensuing year shall be adjusted as a result of review and truing up exercises.

(4)While approving such expenses/revenue to be adjusted in the future years as arising out of the Review and/or Truing up exercises, the Commission may allow the carrying costs as determined by the Commission of such expenses/revenue. Carrying costs shall be limited to the interest rate approved for working capital borrowings.

(5)For any revision in approvals, the licensee would be required to satisfy the Commission that the revision is due to conditions beyond its control.

(6)In case additional supply is required to be made to any particular category, the licensee may, any time during the year make an application to the Commission for its approval. The application will demonstrate the need for such additional supply of power and also indicate the manner in which the licensee proposes to meet the cost for such additional supply of power."

The Commission in this Chapter now carries out the true-up of FY 2017-18, the second year of the first Control Period, in accordance with the principles laid down in the MYT Regulations, 2014.

3.2. Energy Sales

Petitioner's Submission

The Petitioner has submitted the total quantum of energy sales for FY 2017-18 as 2,101.22 MU as against approved energy sales quantum of 2,084.14 MU in the APR Order.

Commission's Analysis

Regulation 9.1 of the MYT Regulations, 2014 provides:

"The "uncontrollable factors" shall comprise of the following factors which were beyond the control of, and could not be mitigated by the applicant:

(a) *Force Majeure events, such as acts of war, fire, natural calamities, etc.*
(b) *Change in law;*
(c) *Taxes and Duties;*
(d) *Variation in sales; and*
(e) *Variation in the cost of power generation and/or power purchase due to the circumstances specified in these Regulations;"*

The Commission had approved the energy sales of 2,084.14 MU in the APR Order, against which actual energy sales of 2,101.22 MU have been submitted by the Petitioner now. The quantum of energy sales was verified from Energy Audit Report and billing data submitted by the Petitioner and the same were found to be in order.

The table below provides the energy sales approved by the Commission in the APR Order, the Petitioner's submission and quantum of energy sales now trued-up by the Commission.

Table 9: Energy Sales trued-up by the Commission (MU)

S. No	Category	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Domestic	114.99	121.32	121.40
2	Low Income Group	0.15	0.10	0.03
3	Commercial	58.75	57.74	57.74
4	Agriculture	4.89	4.83	4.83
5	LT Industry	196.57	195.61	195.61
6	HT/EHT Industry	1,691.96	1,708.63	1,708.63
7	Public Lighting	9.82	9.48	9.48
8	Public Water Works	3.61	3.49	3.49
9	Temp. Supply	3.40	0.00	0.00
10	**Total**	**2,084.14**	**2,101.22**	**2,101.22**

The Commission approves 2,101.22 MU as energy sales in the true-up of FY 2017-18.

3.3. Open Access Sales and Purchase

Petitioner's Submission

The Petitioner has submitted the total Open Access Sales for FY 2017-18 as 276.14 MU against an approved Sales quantum of 321.09 MU in the APR Order and the Open Access purchase as 284.37 MU against an approved purchase of 327.20 MU.

Commission's Analysis

The Energy Audit Report submitted by the Petitioner stipulates the Open Access Sales of 276.14 MU and Open Access Purchase of 284.37 MU. The Commission has relied on the Energy Audit Report for the open access sales and purchase quantum and has considered the same here.

The following table provides the Open Access sales and purchase approved by the Commission in the APR Order, the Petitioner's submission and now trued-up by the Commission.

Table 10: Open Access Sales and Purchase (MU)

S. No.	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Open Access Sales	321.09	276.14	276.14
2	Open Access Purchase	327.20	284.37	284.37

The Commission approves 276.14 MU as Open Access Sales and 284.37 MU as Open Access Purchase in the true-up of FY 2017-18.

3.4. Inter-State Transmission Loss

Petitioner's submission

The Petitioner has submitted the Inter-State transmission loss of 3.00%, as against the approved value of 3.69% in the APR of FY 2017-18.

Commission's analysis

The Energy Audit Report submitted by the Petitioner for FY 2017-18 stipulates the Inter-State transmission loss of 2.46%. However, the same has been computed for all sources of power. The Commission has determined the energy requirement from tied-up sources (1,954.93 MU) in Energy Balance approved in the *Section 3.8: Energy Balance* of this Order. The energy available from tied-up sources (2,017.85 MU) has been considered as actual energy purchased as approved in *Section 3.6: Power Purchase Quantum and Cost* of this Order. The difference between the two has been considered as the Inter-State transmission loss.

The following table provides the Inter-State transmission loss as approved in the APR Order, the Petitioner's submission and now approved by the Commission.

Table 11: Inter-State Transmission Loss (%)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Inter-State transmission loss	3.69%	3.00%	3.12%

The Commission approves the Inter-State transmission loss at 3.12% in the true-up of FY 2017-18.

3.5. Intra-State Distribution Loss

Petitioner's submission

Intra-State distribution loss for FY 2017-18 has been arrived at 6.85% as compared to 8.40% approved by the Commission in the APR Order.

The Petitioner has submitted that it has been constantly endeavoring to reduce the T&D losses. It has arrived at the distribution loss based on actual sales data.

Commission's analysis

As per the Energy Audit Report submitted by the Petitioner, the Intra-State distribution loss is 6.85%, which is also the Petitioner's submission. Accordingly, the Commission has considered the Intra-State distribution loss as per the Energy Audit Report. Since, the Petitioner has been able to over-achieve the Intra-State distribution loss target of 8.40% for the year, the incentive for the same has been provided to the Petitioner in accordance with the MYT Regulations, 2014. The calculation of the same has been discussed in detail in *"Section 3.20: Incentive/Disincentive towards over/under-achievement of norms of distribution losses"* of this Order.

The following table provides the Intra-State distribution loss approved in the APR of FY 2017-18, the Petitioner's submission and as approved by the Commission now.

Table 12: Intra-State distribution loss approved by Commission (%)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Intra-State distribution loss	8.40%	6.85%	6.85%

The Commission approves Intra-State distribution loss at 6.85% in the true-up of FY 2017-18.

3.6. Power Purchase Quantum & Cost

Petitioner's submission:

The Petitioner meets its power requirement from allocations from central generating stations like NTPC, NSPCL, NPCIL and other generating stations such as RGGPL including bilateral agreement and banking arrangements. The allocation from CGS consists of a fixed share of allocation for a year, and the Govt. of India changes the variable share of allocation from the unallocated quota, time to time. Since, during the peak summer seasons the allocation of power from various sources is inadequate, therefore the Petitioner procures power from short–term sources i.e. power exchange, UI, banking etc.

The Petitioner has submitted that against the power purchase cost of INR 797.04 Cr approved by the Commission in the APR Order it has incurred a cost of INR 800.49 Cr (inclusive of cost incurred towards meeting the transmission charges, Renewable Purchase Obligation and UI, but excluding the revenue from sale of surplus power).

The EDDD purchased 75.81 MUs through the energy exchange at the cost of INR29.33 Crore to meet its energy demand during FY 2017-18. The ED DD has requested to allow the UI purchase during FY 2017-18 without any penalty as the ED DD has already incurred that amount. The total UI purchase is 227.60 MU at the cost of INR 55.87 Cr. Further, the ED DD generated 18.63 MUs of Solar energy from its Rooftop and Ground mounted Solar plants during FY 2017-18 which is also considered towards meeting the RPO target. As there were no Solar certificates available in the Energy Exchange, therefore Solar certificates could not be purchased to fulfill the Solar RPO targets. The EDDD procured 85008 Non-Solar certificates to meet the Non-Solar Renewable Purchase Obligation. The power purchase quantum and cost for FY 2017-18 has been shown in the table below:

Table 13: Power Purchase quantum and cost submitted by the Petitioner

Particulars	Units Purchased (MU)	Fixed Charges (INR Cr)	Variable Charges (INR Cr)	Other Charges (INR Cr)	Rebate	Credit for URS	All Charges Total (INR Cr)	Per Unit Cost
NTPC Stations								
KSTPP	361.07	22.50	48.88	5.12	0.00	0.00	76.49	2.12
KSTPP-III	43.83	5.89	5.84	0.60	0.00	0.00	12.34	2.81
VSTPP-I	95.86	7.39	15.09	0.87	0.00	0.00	23.35	2.44
VSTPP-II	68.74	4.36	10.31	0.57	0.00	0.00	15.25	2.22
VSTPP- III	87.16	8.27	13.22	0.71	0.00	0.00	22.19	2.55
VSTPP- IV	93.20	13.92	13.91	1.08	0.00	0.00	28.91	3.10
VSTPP- V	64.45	9.14	9.94	0.48	0.00	0.00	19.56	3.04
KAWAS	102.84	19.04	26.09	0.94	0.00	0.00	46.07	4.48
JGPP	135.14	23.94	30.74	4.70	0.00	0.00	59.38	4.39
Sipat-I	182.55	23.31	23.69	0.97	0.00	0.00	47.97	2.63
Sipat-II	72.53	8.66	9.75	0.37	0.00	0.00	18.78	2.59
MSTPS-I	55.27	15.30	15.23	0.46	0.00	0.00	30.99	5.61
MOUDA-II	47.78	7.92	12.44	(0.12)	0.00	0.00	20.24	4.24
KHSTPP-II	15.09	1.51	3.58	(0.10)	0.00	0.00	4.99	3.31
SOLAPUR	25.19	6.16	8.08	0.12	0.00	0.00	14.36	5.70
LARA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GADARWARA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	**1,450.70**	**177.32**	**246.79**	**16.77**	**9.97**	**0.34**	**431.25**	**2.97**
NTPC Bhilai								
Bhilai Unit-I &II(NTPC)	508.80	82.16	100.38	(0.46)			182.07	3.58
Subtotal	**508.80**	**82.16**	**100.38**	**(0.46)**			**182.07**	**3.58**
NPCIL								
KAPP &KAPS	(1.19)	0.00	0.00	0.00			0.00	0.00
TAPP 3&4	59.54	0.00	18.20	0.00			18.20	3.06
KAPPS (III & IV)	0.00	0.00	0.00	0.00			0.00	0.00
Subtotal	**58.35**	**0.00**	**18.20**	**0.00**			**18.20**	**3.12**

Particulars	Units Purchased (MU)	Fixed Charges (INR Cr)	Variable Charges (INR Cr)	Other Charges (INR Cr)	Rebate	Credit for URS	All Charges Total (INR Cr)	Per Unit Cost
Others								
Ratnagiri	0.00	0.00	0.00	0.00			0.00	0.00
Subtotal	**0.00**	**0.00**	**0.00**	**0.00**			**0.00**	**0.00**
Power purchase from Other Sources								
Power purchase from Indian E. Exchange	75.81	0.00	27.35	0.00			27.35	3.61
UI	227.60	0.00	55.87	0.00			55.87	2.45
Solar	18.63	0.00	0.00	0.00			0.00	
Non Solar	0.00	0.00	0.00	0.00			0.00	0.00
Solar REC	0.00	0.00	0.00	0.00			0.00	
Non Solar REC	0.00	13.05	0.00	0.00			13.05	
Solar (SECI, NTPC)							-	
Subtotal	**322.04**	**13.05**	**83.22**	**0.00**			**96.27**	**2.99**
Misc. Arrears								
NTPC Rebate								
Gross Power Purchase	**2,339.88**	**272.52**	**448.59**	**16.31**	**9.97**	**0.34**	**727.79**	**3.11**
Total Power Purchase	**2,339.88**	**272.52**	**448.59**	**16.31**	**9.97**	**0.34**	**727.79**	**3.11**
PGCIL CHARGES							68.66	
WRLDC							0.22	
MSETCL							3.79	
REC							0.001	
GETCO							0.00	
PGVCL							0.03	
POSCO							0.00	
Grand Total of Charges	**2,339.88**	**272.52**	**448.59**	**16.31**	**9.97**	**0.34**	**800.49**	**3.42**

Commission's analysis

The MYT Regulations, 2014 stipulate that any variation in the cost of power generation and/or power purchase shall be treated as an uncontrollable factor. Regulation 9.1 of the MYT Regulations stipulates the following:

"The "uncontrollable factors" shall comprise of the following factors which were beyond the control of, and could not be mitigated by the applicant:

(a) Force Majeure events, such as acts of war, fire, natural calamities, etc.
(b) Change in law;
(c) Taxes and Duties;
(d) Variation in sales; and
(e) Variation in the cost of power generation and/or power purchase due to the circumstances specified in these Regulations;"

The Petitioner procures power mainly from NTPC Stations, NPCIL stations, and IPPs. It has submitted the overall power purchase cost as INR 800.49 Cr, inclusive of transmission cost and REC costs.

On examining the power purchase quantum and cost as per the monthly and station-wise bills submitted by the Petitioner for each source, the Commission found that the power purchase cost as per audited accounts amount to INR 800.49 Cr. The Commission has relied on the audited accounts and actual bills of the Petitioner for the purpose of true-up of power purchase cost. The Petitioner has not made any submission in regards to cost of own generation of Solar power of which 18.63 MU have been stated to be generated. Therefore, the Commission has been constrained not to consider any cost towards the same. The Commission directs the Petitioner to submit the tariff Petition for determination of tariff of own generation of Solar power.

The Petitioner has submitted that the total power purchase cost is inclusive of the cost incurred towards compliance of the Renewable Purchase Obligation (RPO) target for FY 2017-18. The compliance status of RPO has been discussed in detail in the subsequent section. The Commission has considered the total cost of INR 12.75 Cr (including cost of Non-Solar RECs) as per the certificates submitted by the Petitioner towards compliance of RPO target in the total power purchase cost approved for FY 2017-18. The Petitioner has submitted that it has received a rebate from NTPC on account of income tax and supervision charges and considered the same as the part of the Non-Tariff Income. The Commission is of the view that since the rebate received is on the account of power purchase from NTPC, the same has been considered while calculating the overall power purchase cost.

The following table provides the power purchase quantum and cost as approved by the Commission in true-up of FY 2017-18:

Table 14: Power Purchase quantum and cost as approved by the Commission

Particulars	Units Purchased (MU)	Fixed Charges (INR Cr)	Variable Charges (INR Cr)	Other Charges (INR Cr)	Rebate	Credit for URS	All Charges Total (INR Cr)	Per Unit Cost
NTPC Stations								
KSTPP	361.07	22.50	48.88	5.12	0.00	0.00	76.49	2.12
KSTPP-III	43.83	5.89	5.84	0.60	0.00	0.00	12.34	2.81
VSTPP-I	95.86	7.39	15.09	0.87	0.00	0.00	23.35	2.44
VSTPP-II	68.74	4.36	10.31	0.57	0.00	0.00	15.25	2.22
VSTPP- III	87.16	8.27	13.22	0.71	0.00	0.00	22.19	2.55
VSTPP- IV	93.20	13.92	13.91	1.08	0.00	0.00	28.91	3.10
VSTPP- V	64.45	9.14	9.94	0.48	0.00	0.00	19.56	3.04
KAWAS	102.84	19.04	26.09	0.94	0.00	0.00	46.07	4.48
JGPP	135.14	23.94	30.74	4.70	0.00	0.00	59.38	4.39
Sipat-I	182.55	23.31	23.69	0.97	0.00	0.00	47.97	2.63
Sipat-II	72.53	8.66	9.75	0.37	0.00	0.00	18.78	2.59
MSTPS-I	55.27	15.30	15.23	0.46	0.00	0.00	30.99	5.61
MOUDA-II	47.78	7.92	12.44	(0.12)	0.00	0.00	20.24	4.24
KHSTPP-II	15.09	1.51	3.58	(0.10)	0.00	0.00	4.99	3.31
SOLAPUR	25.19	6.16	8.08	0.12	0.00	0.00	14.36	5.70
LARA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GADARWARA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	**1,450.70**	**177.32**	**246.79**	**16.77**	**9.97**	**0.34**	**431.25**	**2.97**
NTPC Bhilai								
Bhilai Unit-I &II(NTPC)	508.80	82.16	100.38	(0.46)	0.00	0.00	182.07	3.58
Subtotal	**508.80**	**82.16**	**100.38**	**(0.46)**	**0.00**	**0.00**	**182.07**	**3.58**
NPCIL								
KAPP &KAPS	(1.19)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPP 3&4	59.54	0.00	18.20	0.00	0.00	0.00	18.20	3.06
KAPPS (III & IV)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	**58.35**	**0.00**	**18.20**	**0.00**	**0.00**	**0.00**	**18.20**	**3.12**
Others								
Ratnagiri	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Power purchase from Other Sources								
Power purchase from Indian E. Exchange	75.81	0.00	27.35	0.00	0.00	0.00	27.35	3.61
UI	227.60	0.00	55.87	0.00	0.00	0.00	55.87	2.45
Solar (Own generation)*	18.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non Solar*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Particulars	Units Purchased (MU)	Fixed Charges (INR Cr)	Variable Charges (INR Cr)	Other Charges (INR Cr)	Rebate	Credit for URS	All Charges Total (INR Cr)	Per Unit Cost
Solar REC*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non Solar REC*	0.00	12.75	0.00	0.00	0.00	0.00	12.75	0.00
Solar (SECI, NTPC)*							-	0.00
Subtotal	**322.04**	**12.75**	**83.22**	**0.00**	**0.00**	**0.00**	**95.97**	**2.98**
Misc. Arrears								
NTPC Rebate							(49.16)	
Total Power Purchase	**2,339.88**	**272.22**	**448.59**	**16.31**	**9.97**	**0.34**	**678.33**	**2.90**
PGCIL CHARGES							68.66	
WRLDC							0.22	
MSETCL							3.79	
REC							0.001	
GETCO							0.00	
PGVCL							0.03	
POSCO							0.00	
Grand Total of Charges	**2,339.88**	**272.22**	**448.59**	**16.31**	**9.97**	**0.34**	**751.03**	**3.21**

* Cost for RPO is approved in Section 3.7

The Commission approves power purchase quantum of 2,321.25 MU (excluding own Solar generation) and cost of INR 751.03 Cr in the true-up of FY 2017-18.

3.7. Renewable Purchase Obligation (RPO)

Petitioner's submission

It has procured 18.63 MUs from its own Solar generation and 85.01 MUs of the Non-Solar RECs from the exchange towards the RPO compliance.

Commission's analysis

As per Regulation 1 (1) of the JERC for the State of Goa and UTs (Procurement of Renewable Energy) Regulations, 2010:

"Each distribution licensee shall purchase electricity (in kWh) from renewable energy sources, at a defined minimum percentage of the total consumption of all the consumers in its area during a year."

The Commission notified the JERC (Procurement of Renewable Energy), (Third Amendment) Regulations, 2016 on August 22, 2016 and revised the RPO targets, according to which the Petitioner had to purchase 6.70%(Solar-2.50% and Non-Solar-4.20%) of its total consumption (excluding hydro) from renewable sources for FY 2017-18.

For FY 2017-18, the Petitioner had a standalone target of renewable procurement of 140.78 MU comprising of 52.53 MU Solar and 88.25 MU Non Solar. Against the target, the Petitioner has generated 18.63 MU of physical Solar power. The Petitioner also purchased RECs equivalent to 85,008 MU of Non-Solar Power.

Based on the above, the Commission has computed the cumulative RPO compliance at the end of FY 2017-18 as shown in the following table:

Table 15: Compliance status of Renewable Purchase Obligation (RPO)

S. No	Particulars	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18
1	Solar Target	0.25%	0.30%	0.40%	0.40%	0.60%	0.85%	1.65%	2.50%
2	Non Solar Target	0.75%	1.70%	2.60%	2.60%	2.70%	2.70%	3.20%	4.20%
	Total Target	**1.00%**	**2.00%**	**3.00%**	**3.00%**	**3.30%**	**3.55%**	**4.85%**	**6.70%**
3	Sales Within UT	1,655.20	1,771.17	1,862.95	1,754.08	1,621.72	1,691.98	1,757.11	2,101.22
	RPO Target								
5	Solar	4.14	5.31	7.45	7.02	9.73	14.38	28.99	52.53
6	Non Solar	12.41	30.11	48.44	45.61	43.79	45.68	56.23	88.25
	Total RPO Target	**16.55**	**35.42**	**55.89**	**52.62**	**53.52**	**60.07**	**85.22**	**140.78**
	RPO Compliance (Actual Purchase)								
7	Solar	0.00	0.00	0.00	0.20	0.40	4.42	14.48	18.63
8	Non Solar	0.00	0.00	0.00	0.00	0.00	7.13	24.81	0.00
	Total RPO Compliance (Actual Purchase)	**0.00**	**0.00**	**0.00**	**0.20**	**0.40**	**11.55**	**39.29**	**18.63**
	RPO Compliance (REC Certificate Purchase)								
9	Solar	0.00	0.00	0.00	0.00	0.00	57.15	0.00	0.00
10	Non Solar	0.00	0.75	4.70	13.20	79.73	108.23	13.33	85.01
	Total RPO Compliance (REC Certificate)	**0.00**	**0.75**	**4.70**	**13.20**	**79.73**	**165.38**	**13.33**	**85.01**
	RPO Compliance (REC+Actual)								
11	Solar	0.00	0.00	0.00	0.20	0.40	61.57	14.48	18.63
12	Non Solar	0.00	0.75	4.70	13.20	79.73	115.36	38.14	85.01
	Total RPO Compliance	**0.00**	**0.75**	**4.70**	**13.40**	**80.13**	**176.93**	**52.62**	**103.64**
	Cumulative Requirement till current year								
13	Solar	4.14	9.45	16.90	23.92	33.65	48.03	77.02	129.55
14	Non Solar	12.41	42.52	90.96	136.57	180.35	226.04	282.26	370.52
	Total	**16.55**	**51.98**	**107.86**	**160.49**	**214.00**	**274.07**	**359.29**	**500.07**
	Cumulative Compliance till current year								
15	Solar	0.00	0.00	0.00	0.20	0.60	62.17	62.51	81.13
16	Non Solar	0.00	0.75	5.45	18.65	98.38	213.74	251.88	338.87
	Total	**0.00**	**0.75**	**5.45**	**18.85**	**98.98**	**275.91**	**314.39**	**418.03**

As mentioned above, the Petitioner has failed to cover entire RPO shortfall till FY 2017-18 by March 31, 2018. The Commission notes that there is a net shortfall in RPO compliance till FY 2017-18 of 82.04 MU (Solar : 48.41 MU and Non Solar: 33.63 MU). The Commission had dealt with the cost associated with covering the shortfall in RPO in the APR for FY 2017-18. As mentioned in the previous section, the cost of RPO compliance to the extent of actual compliance has been considered in the total power purchase cost. The following table provides the cost towards compliance of RPO approved in FY 2017-18.

Table 16: Cost towards compliance of Renewable Purchase Obligation (INR Crore)

S. No.	Description	RPO (MU)	Total Cost (INR Cr)
1	Solar Purchase (Own Generation)	18.63	0.00
2	Solar REC	0.00	0.00
3	Non-Solar Purchase	0.00	0.00
4	Non-Solar REC	85.01	12.75
5	**Total**	**103.64**	**12.75**

The Commission approves INR 12.75 Cr towards compliance of RPO in the true-up of FY 2017-18.

3.8. Energy Balance

Petitioner's submission

The Petitioner has submitted the energy requirement as shown in the following table.

Table 17: Energy requirement submitted by the Petitioner (MU)

Particulars	Petitioner's Submission
Retail Sales (a)	2,101.22
Open Access Sales (b)	276.14
Less: Energy Savings (c)	0.00
Total Sales (d=a+b-c)	**2,377.36**
Distribution Loss (MU) (e=g-d)	174.87
Distribution Loss (%) (f=e/g)	6.85%
Energy Required at Periphery (g)	**2,552.23**
Sale to common pool consumer/UI Sale(h)	9.16
Own generation (i)	18.63
Total energy requirement at state periphery(j=g+h-i)	**2,542.77**
Less: Energy Purchased through UI at Periphery (k)	227.60
Less: Open Access Purchase at Periphery (l)	284.37
Less: Energy Purchased through Renewable Sources (m)	0.00
Energy requirement at state periphery from tied up sources (n=j-k-l-m)	**2,030.80**
Inter state loss (MU) (o=p-n)	62.85
Inter state loss (%)	3.00%
Energy requirement at state periphery from generator end (p)	**2,093.65**
Total Energy requirement from tied up sources & UI at generator end (q=p+k+m)	**2,321.25**
Total Energy requirement in UT including Open Access (r=q+l)	**2,605.62**

Commission's analysis:

The information submitted by the Petitioner on power purchase quantum, UI over/ under drawl, IEX/ Bilateral purchase has been studied along with the Energy Audit Report and accordingly the energy balance has been derived for FY 2017-18.

The following table provides the energy balance submitted by the Petitioner and now approved by the Commission.

Table 18: Energy balance approved by Commission (MU)

Particulars	Petitioner's Submission	Now Approved
Energy sales within the State/UT	2,101.22	2,101.22
Open Access Sales	276.14	276.14
Less: Energy Savings	0.00	0.00
Total Sales within the State/UT	2,377.36	2,377.35
Distribution losses		
%	6.85%	6.85%
MU	174.82	174.82
Energy required at State Periphery	**2,552.18**	**2,552.17**
Add: Sales in Unscheduled Interchange	9.16	9.16
Add: Sales in Power Exchanges	0.00	0.00
Less: Own Generation	18.63	18.63
Less: Purchase under UI (MU)	227.60	227.60
Less: Purchase from Exchange (MU)	0.00	75.81
Less: Open Access Purchase (MU)	284.37	284.37
Total energy requirement at State Periphery from tied-up Sources (MU)	**2,030.74**	**1,954.93**
Transmission losses		
%	3.00%	3.12%
MU	62.81	62.92
Total energy requirement from tied-up sources at generator end (MU)	**2,093.55**	**2,017.85**
Total requirement from Tied-up sources at generator end & UI/Traders/Banking/within State (MU)		**2,339.89**
Total requirement in UT including Open Access (MU)	**2,605.52**	**2,605.52**

3.9. Operation & Maintenance Expenses

The Operation & Maintenance Expenses comprise of the Employee Expenses, Administrative and General Expenses (A&G) and the Repair & Maintenance Expenses (R&M). The MYT Regulations, 2014 consider the variation of O&M Expenses to be controllable. Regulation 9.2 of the MYT Regulation, 2014 states the following:

"9.2 Some illustrative variations or expected variations in the performance of the applicant, which may be attributed by the Commission to controllable factors include, but are not limited to the following:

(a)Variations in capital expenditure on account of time and/or cost overruns/ efficiencies in the implementation of a capital expenditure project not attributable to an approved change in scope of such project, change in statutory levies or force majeure events;

(b)Variations in Transmission and Distribution Losses (T&D) losses in case of bundled utilities and Distribution losses in case of unbundled utilities which shall be measured as the difference between the units input into the distribution system and the units supplied and billed;

(c)Depreciation and working capital requirements;

(d)Failure to meet the standards specified in the Joint Electricity Regulatory Commission (Standards of Performance) Regulations, 2009 except where exempted;

(e)Variation in operation & maintenance expenses, except those attributable to directions of the Commission;

(f)Variation in Wires Availability and Supply Availability;

(g)Variation on account of inflation;"

Therefore, any variation in O&M Expenses is attributable to the Petitioner and is not passed on in the ARR, other than any cost, which is beyond the control of the Petitioner.

3.9.1. Employee Expenses

Petitioner's submission

Employee expenses of INR 17.13 Cr have been incurred against approved expenses of INR 11.59 Cr in the APR Order. The employee expenses comprise of Salaries, Dearness allowance, Bonus, Terminal benefits in the form of Pension and Gratuity, Leave encashment and staff welfare expenses. The variation in the employee expenses is on the account of implementation of Seventh Pay Commission, which is an uncontrollable factor.

Commission's analysis

As per the audited accounts submitted by the Petitioner, the employee expenses during FY 2017-18 are reflected as INR 17.13 Cr. The Petitioner has submitted that the reason for the substantial increase in salaries and wages is on account of the Seventh Pay Commission.

The Commission is of the opinion that increase in salaries and wages on account of the recommendations of the Seventh Pay Commission is an uncontrollable expenditure, hence any increase on account of the Seventh Pay Commission recommendation should be a pass through. The impact of Seventh Pay Commission for FY 2016-17 has been considered as per the submission of Petitioner. The impact for last quarter of FY 2015-16 is calculated by deescalating impact in FY 2016-17 by average CPI growth rate from FY 2015-16 to FY 2017-18. The impact for FY 2017-18 is calculated by escalating impact in FY 2016-17 by average CPI growth rate from FY 2015-16 to FY 2017-18.

The MYT Regulations, 2014 stipulate the variation in operation and maintenance expenditure to be a controllable factor. Thus, in accordance with the MYT Regulations, the Commission approves employee expenses as approved in the APR Order along with the impact of Seventh Pay Commission for FY 2015-16 (last quarter), FY 2016-17 and FY 2017-18.

Table 19: Employee Expenses approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Employee Expenses	11.59	17.13	11.59
2	Impact of 7th Pay Commission	0.00	0.00	1.82*
3	Total Employee Expenses	11.59	17.13	13.41

* Includes impact for FY 2015-16 (Q4), FY 2016-17 and FY 2017-18

The Commission approves Employee Expenses of INR 13.41 Cr in the true-up of FY 2017-18.

3.9.2. Administrative and General (A&G) Expenses

Petitioner's submission

The Petitioner has submitted the actual A&G expenses of INR 6.08 Cr as reflected in audited accounts against the approved expenses of INR 5.18 Cr in the APR Order.

Commission's analysis

A&G expenses mainly comprise of rents, telephone and other communication expenses, professional charges, conveyance and travelling allowances, etc. As per the audited accounts submitted by the Petitioner the A&G expenses for FY 2017-18 are reflected as INR 6.08 Cr.

However, as variation in the O&M expenses is controllable, the Commission approves the same A&G expenses as approved in the APR Order.

Table 20: A&G Expenses approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Administration & General Expenses (A&G)	5.18	6.08	5.18

The Commission approves the Administrative & General (A&G) expenses of INR 5.18 Cr in the true-up of FY 2017-18.

3.9.3. Repair & Maintenance Expenses (R&M)

Petitioner's submission

Actual R&M expenses of INR 14.83 Cr have been incurred against approved expenses of INR 15.20 Cr in the APR Order. R&M expenses are incurred towards day-to-day maintenance of the transmission and distribution network of the Petitioner and form an integral part of the Licensee's efforts towards providing reliable and quality power supply and reduction of losses in the system.

Commission's analysis

Similar to the approach followed while approving the Employee expenses and A&G expenses above, the Commission approves the same R&M Expenses as approved in the APR Order.

Table 21: R&M Expenses approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Repair & Maintenance Expenses (R&M)	15.20	14.83	15.20

The Commission approves the Repair & Maintenance (R&M) expenses of INR 15.20 Cr in the true-up of FY 2017-18.

3.9.4. Total Operation and Maintenance Expenses (O&M)

The following table provides the O&M expenses, approved by the Commission in the APR Order, Petitioners submission and O&M expenses now trued-up by the Commission.

Table 22: O&M Expenses approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Employee Expenses	11.59	17.13	13.41
2	Administrative & General Expenses (A&G)	5.18	6.08	5.18
3	Repair & Maintenance Expenses	15.20	14.83	15.20
4	**Total Operation & Maintenance Expenses**	**31.97**	**38.04**	**33.79**

The Commission approves the Operation & Maintenance (O&M) expenses of INR 33.79 Cr in the true-up of FY 2017-18.

3.10. Capital Expenditure and Capitalisation

Petitioner's submission

The actual capital expenditure incurred in FY 2017-18 was INR 50.60 Cr and capitalisation achieved during the year was INR 55.31 Cr, against the approved capital expenditure of INR 73.63 Cr and capitalization of INR 73.63 Cr in the APR Order.

Commission's analysis:

The Commission observes that the capitalisation achieved by the Petitioner is lower than that approved by the Commission in the APR Order. Lower capitalisation signifies that not enough efforts are being taken in enhancing the reliability and quality of supply to the consumers. Accordingly, the Commission directs the Petitioner to increase its efforts towards undertaking capital expenditure activities necessary to improve the service quality and target 24x7 supply to all consumers.

The Commission examined the Fixed Asset Register (FAR) as submitted by the Petitioner and accordingly approves the capital expenditure and capitalisation as shown in the table below:

Table 23: Capital Expenditure and Capitalisation approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Capital Expenditure	73.63	50.60	50.60
2	Capitalisation	73.63	55.31	55.31

The Commission approves capital expenditure and capitalisation of INR 50.60 Cr and INR 55.31 Cr respectively in the true-up of FY 2017-18.

3.11. Capital Structure

Petitioner's Submission

The entire capital deployment by the ED DD is through equity for FY 2017-18.

Commission's analysis

In the first deficiency note, the Petitioner was directed to submit the relevant documents specifying the nature of capital deployed for creation of assets. The Petitioner submitted that the entire capital is infused as equity by the Government. Further, the Petitioner also submitted that no assets have been created through consumer contribution.

The MYT Regulations 2014, specify that if the equity actually deployed is more than 30% of the capital cost, then equity in excess of 30% would be considered as normative loan. Regulation 24 of the MYT Regulations 2014 states the following:

"

(a) *The Distribution Licensee shall provide detailed loan-wise, project-wise and utilization-wise details of all of the pending loans*

(b) *If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.*

Provided that where equity actually deployed is less than 30% of the capital cost, the actual loan shall be considered for determination of interest on loans."

In accordance with the MYT Regulations, 2014 the Commission has determined the capital structure for FY 2017-18. The opening Gross Fixed Assets for FY 2017-18 has been considered as closing Gross Fixed Assets approved in true-up of FY 2016-17 (net of value of Solar plants). Further the values of opening loan and equity has been considered as closing loan and equity approved in true-up of FY 2016-17. The loan and equity addition has been considered on normative basis as 70% and 30% respectively of the approved capitalization for the year.

Table 24: Funding Plan approved by the Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Capitalisation	73.63	55.31	55.31
2	Debt (%)	70%	70%	70%
3	Equity (%)	30%	30%	30%
4	Normative Loan	51.54	38.72	38.72
5	Equity	22.09	16.59	16.59

Table 25: GFA addition approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Opening Gross Fixed Assets	534.15	532.34	532.34
2	Addition during FY 2017-18	73.63	55.31	55.31
3	Adjustment/Retirement during FY 2017-18	-	-	0.00
4	Closing Gross Fixed Assets	607.78	587.65	587.65

Table 26: Normative Loan addition (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Opening Normative Loan	150.72	150.72	150.72
2	Add: Normative Loan During the year	51.54	38.71	38.72
3	Less: Normative Repayment equivalent to Depreciation	29.21	27.14	28.73
4	Closing Normative Loan	173.05	162.29	160.70

Table 27: Normative Equity addition (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Opening Equity	61.64	41.98	61.64
2	Additions on account of new capitalisation	22.09	16.59	16.59
3	Closing Equity	83.73	58.57	78.23

3.12. Depreciation

Petitioner's submission

The Petitioner has submitted that for computation of depreciation, the opening GFA and actual addition during FY 2017-18 as per the annual accounts has been considered. Further, depreciation for the year has been considered based on the Fixed Asset Register prepared for FY 2017-18.

Commission's analysis

Regulation 23 of the MYT Regulations 2014, states the following:

"

(a) *Depreciation shall be calculated for each year of the control period on the original cost of the fixed assets of the corresponding year.*

(b) *Depreciation shall not be allowed on assets funded by capital subsidies, consumer contributions or grants.*

(c) Depreciation shall be calculated annually as per straight-line method over the useful life of the asset at the rate of depreciation. The same shall be as specified in the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2014. (The same may vary as notified by CERC from time to time.)

(d) The residual value of assets shall be considered as 10% and depreciation shall be allowed to a maximum of 90% of the original cost of the asset.
Provided that Land shall not be treated as a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset.

(e) Depreciation shall be charged from the first year of operation of the asset.
Provided that in case the operation of the asset is for a part of the year, depreciation shall be charged on proportionate basis.

(f) A provision of replacement of assets shall be made in the capital investment plan."

As per the norms specified in the MYT Regulations, 2014 the Commission has verified the asset wise capitalisation of the Petitioner and has accordingly derived the weighted average rate of depreciation based on the asset wise depreciation rate prescribed in the CERC Tariff Regulations, 2014 as provided in the table below:

Table 28: Depreciation Rate (%)

Description	Rate
Plant & Machinery	5.28%
Buildings	3.34%
Vehicles	9.50%
Furniture & Fixtures	6.33%
Computers & Others	15.00%
Land	0.00%

The Petitioner as part of the this Petition has submitted the Fixed Asset Register (FAR) for FY 2017-18 which specifies the value of assets that have achieved 90% depreciation as of FY 2017-18. As the MYT Regulations, 2014 stipulates that the depreciation shall be allowed to a maximum of 90% of the original cost of the asset, therefore the total value of assets depreciated upto 90% as reflected in the FAR of FY 2017-18 has been deducted from the opening GFA as approved in the previous section.

The revised GFA has then been considered and the deprecation on average Gross Fixed Assets (GFA) has been determined. The net addition during the year has been calculated after deducting the value of retired assets.

The following table provides the calculation of revised GFA for the year FY 2017-18:

Table 29: Calculation of revised GFA (INR Crore)

Description	Opening GFA as per audited accounts	Less: Assets depreciated upto 90% till FY 2017-18	Revised Opening GFA	Addition/ Deletion during the year	Closing GFA
Plant & Machinery	472.58	0.00	472.58	52.29	524.87
Buildings	23.72	0.00	23.72	0.00	23.72
Vehicles	0.67	0.57	0.10	0.00	0.10
Furniture & Fixtures	2.33	0.00	2.33	0.29	2.62
Computers & Others	8.26	0.00	8.26	2.72	10.98
Land	24.79	0.00	24.79	0.00	24.79
Total	**532.34**	**0.57**	**531.78**	**55.31**	**587.08**

The following table provides the calculation of depreciation during the year FY 2017-18:

Table 30: Depreciation approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Closing GFA approved in the True-up of FY 2016-17 (a)	534.15	532.34	532.34
2	Revised Opening GFA for FY 2017-18 (b)	-	-	532.34
3	Less: Assets depreciated upto 90% till FY 2017-18 (c)	-	-	0.57
4	Opening Gross Fixed Assets for calculation of depreciation (b-c)	534.15	532.34	531.78
5	Addition during FY	73.63	55.31	55.31
6	Adjustment/Retirement during FY	0.00	0.00	0.00
7	Closing Gross Fixed Assets	607.78	587.65	587.08
8	Average Gross Fixed Assets	570.97	560.00	559.43
9	Rate of Depreciation (%)	5.12%	4.85%	5.14%
10	**Depreciation**	**29.23**	**27.14**	**28.73**

* The approved higher rate of depreciation is on the account of using the correct depreciation for computers and others category

The Commission approves depreciation of INR 28.73 Cr in the true-up of FY 2017-18.

3.13. Interest on Loan

Petitioner's submission

The Petitioner has submitted the Interest on Loan on normative basis. The normative loan addition in FY 2017-18 has been computed as 70% of the capitalisation for FY 2017-18. The repayment of loans has been considered equal to the depreciation during FY 2017-18.

Further the rate of interest has been considered as the State Bank of India Prime Lending Rate (SBI PLR) of 13.85% on April 1, 2017.

Commission's analysis:

Regulation 24 of the MYT Regulations provides:

"

(a) *The Distribution Licensee shall provide detailed loan-wise, project-wise and utilization-wise details of all of the pending loans*

(b) *If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.*

Provided that where equity actually deployed is less than 30% of the capital cost, the actual loan shall be considered for determination of interest on loans.

(c) *Actual loan or normative loan, if any, shall be referred as gross normative loan in this Regulation.*

(d) *The normative loan outstanding as of 1st April of control period shall be computed by deducting the cumulative repayment as approved by the Commission (basis as mentioned below) up to 31st March of current period (a year before control period) from the gross normative loan.*

(e) *The repayment for the control period shall be deemed to be equal to the depreciation allowed for the year.*

(f) *Notwithstanding any moratorium period availed by the Distribution Licensee, the repayment of the loan shall be considered from the first year of the control period as per annual depreciation allowed.*

(g) *The rate of interest shall be the weighted average rate of interest calculated on the basis of actual loan portfolio at the beginning of each year of the control period, in accordance with terms and conditions of relevant loan agreements, or bonds or non-convertible debentures.*

Provided that if no actual loan is outstanding but normative loan is still outstanding, the last available weighted average rate of interest shall be applicable.

Provided further that the interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

Provided also that exception shall be made for the existing loans which may have different terms as per the agreements already executed if the Commission is satisfied that the loan has been contracted for and applied to identifiable and approved projects.

(h) *The Distribution Licensee shall make every effort to refinance the loan as long as it results in net benefit to the consumers.*

Provided that the cost associated with such refinancing shall be eligible to be passed through in tariffs and the benefit on account of refinancing of loan and interest on loan shall be shared in the ratio of 50:50 between the Distribution Licensee and the consumers.

Provided further that the Distribution Licensee shall submit the calculation of such benefit to the Commission for its approval. •

(i) *(The Distribution Licensee shall enable tracking of the loans converted into grants under schemes, like APDRP by providing information and data regularly to the Commission and for ensuring that the interest on these loans which has been passed on to the consumers inappropriately in the earlier years shall be recovered from the Distribution Licensee."*

The Commission has considered the values for opening loan and loan addition as approved in the *Section 3.11: Capital Structure* of this Order. Further, the repayment is considered the same as depreciation approved for the year. In line with past practice, the Commission for the purpose of calculation of Interest on Loan has considered the interest rate equivalent to SBI PLR as on April 1, 2017 (13.85%).

The following table provides the Interest on Loan, approved by the Commission in the APR Order, Petitioner's submission and now trued-up by the Commission.

Table 31: Interest on Loan approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Opening Normative Loan	150.72	150.72	150.72
2	Add: Normative Loan During the year	51.54	38.71	38.72
3	Less: Normative Repayment= Depreciation	29.21	27.14	28.73
4	Closing Normative Loan	173.05	162.29	160.70
5	Average Normative Loan	161.88	156.51	155.71
6	Rate of Interest (%)	13.85%	13.85%	13.85%
7	**Interest on Loan**	**22.42**	**21.68**	**21.57**

The Commission approves the Interest of Loan of INR 21.57 Cr in the true-up of FY 2017-18.

3.14. Return on Equity (RoE)

Petitioner's submission

The RoE is calculated in accordance with the MYT Regulations 2014, and is computed on 30% of the capital base. The equity addition has been considered to the tune of 30% of assets capitalized during the year. The Petitioner has computed the Return on Equity at 16% on post tax basis.

Commission's analysis:

Regulation 27 of the MYT Regulations, 2014 provides:

"

(a) *the Return on equity shall be computed on 30% of the capital base or actual equity, whichever is lower:*

Provided that assets funded by consumer contribution, capital subsidies/grants and corresponding depreciation shall not form part of the capital base. Actual equity infused in the Distribution Licensee as per book value shall be considered as perpetual and shall be used for computation in this Regulation.

(b) *The return on the equity invested in working capital shall be allowed from the date of start of commercial operation.*

(c) *16% post-tax return on equity shall be considered irrespective of whether the Distribution Licensee has claimed return on equity in the ARR Petition"*

The Commission has considered the values for opening equity and equity addition as approved in the *Section 3.11: Capital Structure* of this Order. The RoE has been calculated on the average of the opening and the closing of equity during the year @ 16% post-tax basis. The following table provides the return on equity trued-up for FY 2017-18.

Table 32: RoE approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Opening Equity	61.64	41.98	61.64
2	Additions on account of new capitalisation	22.09	16.59	16.59
4	Closing Equity	83.73	58.57	78.23
5	Average Equity	72.68	50.28	69.94
6	Return on Equity (%)	16.00%	16.00%	16.00%
	Return on Equity	**11.63**	**8.04**	**11.19**

The Commission approves a Return on Equity of INR 11.19 Cr in the true-up of FY 2017-18.

3.15. Interest on Security Deposits

Petitioner's submission

Payments of INR 3.16 Cr were released to the consumers towards interest on security deposits during FY 2017-18 against INR 3.58 Cr approved by the Commission in the APR Order.

Commission's analysis:

As per Regulation 6.10 (8) of the JERC Electricity Supply Code Regulations, 2010

"The distribution licensee shall pay interest, at the bank rate notified by the Reserve Bank of India from time to time on such security deposits taken from the consumer. In this regard it shall be the responsibility of the licensee to keep a watch on the bank rate from time to time. The interest amount of previous financial year shall be adjusted in the energy bill issued in May / June of each financial year depending on billing cycle."

The Commission has considered the actual interest on security deposit disbursed to the consumers in their bills, as reflected in the audited accounts of FY 2017-18 for truing-up.

The following table provides the interest on security deposit as approved in the APR Order, the Petitioner's submission and the interest now approved by the Commission:

Table 33: Interest on Consumer Security Deposits approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	**Interest on Security Deposit**	**3.58**	**3.16**	**3.16**

The Commission approves interest on security deposit as INR 3.16 Cr in the true-up of FY 2017-18.

3.16. Interest on Working Capital

Petitioner's submission

The interest on working capital has been calculated based on the normative principles outlined in the JERC (Multi Year Distribution Tariff) Regulations, 2014.

The working capital requirement for the Control Period has been computed considering the following parameters:

(a) Receivables of two months of billing

(b) Less power purchase cost of one month

(c) Less consumer security deposit but excluding Bank Guarantee/Fixed Deposit

(d) Inventory for two months based on annual requirement for previous year

The interest on working capital is computed at 9.30% (SBI base rate as on April 1, 2017 as has been shown in the table below:

Table 34: Interest on Working Capital submitted by Petitioner (INR Crore)

S. No	Particulars	Petitioner's Submission
1	Receivables of two months of billing	145.60
2	Less: Power Purchase Cost for one month	66.66
3	Inventory Based on Annual Requirement for Previous FY for 2 months	1.43
4	Total Working Capital Requirement	80.37
5	Less: Security Deposit excluding BG/FDR	52.68
6	Net Working Capital	27.69
7	Rate of Interest (%)	9.30%
	Interest on Working Capital	**2.57**

Commission's analysis:

The computation of working capital requirements and the rate of interest to be considered are stipulated in the MYT Regulations, 2014. Regulation 25 of the MYT Regulations 2014 states the following:

"Working capital for retail supply activity of the licensee shall consist of:

(i) Receivables of two months of billing

(ii) Less power purchase cost of one month

(iii) Less consumer security deposit but excluding Bank Guarantee/Fixed Deposit Receipt

(iv) *Inventory for two months based on annual requirement for previous year.*

The rate of interest on working capital shall be equal to the base rate for the State Bank of India on the 1st April of the relevant financial year. The interest on working capital shall be payable on normative basis notwithstanding that the licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan worked out on the normative figures."

The Commission, for determination of working capital requirements of the Petitioner during the year, has considered the receivables as ARR on pro rata basis for 2 months, the net power purchase cost after adjusting the rebate in power purchase bills, the consumer security deposit and the inventory for two months as per the audited accounts of FY 2017-18.

With regards to the interest rate, the Petitioner has erroneously considered the SBI base rate as on April 1, 2017 as 9.30% instead of 9.10%. The Commission therefore has considered the correct SBI Base rate as on April 1, 2017 in line with the MYT Regulations, 2014, which is 9.10%.

The working capital requirement after deduction of the amount of security deposit is INR 26.68 Cr. Accordingly, the computation of Interest on Working Capital as shown in the table below:

Table 35: Interest on Working Capital approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Receivables of two months of billing	146.37	145.60	139.48
2	Less: Power Purchase Cost for one month	66.42	66.66	62.59
3	Inventory Based on Annual Requirement for Previous FY for 2 months	1.36	1.43	2.46
4	Total Working Capital Requirement	81.31	80.37	79.36
5	Less: Security Deposit excluding BG/FDR	55.01	52.68	52.68
6	Net Working Capital	26.30	27.69	26.68
7	Rate of Interest (%)	9.30%	9.30%	9.10%
	Interest on Working Capital	**2.45**	**2.57**	**2.43**

The Commission approves the Interest on Working Capital as INR 2.43 Cr in the true-up of FY 2017-18.

3.17. Income Tax

Petitioner's submission

No submission has been made in this regard.

Commission's analysis:

Regulation 28 of the MYT Regulations, 2014, states the following:

"

(a) *Income Tax, if any, on the Licensed business of the Distribution Licensee shall be treated as expense and shall be recoverable from consumers through tariff. However, tax on any income other than that through its Licensed business shall not be a pass through, and it shall be payable by the Distribution Licensee itself.*

(b) *The income tax actually payable or paid shall be included in the ARR. The actual assessment of income tax should take into account benefits of tax holiday, and the credit for carry forward losses applicable as per the provisions of the Income Tax Act 1961 shall be passed on to the consumers.*

(c) *Tax on income, if any, liable to be paid shall be limited to tax on return on the equity component of capital employed. However any tax liability on incentives due to improved performance shall not be considered."*

As the Regulation above stipulates that the income tax shall be approved as per actuals, the Commission considers the income tax expense for the year as Nil as no Income Tax was paid by the Petitioner for FY 2017-18.

Table 36: Income Tax approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Income Tax	0.00	0.00	0.00

The Commission approves Income Tax liability as Nil for FY 2017-18.

3.18. Provision for Bad & Doubtful Debts

Petitioner's submission

No submission has been made in this regard.

Commission's analysis:

As per Regulation 29 of the MYT Regulations, 2014:

"Bad and Doubtful Debts shall be limited to 1% of receivables in the True-up, subject to the condition that amount of bad and doubtful debts have actually been written off in the licensee books of accounts."

It is observed that as per the audited accounts, the licensee has not actually written off any bad and doubtful debts for FY 2017-18.

The Commission therefore has not considered any bad and doubtful debts in the true-up of FY 2017-18.

3.19. Non-Tariff Income (NTI)

Petitioner's submission

The Petitioner has submitted the actual Non-Tariff Income of INR 67.98 Cr for FY 2017-18 as against INR 20.08 Cr approved in APR for FY 2017-18. Out of the INR 67.98 Cr, INR 13.81 Cr is on account of delayed payment charges and INR 1.25 Cr on account of meter rent. The remaining INR 49.16 Cr is on account of various other components including the rebate received from NTPC on Income Tax.

Commission's analysis:

As discussed in *Section 3.6: Power Purchase Quantum and Cost*, the Commission is of the view that the rebate received from the NTPC is on accounts of the power purchase and the same has been considered while calculating the overall power purchase cost. The Commission has verified the submission of the Petitioner from the audited accounts for the remaining items and found the same to be correct. The NTI approved in the APR Order, Petitioner's submission and now trued-up by the Commission is shown in the following table:

Table 37: Non- Tariff Income approved by Commission (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Delayed Payment Charges			13.81
2	Meter Rent			1.25
4	Interest on FD and Others	**20.08**	**67.98**	3.21
5	Others			0.55
6	**Non-tariff income**			**18.82**

The Commission approves Non-Tariff Income of INR 18.82 Cr in the true-up of FY 2017-18.

3.20. Incentive/Disincentive towards over/under achievement of norms of distribution losses

Petitioner's submission:

No submission has been made in this regard.

Commission's analysis:

In the APR for FY 2017-18, the Commission had approved the T&D loss level of 8.40%. The Petitioner has achieved T&D loss of 6.85% against the approved loss level of 8.40%. The Commission, in accordance with Regulation 10 of the JERC MYT Regulations, 2014 (reproduced below) has determined the incentive towards the over-achievement of the target of Intra-State distribution loss for FY 2017-18 as follows:

"10.1 The licensee shall pass on to the consumers, the 70% of the gain arising from over achievement of the norms laid down by the Commission in these Regulations or targets set by the Commission from time to time and retaining balance 30% with themselves.
10.2 The approved aggregate gain or loss to the Distribution Licensee on account of uncontrollable factors shall be passed through, as an adjustment in the tariff of the Distribution Licensee, as specified in these Regulations and as may be determined in the Order of the Commission passed under these Regulations"

The incentive has been considered at INR 3.33/kWh, which is the Average Power Purchase cost (APPC) of the Petitioner. The APPC has been derived at State/UT Periphery based on the Power Purchase cost approved in the true-up and the Energy at the State/UT Periphery has been computed after grossing up the retail energy sales (2101.22 MU) with the actual Intra-State T&D Loss (6.85%).

The assessment of incentive for lower T&D losses is shown in the following table:

Table 38: Incentive due to over-achievement of Intra-State Distribution Loss target (INR Crore)

S. No	Particulars	As per Approved Intra-State T&D Loss	Trued-up by Commission
1	Retail Sales	2,101.22	2,101.22
2	T&D Loss (%)	8.40%	6.85%
3	Power Purchase at State/UT Periphery	2,293.91	2,255.73
4	Gain/(Loss) (MU)		38.18
5	Average Power Purchase Cost (APPC)		3.33
6	Gain/ (Loss) (INR Cr)		12.71
7	Sharing of 30% of gain with the Petitioner		**3.81**

The Commission approves INR 3.81 Cr as incentive for over-achieving the Intra-State distribution loss target for FY 2017-18.

3.21. Aggregate Revenue Requirement (ARR)

Petitioner's submission

Based on the expenses as detailed above, the Petitioner has submitted the net aggregate revenue requirement of INR 832.54 Cr for approval in the true-up of FY 2017-18.

Commission's analysis

The Commission on the basis of the detailed analysis of the cost parameters of the ARR approves the net revenue requirement in the true-up of FY 2017-18 as given in the following table:

Table 39: Aggregate Revenue Requirement approved by Commission for FY 2017-18 (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Power Purchase Cost	797.04	799.89	751.03
2	Operation & Maintenance Expenses	31.97	38.04	33.79
3	Depreciation	29.23	27.14	28.73
4	Interest and Finance charges	22.42	21.68	21.57
5	Return on Equity	11.63	8.04	11.19
6	Interest on Security Deposit	3.58	3.16	3.16
7	Interest on Working Capital	2.45	2.57	2.43
8	Income Tax	0.00	0.00	0.00
9	Provision for Bad Debt	0.00	0.00	0.00
10	Incentive/ (Disincentive)on achievement of norms	0.00	0.00	3.81
11	**Total Revenue Requirement**	**898.32**	**900.54**	**855.71**
12	Less: Non-Tariff Income	20.08	67.98	18.82
13	**Net Revenue Requirement**	**878.24**	**832.56**	**836.89**

The Commission approves net Aggregate Revenue Requirement of INR 836.89 Cr in the true-up of FY 2017-18.

3.22. Revenue at existing Retail Tariff

Petitioner's submission

The actual revenue from retail sale for FY 2017-18 is INR 873.59 Cr as against INR 862.78 Cr approved by the Commission in the APR Order. The Petitioner has also considered revenue recovered from FPPCA of INR 5.98 Cr, Open Access charges of INR 12.83 Cr, RRAS charge of INR 2.82 Crore, SLDC & STU charges of INR 10.12 Cr. The detailed reconciled statement of revenue from the sale of power at existing tariff and FPPCA with reference to the final actual figures of income & expenditure as per the audited accounts of FY 2017-18 has also been submitted.

Commission's analysis

The Commission has analysed the sales and revenue figures for each consumer category and verified the revenue from audited accounts. The consumer category-wise revenue as submitted by the Petitioner and approved by the Commission is shown in the following table:

Table 40: Revenue at existing tariff approved by Commission for FY 2017-18 (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Domestic	19.53		20.54
2	Commercial	16.92		18.55
3	Agriculture	0.32		0.31
4	LTP Industrial supply	64.31		69.01
5	Public Lighting	3.68		3.56
6	Public Water Works	1.22		1.15
7	HT Industry Supply	755.06		741.96
8	Hoardings/ Signboards	0.00		0.00
9	Temporary	1.73		0.00
10	**Sub-total**	**862.77**	**855.03**	**855.08**
11	FPPCA Charges	0.00	5.98	5.98
12	Rebate	0.00	-0.36	-0.36
13	RRAS Charges	0.00	2.82	2.82
14	SLDC Charges	0.00	10.12	10.12
15	**Total Revenue**	**862.77**	**873.59**	**873.64**
11	OA Charges	28.90	12.83	12.83
13	**Grand total**	**891.67**	**886.42**	**886.47**

The Commission approves the revenue from sale of power as INR 886.47 Cr (including FPPCA charges) in the true-up of FY 2017-18.

3.23. Standalone Revenue Gap/ Surplus

Petitioner's submission

Based on the ARR and the revenue from retail tariff, the standalone revenue surplus of INR 53.86 Cr is arrived at in the true-up of FY 2017-18.

Commission analysis

The Commission based on the approved ARR and retail tariff has arrived at the Revenue Gap/(Surplus) as follows:

Table 41: Standalone Revenue Gap/ (Surplus) for FY 2017-18 (INR Crore)

S. No	Particulars	Approved in APR Order	Petitioner's Submission	Trued-up by Commission
1	Net Revenue Requirement	878.24	832.54	836.89
2	Revenue from Retail Sales at Existing Tariff	891.67	873.59	873.64
3	Open Access Charges	(6.49)	12.83	12.83
4	**Total Revenue**	**885.18**	**886.42**	**886.47**
5	**Net Gap /(Surplus)**	**(6.95)**	**(53.87)**	**(49.58)**

The Commission, in the true-up of FY 2017-18 approves a standalone surplus of INR 49.58 Cr in true-up of FY 2017-18. This standalone surplus has been carried over in the subsequent years and has been dealt with while determining the tariff for FY 2019-20.

4. Chapter 4: Annual Performance Review for FY 2018-19

4.1. Background

The Tariff Order for FY 2018-19 was issued by the Commission on March 13, 2018 approving the Aggregate Revenue Requirement and retail tariff for FY 2018-19 (hereinafter referred to as "ARR Order" for the purposes of APR of FY 2018-19). This Chapter covers the Annual Performance Review for FY 2018-19 vis-à-vis the cost parameters approved by the Commission in the ARR Order. The Annual Performance Review for FY 2018-19 is to be carried out as per the following provisions of Regulation 8 of the JERC for the State of Goa and Union Territories (except Delhi) (Multi Year Distribution Tariff) Regulations, 2014:

"(1) The Commission shall undertake a review along with the next Tariff Order of the expenses and revenue approved by the Commission in the Tariff Order. While doing so, the Commission shall consider variations between approvals and revised estimates/actuals of sale of electricity, income and expenditure for the relevant year and permit necessary adjustments/ changes in case such variations are for adequate and justifiable reasons. Such an exercise shall be called 'Review'.

......(3) The revenue gap/surplus, if any, of the ensuing year shall be adjusted as a result of review and truing up exercises.

(4) While approving such expenses/revenue to be adjusted in the future years as arising out of the Review and/or Truing-up exercises, the Commission may allow the carrying costs as determined by the Commission of such expenses/revenue. Carrying costs shall be limited to the interest rate approved for working capital borrowings.

(5) For any revision in approvals, the licensee would be required to satisfy the Commission that the revision is due to conditions beyond its control.

(6) In case additional supply is required to be made to any particular category, the licensee may, any time during the year make an application to the Commission for its approval. The application will demonstrate the need for such additional supply of power and also indicate the manner in which the licensee proposes to meet the cost for such additional supply of power."

4.2. Approach for the Review for FY 2018-19

The review of the Aggregate Revenue Requirement requires assessment of the quantum of energy sales, energy loss as well as the various cost elements like Power Purchase Cost, O&M expenses, interest on long term loans, interest on working capital loans, depreciation etc. The Annual Performance Review for FY 2018-19 has been done based on actual Power Purchase Quantum and Cost of the first 9 months of FY 2018-19, actual Energy Sales for the first 9 months, etc. depending on which the estimates for the remaining months of the financial year have been made. The various cost elements constituting the Aggregate Revenue Requirement have been approved based on the actual information submitted by the Petitioner, the MYT Regulations, 2014 and on the basis of the norms approved in the ARR Order dated March 13, 2018.

4.3. Energy Sales

Petitioner's Submission

The Petitioner has submitted the revised estimates of 2,502.34 MUs of energy sales for FY 2018-19 against 2,318.04 MUs as approved by the Commission in the ARR Order for FY 2018-19.

Commission's Analysis

The Commission has noted the audited figures for FY 2017-18 and provisional information provided by the Petitioner for the first 9 months of FY 2018-19. For all the categories, the Commission has estimated the proportion of actual energy sales till the month of December over total energy sales during the financial year, for the last three years. Using this average proportion of sales, the Commission has extrapolated the actual energy sales till the month of December for the full year to determine the annual energy sales for FY 2018-19.

The table below provides the energy sales approved by the Commission in the ARR Order, the Petitioner's submission and now approved by the Commission.

Table 42: Energy Sales approved by the Commission for FY 2018-19 (MU)

S. No.	Category	Approved in ARR Order	Petitioner's Submission	Now Approved
1	Domestic	124.82	128.25	135.38
2	LIG/ Kutir Jyoti	0.17	0.00	0.03
3	Commercial	64.83	61.67	53.97
4	Agriculture	5.39	5.10	4.96
5	LT Industry	202.03	207.48	200.99
6	HT/EHT Industry	1,903.49	2,079.25	2,080.52
7	Public Lighting	10.30	10.21	8.51
8	Public Water Works	3.61	3.98	4.03
9	Temp. Supply	3.4	6.40	-
	Gross Total	**2,318.04**	**2,502.34**	**2,488.38**

The Commission approves energy sales of 2,488.38 MUs in the APR of FY 2018-19.

4.4. *Inter-State Transmission Loss*

Petitioner's submission

The Petitioner has considered the Inter-State transmission loss of 3.66%, same as approved in ARR of FY 2018-19.

Commission's analysis

The Commission in the APR of FY 2018-19 considers the Inter-State transmission losses in line with the loss approved in the ARR of FY 2018-19. The same shall be revised based on actuals during the true-up exercise.

The following table provides the Inter-State transmission loss submitted and now approved by the Commission.

Table 43: Inter-State Transmission Loss (%)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved
1	Inter-State transmission losses	3.66%	3.66%	3.66%

The Commission approves Inter-State transmission loss of 3.66% in the APR of FY 2018-19.

4.5. Intra-State Distribution Loss

Petitioner's submission

The Petitioner has considered the Intra-State distribution loss of 6.80% in line with the loss of 6.85% submitted in the true-up of FY 2017-18 as against the approved Intra-State distribution loss of 8.30% in the ARR of FY 2018-19.

Commission's analysis

In the ARR Order dated March 13, 2018, the Commission had maintained the distribution loss as approved in the MYT Order dated April 6, 2016. Since, the distribution loss is a controllable factor, the Commission approves the same as approved in the ARR Order. The Petitioner shall be allowed an incentive/disincentive in the true-up Order considering the actual distribution loss achieved by the Petitioner in the year. Hence, for FY 2018-19 the Commission retains the distribution loss level of 8.30% as approved in the ARR Order dated March 13, 2018.

The table below provides the Intra-State distribution loss approved in the ARR Order, the Petitioner's submission and now approved by the Commission.

Table 44: Intra-State Distribution Loss (%)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved
1	Intra-State distribution loss	8.30%	6.80%	8.30%

The Commission approves Intra-State distribution loss of 8.30% in the APR of FY 2018-19.

4.6. Power Purchase Quantum & Cost

Petitioner's submission:

The ED DD has no generating stations of its own other than the Solar plants and relies on firm and infirm allocation of power from Central Generating Stations like Korba, Vindhyachal, Kahalgaon, Kawas, Sipat, Tarapur, Kakrapar, Sholapur etc. to meet its energy requirement.

The EDDD for the purpose of estimation of the power availability during FY 2018-19 has considered the following sources of power:

- NTPC Western Region Generating Stations
- NTPC Eastern Region Generating Stations
- NSPCL (NTPC-SAIL Power Company Ltd)
- Nuclear Power Corporation of India Limited
- Ratnagiri Gas Power Plant (RGPPL)
- Private Sector Power Generating Companies
- Renewable energy sources - Solar and Non-Solar
- Other market sources

The Petitioner has allocation from western as well as eastern regions from coal, gas and nuclear power stations. However, for meeting the supply-demand gap during the peak hours, the Petitioner has relied on energy exchange and over-drawl from the Grid.

For projecting of the energy availability for FY 18-19, six months actual power purchase data has been considered. For projection of remaining six months of power purchase for FY 18-19, firm and infirm allocation from various generating stations has been considered as per the allocation specified in the notification no. WRPC/Comml-I/6/Alloc/2018/5733 dated June 28, 2018 of Western Regional Power Committee. The energy allocation from central generating station and revised estimated power purchase cost for FY 2018-19 as submitted by the Petitioner is presented in the following table:

Table 45: Energy Allocation to EDDD as submitted by the Petitioner

Name of plant	Plant Capacity	EDDD Allocation	Avg. EDDD Allocation
	(MW)	(MW)	(%)
NTPC Stations			
KSTPP	2,100	48	2.30%
KSTPP-III	500	6	1.12%
VSTPP-I	1,260	12	0.99%
VSTPP-II	1,000	9	0.86%
VSTPP- III	1,000	11	1.06%
VSTPP- IV	500	12	2.38%
VSTPS-V	500	8	1.57%
KAWAS	656	31	4.73%
JGPP	657	31	4.77%
BHILAI UNIT-I &II(NTPC)	500	70	14.00%
SIPAT-I	1,980	24	1.20%
SIPAT-II	1,000	9	0.93%
MSTPS-I	500	12	2.38%
MOUDA-II	1,000	16	1.62%
SOLAPUR	660	13	1.90%
LARA	1,600	7	0.46%
GADARWARA	1,600	15	0.94%
Subtotal	**17,014**	**334**	
Eastern Region			
KHSTPP-II	1,000	1.30	0.13%
Subtotal	**1,000**	**1.3**	
NPCIL			
KAPPS	440	8.96	2.04%
TAPP 3&4	1,080	12.26	1.14%
Subtotal	**1,520.00**	**21.22**	
Others			
Ratnagiri	1,967	38	1.93%
Subtotal	**1,967**	**38**	
Grand Total	**21,500.59**	**394.37**	

Table 46: Power Purchase quantum (MU) and cost (INR Crore) submitted by the Petitioner

Source (INR Crs)	Units Purchased	Fixed Charges	Variable Charges	Other Charges	All Charges Total	Per Unit Cost (INR/kWh)
NTPC Stations						
KSTPP	339.44	23.14	46.33	-0.59	68.88	2.03
KSTPP-III	41.26	5.56	5.69	-0.07	11.17	2.71
VSTPP-I	85.90	7.62	13.49	0.17	21.28	2.48
VSTPP-II	59.42	4.31	8.73	0.25	13.28	2.24
VSTPP- III	79.23	8.04	12.20	0.17	20.41	2.58
VSTPP- IV	85.76	13.45	12.99	0.31	26.75	3.12
VSTPS-V	58.84	9.55	9.25	0.07	18.87	3.21
KAWAS	97.49	19.87	26.97	0.15	47.00	4.82
JGPP	105.92	25.13	27.71	-4.44	48.40	4.57
Sipat-I	170.87	22.28	22.87	0.04	45.18	2.64
Sipat-II	71.04	8.32	10.18	-0.14	18.36	2.58

Source (INR Crs)	Units Purchased	Fixed Charges	Variable Charges	Other Charges	All Charges Total	Per Unit Cost (INR/kWh)
MSTPS-I	61.27	16.07	19.13	0.36	35.56	5.80
MOUDA-II	97.19	20.27	28.34	-0.23	48.38	4.98
KHSTPP-II	10.76	1.48	2.34	-0.01	3.81	3.54
SOLAPUR	63.97	18.22	23.73	0.34	42.30	6.61
LARA	16.35	0.00	5.25	0.00	5.25	3.21
GADARWARA	33.48	0.00	12.32	0.00	12.32	3.68
Subtotal	**1,478.19**	**203.30**	**287.51**	**(3.59)**	**484.83**	**3.28**
NTPC Bhilai						
Bhilai Unit-I &II(NTPC)	480.88	81.83	105.90	-1.45	186.28	3.87
Subtotal	**480.88**	**81.83**	**105.90**	**(1.45)**	**186.28**	**3.87**
NPCIL						
KAPPS	24.88	0.00	8.03	0.00	8.03	3.23
TAPP 3&4	82.77	0.00	26.52	0.00	26.52	3.20
Subtotal	**107.65**	**0.00**	**34.55**	**0.00**	**34.55**	**3.21**
Others						
Ratnagiri	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Power purchase from Other Sources						
Power purchase from Indian E. Exchange	461.34	0.00	132.60	0.00	132.60	2.87
UI	164.16	0.00	46.07	0.00	46.07	2.81
Solar	17.12	0.00	0.00	0.00	0.00	0.00
Non Solar (Hydro)	70.00	0.00	31.36	0.00	31.36	4.48
Solar REC	0.00	0.00	7.30	0.00	7.30	0.00
Non Solar REC	0.00	0.00	9.77	0.00	9.77	0.00
Solar (SECI, NTPC)	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	**712.62**	**0.00**	**227.10**	**0.00**	**227.10**	**3.19**
Gross Power Purchase	**2,779.34**	**285.13**	**655.05**	**(5.04)**	**932.76**	**3.36**
External Losses						
Total Power Purchase	**2,779.34**	**285.13**	**655.05**	**(5.04)**	**932.76**	**3.36**
PGCIL CHARGES					104.95	
WRLDC					0.23	
MSTCL					3.62	
PGVCL					0.03	
POSCO					0.00	
Grand Total of Charges – Net	**2,779.34**	**285.13**	**655.05**	**(5.04)**	**1,041.60**	**3.75**

Further, the assumptions for estimating power purchase quantum and cost as submitted by the Petitioner are as below:

- Per unit variable cost, fixed cost and other charges have been considered at the same level as actual from April to September 2018.
- Power purchase arrear for the remaining three months has been considered as nil as EDDD has no prior information of arrear bills from the generators and transmission companies.

- For FY 18-19, till September, 2018, EDDD has procured 8.56 MU of Solar energy from its ground mounted and rooftop Solar plants. For the remaining six months the EDDD will further procure 8.56 MU of Solar power from its own generation and will purchase a further 72.96 MUs as Solar certificates to meet its Solar obligation till FY 2018-19.
- To meet its Non-Solar obligation for FY 2018-19, the EDDD has considered purchase of Non-Solar energy of 70 MUs and purchase 65.13 MUs through Non-Solar certificates during the remaining six months of FY 2018-19.

Commission's Analysis:

The data pertaining to power purchase quantum and cost for the period from October to December 2018 was sought from the Petitioner. The Commission considered the data for first nine months of FY 2018-19 submitted by the Petitioner and estimated the power purchase quantum and cost for the remaining months of the year considering data and the firm and infirm allocation from various generating stations. The source wise methodology followed for estimation of quantum and cost of power procurement has been detailed as follows:

4.6.1. Availability of power

Availability of energy from NTPC Stations:

- Power purchase quantum for 10 of the total 15 NTPC plants has been estimated based on 3 years (FY 2015-16, FY 2016-17 and FY 2017-18) average of quantum of energy scheduled from the station
- For Kawas and Gandhar gas power plants average of quantum purchase of first 9 months till December -2018 has been considered for projecting the power purchase quantum in remaining months as the power purchase trends in FY 2017-18 have shown marked increase as compared to purchases in preceding years
- For Mauda Phase I, the energy availability has been projected based on average of quantum purchase of first 9 months as the power purchase quantum in FY 2015-16, FY 2016-17 and FY 2017-18 was much lower than actual purchases in FY 2018-19
- Mauda Phase II and Solapur thermal station began operations in mid of FY 2017-18, the power purchase quantum for last 3 months has been projected based on actual energy purchase from April 2018-December 2018.
- For Lara and Gadarwara, the Petitioner's submission has been considered for projecting the power purchase quantum for last 3 months of the year.

Availability of energy from NPCIL stations:

- Daman and Diu receives supply from two NPCIL stations - Tarapur and Kakrapara atomic plants. Since Kakrapara plant energy has started operating again from September 2018, the purchase quantum for remaining 3 months has been projected based on actual energy purchases from October 2018-December 2018.
- There is a steady purchase of energy from Tarapur atomic plant. The energy projected to be scheduled in the remaining months of FY 2018-19 has been estimated based on the 3 years average of quantum of energy scheduled in FY 2015-16, FY 2016-17 and FY 2017-18.

Availability from RGPPL stations:

- The State of Maharashtra (which has 95% share allocation from RGPPL) is not scheduling power because of non-availability of natural gas for this project and non-availability of technical minimum schedule to run the plant and therefore presently there is no generation from the plant. Therefore, for the period from April-18 to Dec-18 no power was purchased from RGPPL, and hence no power purchase has been projected for the remaining months as well.

Availability of power from the Open Market, Unscheduled Interchange and Banking

- The Open market purchase and sale of 183.74 MUs for first 9 months has been considered as per actuals. For the remaining months the quantum for purchase/sale has been considered as 90.98 MUs as estimated in the energy balance, discussed in the subsequent section

- Quantum under UI Overdrawal/ Underdrawal for first 9 months of FY 2018-19 has been considered as 232.85 MUs as per actuals. No quantum under UI has been considered for the remaining 3 months of FY 2018-19

4.6.2. Power Purchase Cost

Variable Charges:

- The per unit variable costs for various power stations and Open Market have been computed by taking the average actual per unit variable cost during the first 9 months from April 2018 to December 2018 for all the stations
- The cost towards UI Over-drawal/ Underdrawal has been considered as per actuals incurred by the Petitioner in the first 9 months of FY 2018-19

Fixed Charges:

- Actual Fixed Costs have been considered for the first nine months for all stations
- The fixed costs for the remaining months have been considered based on the Tariff Orders issued by the CERC for respective Central Generating Stations
- Fixed cost has been apportioned as per the DD's share in each station and average of the annual plant availability factor achieved during the last three years. The plant availability factor has been limited to 85% for plants having higher availability, in line with the norms specified by CERC.

Other Charges:

- Actual charges have been considered for the first 9 months of FY 2018-19. No other charges have been considered for the remaining months of FY 2018-19.

4.6.3. Transmission Charges

The Commission has estimated the transmission charges payable to PGCIL for the whole year based on the actual transmission charges paid in the first nine months of the year. The same shall be trued-up as per actuals.

4.6.4. Total power purchase quantum and cost

The following table provides the quantum of energy availability and the power purchase cost approved by the Commission for FY 2018-19:

Table 47: Power Purchase Quantum (MU) and cost (INR Crore) approved by the Commission

Station	Power Purchase at generator periphery (MU)	Fixed Charges	Variable Charges	Other Charges	All Charges Total	Per Unit Cost (INR/kWh)
NTPC Stations						
KSTPS	348.32	23.11	47.75	-0.42	70.44	2.02
KSTPS 3	43.99	5.52	6.09	-0.05	11.56	2.63
VSTPP-I	91.52	7.48	14.57	0.28	22.33	2.44
VSTPP-II	65.52	4.27	9.80	0.32	14.39	2.20
VSTPP- III	84.29	7.94	12.85	0.27	21.07	2.50
VSTPP- IV	94.93	13.33	14.54	0.40	28.27	2.98
KGPP	127.27	16.77	35.44	0.30	52.51	4.13
GGPP	118.31	26.36	30.16	-3.47	53.05	4.48
Sipat-I	184.91	40.05	24.57	0.17	64.79	3.50
Sipat-II	74.39	8.84	10.42	-0.08	19.18	2.58
Mouda	86.36	16.26	26.20	0.51	42.97	4.98
VSTPS-V	66.73	9.09	9.55	0.16	18.80	2.82
Mouda 2	124.68	17.74	36.15	0.07	53.96	4.33
SLP	66.44	19.81	24.10	-0.01	43.90	6.61
KHSTPP-II	14.16	1.50	3.05	0.20	4.75	3.35
LARA	16.35	0.00	5.25	0.00	5.25	3.21
GADARWARA	33.48	0.00	12.32	0.00	12.32	3.68
Subtotal	**1,641.68**	**218.07**	**322.84**	**-1.34**	**539.56**	**3.29**
NSPCL						
NSPCL Bhilai	470.46	84.51	104.81	-2.31	187.02	3.98
Subtotal	**470.46**	**84.51**	**104.81**	**-2.31**	**187.02**	**3.98**
NPCIL						
KAPPS	15.56	0.00	1.42	0.00	1.42	0.91
TAPP 3&4	86.52	0.00	27.19	0.00	27.19	3.14
Subtotal	**102.07**	**0.00**	**28.61**	**0.00**	**28.61**	**2.80**
Others						
Ratnagiri	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Other Sources						
Energy Exchange	271.64	0.00	99.05	0.00	99.05	3.65
UI	232.85	0.00	69.29	0.00	69.29	2.98
Solar* (generation)	17.78	0.00	0.00	0.00	0.00	0.00
Non Solar* (Hydro)	70.00	0.00	31.36	0.00	31.36	4.48
Solar REC*	0.00	0.00	7.30	0.00	7.30	0.00
Non Solar REC*	0.00	0.00	6.51	0.00	6.51	0.00
Solar* (SECI/NTPC)	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	**592.27**	**0.00**	**213.51**	**0.00**	**213.51**	**3.60**
Gross Power Purchase	**2,806.49**	**302.66**	**669.77**	**(3.65)**	**968.78**	**3.45**
Total Power Purchase	**2,806.49**	**302.58**	**669.77**	**(3.65)**	**968.70**	**3.45**

Station	Power Purchase at generator periphery (MU)	Fixed Charges	Variable Charges	Other Charges	All Charges Total	Per Unit Cost (INR/kWh)
PGCIL CHARGES					111.19	
WRLDC					0.16	
MSTCL					2.41	
PGVCL					0.00	
POSCO					0.00	
Grand Total of Charges – Net	**2,806.49**	**302.58**	**669.77**	**(3.65)**	**1,082.46**	**3.86**

* Cost for RPO is approved in Section 4.7

The Commission approves the revised quantum of power purchase as 2,806.49 MU at the generator periphery with total cost of INR 1,082.46 Cr in the APR for FY 2018-19.

4.7. Renewable Purchase Obligation (RPO)

Petitioner's submission:

For FY 18-19, till December, 2018 EDDD has generated 13.17 MU of Solar energy from its ground mounted and rooftop Solar plants. For the remaining three months EDDD will procure 4.61 MU of Solar power from its own generation and will further purchase Solar certificates equivalent to 72.96 MUs to meet its Solar obligation till FY 2018-19. To meet its Non-Solar obligation for FY 2018-19, the EDDD has considered purchase of Non-Solar energy of 70 MU and purchase of Non-Solar certificates equivalent to 65.13 MUs during the remaining three months of FY 2018-19. The RPO requirement for FY 2018-19 and the compliance status as submitted by the Petitioner has been provided in the following table:

Table 48: RPO Requirement (Solar and Non-Solar) for FY 2018-19 as submitted by Petitioner (MU)

Particulars	RPO %	Sales (MU)	Units (MU)	Actual 2018-19 (Till Dec) (MU)	Balance to be Procured 2018-19 (MU)
Solar	3.60%	2,502.34	90.08	13.17	77.57
Non-Solar	5.40%	2,502.34	135.13	0.00	135.13
Total	**9.00%**		**225.21**	**13.17**	**202.70**

Commission's analysis

As per Clause 1, Sub-Regulation (1) of the JERC for the State of Goa and UTs (Procurement of Renewable Energy) Regulations, 2010

"Each distribution licensee shall purchase electricity (in kWh) from renewable energy sources, at a defined minimum percentage of the total consumption of all the consumers in its area during a year."

The Commission notified the JERC (Procurement of Renewable Energy), (Third Amendment) Regulations, 2016 on August 22, 2016 and approved the revised RPO targets, as per which the Petitioner has to purchase 9.00% of its total consumption through conventional sources (including 3.60% from Solar and 5.40% from Non-Solar) from renewable sources for FY 2018-19.

The Petitioner is also required to clear the backlog of 82.04 MU (Solar: 48.41 MU and Non Solar: 33.63 MU) upto FY 2017-18 carried forward.

The Petitioner has also submitted that it plans to cover the backlog and fulfill the RPO target for FY 2018-19 by March 31, 2019. Hence, in accordance with the JERC for the State of Goa and UTs (Procurement of Renewable Energy) Regulations, 2010 and the Petitioner's submission, the Commission has determined the following Renewable Purchase Obligation for the Petitioner for FY 2018-19.

Table 49: Summary of Renewable Purchase Obligation (RPO) (MU)

Description	FY 2018-19
Sales within State (MU)	2488.38
RPO obligation (in %)	**9.00%**
Solar	3.60%
Non-Solar	5.40%
RPO obligation for the year (in MU)	**223.95**
Solar	89.58
Non-Solar	134.37
Backlog upto FY 2017-18	**82.04**
Solar	48.41
Non Solar	33.63
Total RPO to be fulfilled for the year	**305.99**
Solar	137.99
Non Solar	168.00
RPO compliance (proposed actual purchase)	**87.78**
Solar	17.78
Non-Solar	70.00
RPO compliance (REC certificate purchase)	**138.09**
Solar	72.96
Non-Solar	65.13
Shortfall in RPO Compliance	**80.12**
Solar	47.25
Non-Solar	32.87

The Commission has assumed the rate of purchase for Solar and Non-Solar REC as INR 1.00 per kWh. The Commission has computed the cost towards compliance of RPO as shown in the following table. The cost has already been considered in the total power purchase cost approved by the Commission in the previous section:

Table 50: Cost towards compliance of Renewable Purchase Obligation (INR Crore)

S. No	Description	RPO (MU)	Total Cost (INR Cr)	Avg. Rate (INR/kWh)
1	**Solar**	**90.74**	**7.30**	**1.00**
(a)	*Generation*	17.78	0.00	0.00
(b)	*Renewable Energy Certificates*	72.96	7.30	1.00
2	**Non-Solar**	**135.13**	**37.87**	**2.80**
(a)	*Generation/Procurement*	70.00	31.36	4.48
(b)	*Renewable Energy Certificates*	65.13	6.51	1.00
	Total	**225.87**	**45.17**	**2.00**

The Commission approves INR 45.17 Cr towards compliance of RPO in the APR of FY 2018-19.

4.8. Energy Balance

Petitioner's submission

The energy requirement as submitted by the Petitioner has been shown in the following table:

Table 51: Energy Requirement of the System (MU)

Energy Balance	ARR Order	Petitioner's Submission
Retail Sales (a)	2,318.05	2,502.34
Open Access Sales (b)	143.65	0.00
Less: Energy Savings (c)	0.00	0.00
Total Sales (d=a+b-c)	2,461.70	2,502.34
Distribution Loss (MU) (e=g-d)	212.55	182.57
Distribution Loss (%) (f=e/g)	8.30%	6.80%
Energy Required at Periphery (g)	2,674.25	2,684.91
Sale to common pool consumer/UI Sale (h)	0.00	1.90
Own generation (i)	0.00	17.12
Total energy requirement at state periphery(j=g+h-i)	2,674.25	2,669.69
Less: Energy Purchased through UI at Periphery (k)	0.00	164.16
Less: Open Access Purchase at Periphery (l)	146.38	0.00
Less: Energy Purchased through Renewable Sources (m)	0.00	70.00
Energy requirement at state periphery from tied up sources (n=j-k-l-m)	2,527.87	2,435.53
Inter state loss (MU) (o=p-n)	-	92.53
Inter state loss (%)	-	3.66%
Energy requirement at state periphery from generator end (p)	-	2,528.05
Total Energy requirement from tied up sources & UI at generator end (q=p+k)	-	2,762.21
Total Energy requirement in UT including Open Access (r=q+l)	-	2,762.21

Commission's analysis

Based on the revised estimates of energy sales and power purchase quantum, the Commission approves the following energy balance:

Table 52: Energy Balance approved (MU)

S. No	Particulars	Petitioner's Submission	Now Approved by Commission
1	Retail Sales (a)	2,502.34	2,488.38
2	Open Access Sales (b)	0.00	0.00
3	Less: Energy Savings (c)	0.00	0.00
4	Total Sales (d=a+b-c)	2,502.34	2,488.38
5	Distribution Loss (MU) (e=g-d)	182.57	225.23
6	Distribution Loss (%) (f=e/g)	6.80%	8.30%
7	**Energy Required at Periphery (g)**	**2,684.91**	**2,713.60**
8	Add: Sale to common pool consumer/UI Sale(h)	1.90	1.90
9	Less: Own generation (i)	17.12	17.78
10	Less: Energy Purchased through UI at Periphery (j)	164.16	232.85
11	Less: Open Access Purchase at Periphery (k)	0.00	0.00
12	Less: Energy Purchased through Renewable Sources (l)	70.00	70.00
13	**Energy requirement at State periphery from tied-up sources (m=g+h-i-j-k-l)**	**2,435.53**	**2,394.87**
14	Inter-State loss (MU) (o=p-n)	92.53	90.98
15	Inter-State loss (%)	3.66%	3.66%
16	**Total requirement from tied-up sources at generator end (p)**	**2,528.06**	**2,485.86**

S. No	Particulars	Petitioner's Submission	Now Approved by Commission
18	**Energy available at generator periphery from tied-up sources (q)**		**2,214.21**
19	**Deficit/(Surplus) (r=p-q)**		**271.64**
20	**Total Energy requirement from tied up sources & UI at generator end (s=p+j-h+l)**		**2,786.81**

The Commission approves the Total Energy Requirement from tied-up sources at the generator end (excluding own generation) as 2,786.81 MU in the APR for FY 2018-19. The Commission has estimated a deficit of 271.64 MU and has assumed that the deficit power will be purchased from the Open Market.

4.9. Operation & Maintenance Expenses

The Operation & Maintenance Expenses comprise of the Employee Expenses, Administrative and General Expenses (A&G) and the Repair & Maintenance Expenses (R&M). The MYT Regulations, 2014 recognise the variation of O&M Expenses to be controllable. Regulation 9.2 of the MYT Regulation, 2014 states the following:

"9.2 Some illustrative variations or expected variations in the performance of the applicant, which may be attributed by the Commission to controllable factors include, but are not limited to the following:

(a)Variations in capital expenditure on account of time and/or cost overruns/ efficiencies in the implementation of a capital expenditure project not attributable to an approved change in scope of such project, change in statutory levies or force majeure events;

(b)Variations in Transmission and Distribution Losses (T&D) losses in case of bundled utilities and Distribution losses in case of unbundled utilities which shall be measured as the difference between the units input into the distribution system and the units supplied and billed;

(c)Depreciation and working capital requirements;

(d)Failure to meet the standards specified in the Joint Electricity Regulatory Commission (Standards of Performance) Regulations, 2009 except where exempted;

(e)Variation in operation & maintenance expenses, except those attributable to directions of the Commission;

(f)Variation in Wires Availability and Supply Availability;

(g)Variation on account of inflation;"

4.9.1. Employee Expenses

Petitioner's submission

The Petitioner has submitted the employee expenses of INR 17.19 Cr as against approved employee expenses of INR 12.96 Cr in the ARR Order for FY 2018-19.

Commission's analysis

The MYT Regulations, 2014 stipulate the variation in operation and maintenance expenditure to be a controllable factor. Accordingly, the Commission approves the employee expenses as approved in the ARR Order for FY 2018-19, except to the extent of the impact of Seventh Pay Commission, which is an uncontrollable factor. The impact of Seventh Pay Commission in FY 2018-19 has been estimated by escalating the impact of Seventh Pay Commission for FY 2016-17 twice with average CPI growth rate from FY 2015-16 to FY 2017-18. Accordingly, the employee expenses submitted by the Petitioner and approved by the Commission is shown in the following table:

Table 53: Employee Expenses approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Employee Expenses	12.96	17.19	12.96
2	Impact of Seventh Pay Commission	0.00	0.00	0.87
3	Total Employee Expenses	12.96	17.19	13.83

The Commission approves employee expenses of INR 13.83 Cr in the APR of FY 2018-19.

4.9.2. Administrative and General (A&G) Expenses

Petitioner's submission

The Petitioner has submitted the A&G expenses of INR 6.10 Cr as against approved A&G expenses of INR 5.79 Cr in the ARR Order for FY 2018-19.

Commission's analysis

The MYT Regulations, 2014 stipulate the O&M expenses to be controllable. Accordingly, the Commission now approves the same A&G Expenses as approved in the ARR Order for FY 2018-19 as shown in the following table:

Table 54: A&G Expenses approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Administration & General Expenses (A&G)	5.79	6.10	5.79

The Commission now approves the Administrative & General (A&G) expenses of INR 5.79 Cr in the APR for FY 2018-19.

4.9.3. Repair & Maintenance Expenses (R&M)

Petitioner's submission

The Petitioner has submitted the R&M expenses of INR 18.59 Cr as against the approved R&M expenses of INR 17.30 Cr in the ARR Order for FY 2018-19.

Commission's analysis

The Commission in a similar approach adopted while approving the employee expenses and A&G expenses above, has considered the same R&M expenses as approved by the Commission in the ARR Order.

The table below provides the R&M expenses approved by the Commission in the ARR Order, Petitioner's submission and R&M expenses now approved by the Commission.

Table 55: R&M Expenses approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Repair & Maintenance Expenses (R&M)	17.30	18.59	17.30

The Commission approves the Repair & Maintenance (R&M) expenses of INR 17.30 Cr in the APR of FY 2018-19.

4.9.4. Total Operation and Maintenance Expenses (O&M)

The following table provides the O&M expenses, approved by the Commission in the ARR Order, Petitioners submission and O&M expenses now approved by the Commission.

Table 56: O&M Expenses approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Employee Expenses	12.96	17.19	13.83
2	Administrative & General Expenses	5.79	6.10	5.79
3	Repair & Maintenance Expenses	17.30	18.59	17.30
	Total Operation & Maintenance Expenses	**36.05**	**41.88**	**36.92**

The Commission approves the Operation & Maintenance (O&M) expenses of INR 36.92 Cr in the APR of FY 2018-19.

4.10. Gross Fixed Assets (GFA) and Capitalisation

Petitioner's submission

The Petitioner has proposed the Capital expenditure and capitalisation as shown in the table below:

Table 57: Petitioner's submission for capitalisation (INR Crore)

Sr. No.	Particulars	Approved in ARR Order	Petitioner's Submission	
			Initial	Revised
1	Capital Expenditure	119.50	119.50	42.00
2	Capitalisation	35.50	35.50	-

Commission's analysis

The Commission sought the details of capital expenditure already incurred by the utility in the first 9 months of the year. Instead, the Petitioner submitted the revised estimates of capital expenditure of INR 42.00 Cr in FY 2018-19. However, no submission was made in regards to capitalisation in FY 2018-19 against the capital expenditure of 42.00 Cr. In the absence of any submission regarding the capitalisation for FY 2018-19, the Commission has considered the capitalisation in the same ratio w.r.t. capital expenditure as approved in the ARR order. The following table provides the approved capital expenditure and capitalisation for the year:

Table 58: Capitalisation approved by the Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Capital Expenditure	119.5	119.50	42.00
2	Capitalisation	35.50	35.50	12.48

The Commission approves capital expenditure of INR 42.00 Cr and capitalisation of INR 12.48 Cr in the APR for FY 2018-19.

4.11. Capital Structure

Petitioner's Submission

The entire capital deployment shall be through equity for FY 2018-19.

Commission's analysis

The MYT Regulations, 2014 specify that if the equity actually deployed is more than 30% of the capital cost, then equity in excess of 30% would be considered as normative loan. Regulation 24 of the MYT Regulations states the following:

"

(a) *The Distribution Licensee shall provide detailed loan-wise, project-wise and utilization-wise details of all of the pending loans*

(b) *If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.*

Provided that where equity actually deployed is less than 30% of the capital cost, the actual loan shall be considered for determination of interest on loans."

In accordance with the MYT Regulations, 2014 the Commission has determined the capital structure for FY 2018-19. The opening Gross Fixed Assets for FY 2018-19 has been considered as closing Gross Fixed Assets approved in true-up of FY 2017-18. Further the values of opening loan and equity has been considered as closing loan and equity approved in true-up of FY 2017-18. The loan and equity addition has been considered on normative basis as 70% and 30% respectively of the approved capitalization for the year.

The Commission has accordingly determined the capital structure for FY 2018-19 as follows:

Table 59: Funding Plan approved by the Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Capitalisation	35.50	35.50	12.48
2	Debt (%)	70%	70%	70%
3	Equity (%)	30%	30%	30%
4	Normative Loan	24.85	24.85	8.73
5	Equity	10.65	10.65	3.74

Table 60: GFA addition approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Opening Gross Fixed Assets	607.78	587.65	587.65
2	Addition during FY 2018-19	35.50	35.50	12.48
3	Adjustment/Retirement during FY 2018-19	0.00	0.00	0.00
4	Closing Gross Fixed Assets	625.53	605.40	600.13

Table 61: Normative Loan addition (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Opening Normative Loan	173.03	162.29	160.70
2	Add: Normative Loan During the year	24.85	24.85	8.73

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
3	Less: Normative Repayment equivalent to Depreciation	32.11	30.37	30.47
4	Closing Normative Loan	165.77	156.78	138.96

Table 62: Normative Equity addition (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Opening Equity	83.73	58.58	78.23
2	Additions on account of new capitalisation	10.65	10.65	3.74
3	Closing Equity	94.38	69.23	81.98

4.12. Depreciation

Petitioner's submission

For computation of depreciation, the closing GFA of FY 2017-18 is taken as the opening GFA for FY 2018-19 and subsequently the proposed capitalisation during FY 2018-19 is added. Depreciation has been calculated as per the rates specified in the MYT Regulations, 2014.

Commission's analysis

Regulation 23 of the MYT Regulations, 2014 stipulates the following:

"

(a) *Depreciation shall be calculated for each year of the control period on the original cost of the fixed assets of the corresponding year.*

(b) *Depreciation shall not be allowed on assets funded by capital subsidies, consumer contributions or grants.*

(c) *Depreciation shall be calculated annually as per straight-line method over the useful life of the asset at the rate of depreciation. The same shall be as specified in the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2014. (The same may vary as notified by CERC from time to time.)*

(d) *The residual value of assets shall be considered as 10% and depreciation shall be allowed to a maximum of 90% of the original cost of the asset.*
Provided that Land shall not be treated as a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset.

(e) *Depreciation shall be charged from the first year of operation of the asset.*
Provided that in case the operation of the asset is for a part of the year, depreciation shall be charged on proportionate basis.

(f) *A provision of replacement of assets shall be made in the capital investment plan."*

As discussed in the true-up of FY 2017-18, the Commission has determined the revised GFA after deducting the value of assets that have achieved 90% depreciation. The closing GFA of FY 2017-18 as approved in the true-up has been considered as opening GFA of FY 2018-19. Further, deprecation has been computed on average Gross Fixed Assets (GFA) after considering the net addition proposed during the year. The depreciation rate has been considered as weighted average rate of depreciation derived in true-up of FY 2017-18 considering actual break-up of assets into various asset classes and depreciation rates in accordance with the MYT Regulations, 2014.

The following table provides the calculation of deprecation during FY 2018-19:

Table 63: Depreciation approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Closing GFA approved in the True-up of FY 2017-18 (a)	-	-	587.65
2	Less: Assets depreciated upto 90% till FY 2017-18 (b)	-	-	0.57
3	Opening Gross Fixed Assets (a-b)	607.78	587.65	587.08
4	Addition During FY	35.50	35.50	12.48
5	Adjustment/Retirement During FY	0.00	0.00	0.00
6	Closing Gross Fixed Assets	643.28	623.15	599.56
7	Average Gross Fixed Assets	625.53	605.40	593.32
8	Effective Rate of Depreciation (%)	5.13%	5.02%	5.14%
	Depreciation	**32.11**	**30.37**	**30.47**

The Commission now approves depreciation of INR 30.47 Cr in the APR for FY 2018-19.

4.13. Interest on Loan

Petitioner's submission

The Petitioner has calculated the Interest on Loan on normative basis according to the MYT Regulations, 2014. The closing balance of FY 2017-18 is taken as the opening balance of loans for FY 2018-19. The normative loan addition in FY 2018-19 has been computed as 70% of the capitalisation proposed during FY 2018-19.

The repayment of loans has been considered equivalent to the depreciation during FY 2018-19. Further, the rate of interest has been considered as SBI PLR @ 13.85%.

Commission's analysis:

The Commission has considered the values for opening loan and loan addition as approved in the *Section 4.11: Capital Structure* of this Order. Further, the repayment is considered same as depreciation approved for the year. In line with past practice, the Commission for the purpose of calculation of Interest on Loan has considered the interest rate equivalent to SBI PLR as on April 1, 2018 (13.45%). The following table provides the Interest on Loan approved by the Commission:

Table 64: Interest on Loan approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Opening Normative Loan	173.03	162.29	160.70
2	Add: Normative Loan During the year	24.85	24.85	8.73
3	Less: Normative Repayment equivalent to Depreciation	32.11	30.37	30.47
4	Closing Normative Loan	165.77	156.78	138.96
5	Average Normative Loan	169.40	159.54	149.83
6	Rate of Interest (%)	13.85%	13.85%	13.45%
	Interest on Loan	**23.46**	**22.10**	**20.15**

The Commission approves Interest on Loan of INR 20.15 Cr in the APR of FY 2018-19.

4.14. Return on Equity (RoE)

Petitioner's submission

The Return on Equity (RoE) is computed in accordance with the MYT Regulations 2014, and is computed on 30% of the capital base. The Petitioner has considered the opening equity equivalent to the closing equity for FY 2017-18 and has considered added equity to the tune of 30% of assets proposed to be capitalized during the year. Accordingly, the Commission has computed the Return on Equity at 16% on post tax basis.

Commission's analysis:

As mentioned above, the entire asset capitalisation during the year has been funded by equity, but the Commission for the purpose of equity addition during the year has limited it to 30% of the total capitalisation as specified in the MYT Regulations, 2014.

The RoE has been calculated on the average of opening and closing of equity during the year at the rate of 16% (on post-tax basis) with the opening equity considered equivalent to the closing equity of FY 2017-18 approved in the True-up. The following table provides the return on equity approved in the ARR Order, the Petitioner's submission and the RoE now approved by the Commission.

Table 65: RoE approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Opening Equity	83.73	58.58	78.23
2	Additions on account of new capitalisation	10.65	10.65	3.74
4	Closing Equity	94.38	69.23	81.98
5	Average Equity	89.05	63.90	80.10
6	Return on Equity (%)	16.00%	16.00%	16.00%
	Return on Equity	**14.25**	**10.22**	**12.82**

The Commission approves the Return on Equity of INR 12.82 Cr in the APR of FY 2018-19.

4.15. Interest on Security Deposits

Petitioner's submission

The Petitioner has submitted the interest on security deposits of INR 3.16 Cr as against approved interest on security deposits of INR 3.44 Cr in the ARR Order for FY 2018-19.

Commission's analysis:

The Interest on security deposits has been calculated in accordance with the MYT Regulations 2014, based on the average of the opening and closing consumer security deposits during the year. Since the Petitioner has not submitted any data regarding the addition in the consumer security deposits, the Commission has not considered any addition in the consumer security deposits during the year. The rate of interest has been considered equivalent to RBI Bank rate as on April 1, 2018 in accordance with the MYT Regulations 2014. The same shall be trued-up on the actual basis. The following table provides the calculation of interest on consumer security deposits for the year.

Table 66: Interest on Security Deposits approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Opening Security Deposit	55.01	-	67.82
2	Net addition during the year	0.00	-	0.00
3	Deposits refund during the year	0.00	-	0.00
4	Closing Security Deposit	55.01	-	67.82
5	Average Security Deposit	55.01	-	67.82
6	Rate of Interest (%)	**6.25%**	-	**6.25%**
7	**Interest on Security Deposit**	**3.44**	**3.16**	**4.24**

The Commission approves Interest on Security Deposit as INR 4.24 Cr in the APR of FY 2018-19.

4.16. Interest on Working Capital

Petitioner's submission

The interest on working capital has been calculated based on the normative principles in the JERC (Multi Year Distribution Tariff) Regulations, 2014.

The working capital requirement for the Control Period has been computed considering the following parameters:

(a) Receivables of two months of billing

(b) Less power purchase cost of one month

(c) Less consumer security deposit but excluding Bank Guarantee/Fixed Deposit

(d) Inventory for two months based on annual requirement for previous year

The Interest on Working Capital is computed at the interest rate of 8.65%.

Commission's analysis:

For calculating the working capital requirements of the Petitioner during the year, the receivables have been considered as the proportionate ARR for 2 months, the proportionate revised power purchase cost of FY 2018-19 for one month as determined above and the consumer security deposit. The inventory for two months has been considered on the same levels as per the audited accounts of FY 2017-18.

With regards to the interest rate, the SBI Base rate as on April 1, 2018 (8.70%) has been considered, as stipulated in the MYT Regulations 2014.

Accordingly, the interest on working capital has been calculated, as shown in the following table:

Table 67: Interest on Working Capital approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Receivables of two months of billing	163.20	167.20	195.28
2	Less: Power Purchase Cost for one month	73.97	86.80	90.21
3	Inventory Based on Annual Requirement for Previous FY for 2 months	1.36	1.50	2.46
4	Total Working Capital Requirement	90.59	81.90	107.54

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
5	Less: Security Deposit excluding BG/FDR	55.01	52.68	67.82
6	Net Working Capital	35.58	29.22	39.72
7	Rate of Interest (%)	8.66%	8.66%	8.70%
8	**Interest on Working Capital**	**3.08**	**2.53**	**3.46**

The Commission approves the Interest on Working Capital as INR 3.46 Cr in the APR of FY 2018-19.

4.17. Income Tax

Petitioner's submission

No submissions have been made in this regard.

Commission's analysis:

For FY 2018-19 no income tax liability is computed and the same shall be trued-up based on the actual income tax paid by the Petitioner.

Table 68: Income tax approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	**Income Tax**	**0.00**	**0.00**	**0.00**

The Commission approved Nil income tax liability for FY 2018-19.

4.18. Provision for Bad & Doubtful Debts

Petitioner's submission

The Petitioner has not proposed and provision for bad and doubtful debts for the year.

Commission's analysis

The Commission has not considered any provision for Bad & Doubtful Debts. The same shall be accounted for as per actuals in the true-up of FY 2018-19.

4.19. Non-Tariff Income

Petitioner's submission

The non-tariff income for FY 2018-19 has been estimated with an increase of 5% p.a. on the actual non-tariff income of FY 2017-18.

Commission's analysis:

For the APR of FY 2018-19, the Commission has considered the Non-Tariff Income as the same as approved by the Commission in the True-up of FY 2017-18. The same shall be trued-up on actual basis.

The NTI approved in the ARR Order, the Petitioner's submission and now approved by the Commission is shown in the following table:

Table 69: Non-Tariff Income approved by Commission (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	**Non-Tariff Income**	**20.08**	**19.70**	**18.82**

The Commission now approves Non-Tariff Income of INR 18.82 Cr in the APR for FY 2018-19.

4.20. Aggregate Revenue Requirement (ARR)

Petitioner's submission

Based on the expenses as detailed above, the net aggregate revenue requirement of INR 1,131.59 Cr is submitted after adjusting the Non -Tariff Income and revenue from sale of surplus power for FY 2018-19.

Commission's analysis

On the basis of the detailed analysis of the cost parameters of the ARR, the revenue requirements in the APR of FY 2018-19 are approved as follows:

Table 70: Aggregate Revenue Requirement approved by the Commission for FY 2018-19 (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioner's Submission	Now Approved by Commission
1	Power Purchase Cost	887.68	1,041.60	1,082.46
2	Operation & Maintenance Expenses	36.05	41.88	36.92
3	Depreciation	32.11	30.37	30.47
4	Interest and Finance charges	22.70	22.10	20.15
5	Return on Equity	14.25	10.22	12.82
6	Interest on Security Deposit	3.44	3.16	4.24
7	Interest on Working Capital	3.08	2.53	3.46
8	Income Tax	0.00	0.00	0.00
9	Provision for Bad Debt	0.00	0.00	0.00
10	**Total Revenue Requirement**	**999.31**	**1,151.85**	**1,190.52**
11	Less: Non-Tariff Income	20.08	19.70	18.82
12	Less: Revenue from sale of surplus power	0.00	0.57	0.00
13	**Net Revenue Requirement**	**979.23**	**1,131.59**	**1,171.70**

The Commission approves the net ARR of INR 1,171.70 Cr in the APR of FY 2018-19.

4.21. Revenue at existing Retail Tariff

Petitioner's submission

The Petitioner has calculated the revenue from sale of power at existing tariff of INR 1003.18 Cr on the basis of energy sales in the territory for FY 2018-19. As per Tariff order dated March 18, 2018, the FPPCA of INR 16.64 Cr for the first quarter has not been levied to the consumers.

Commission's analysis

The category wise/ sub-category wise and slab-wise revenue at existing retail tariff is calculated as per the tariff rates applicable for FY 2018-19. The revenue from demand charges and the energy charges have been projected for each category/ sub-category and slab. The Commission has considered suitable assumptions wherever necessary. The revenue from category/ sub-category/ slab-wise revenue as computed by the Commission for FY 2018-19 has been shown in the following table.

Table 71: Revenue at existing tariff derived by the Commission (INR Crore)

S. No	Category	Phase	Fixed Charges (INR Cr)	Energy charges (INR Cr)	Total (INR Cr)	ABR (INR/unit)
1	**DOMESTIC SUPPLY (DS)**		**1.39**	**23.40**	**24.79**	**1.83**
1	0-100 units	Single	0.36	4.09	4.45	1.20
2	101-200 units	Single	0.17	3.03	3.20	1.69
3	201-400 units	Single	0.26	2.78	3.04	2.13
4	401 and above units	Single	0.22	5.25	5.47	2.40
5	0-100 units	Three	0.14	0.77	0.91	1.30
6	101-200 units	Three	0.06	0.87	0.93	1.72
7	201-400 units	Three	0.10	1.26	1.36	2.10
8	401 and above units	Three	0.09	5.34	5.43	2.34
2	**Low Income Group**					
1	Low Income Group		**0.00**	**0.00**	**0.00**	**0.17**
3	**COMMERCIAL / NON RESIDENTIAL (NRS)**		**0.29**	**16.98**	**17.28**	**3.20**
1	0-100 units	Single	0.09	1.03	1.12	2.60
2	101 Units and Above	Single	0.09	4.55	4.64	3.31
3	0-100 units	Three	0.06	0.55	0.60	2.66
4	101 Units and Above	Three	0.06	10.86	10.92	3.27
4	**AGRICULTURAL**		**0.00**	**0.33**	**0.33**	**0.66**
1	Upto 10 HP per unit		0.00	0.31	0.31	0.65
2	11 kV- 1 MW and above		0.00	0.02	0.02	0.90
5	**LT INDUSTRY**		**3.53**	**60.30**	**63.83**	**3.18**
1	LT Industry		3.53	60.30	63.83	3.18
6	**INDUSTRY**		**138.67**	**738.29**	**876.96**	**4.22**
1	HT General		134.20	717.48	851.68	4.21
2	HT Industrial (Ferro)		4.47	20.81	25.28	4.25
5	**PUBLIC LIGHTING (PL)**		**0.00**	**3.19**	**3.19**	**3.75**
6	**PUBLIC WATER WORKS**		**0.03**	**1.33**	**1.35**	**3.36**
7	**TEMPORARY SUPPLY**		**0.00**	**0.00**	**0.00**	**0.00**
1	Temporary Supply		0.00	0.00	0.00	0.00
	TOTAL		**143.91**	**843.81**	**987.72**	**3.97**

The Commission has derived revenue from sale of power at existing tariff as INR 987.72 Cr in the APR of FY 2018-19.

4.22. Standalone Revenue Gap/Surplus

Petitioner's submission

Based on the ARR and the revenue from retail tariff, the standalone revenue gap of INR 128.40 Cr is arrived at in the APR for FY 2018-19.

Commission analysis

The Standalone Revenue Gap/(Surplus) is arrived at and approved as follows:

Table 72: Standalone Revenue Gap/ (Surplus) at existing tariff (INR Crore)

S. No	Particulars	Approved in ARR Order	Petitioners submission	Now Approved
1	Net Revenue Requirement	979.23	1,131.59	1,171.70
2	Revenue from Retail Sales at Proposed Tariff	957.23	1,003.18	987.72
3	Revenue from Open Access Charges	20.70	0.00	0.00
4	Total Revenue	977.93	1,003.18	987.72
5	**Net Gap/(Surplus)**	**1.30**	**128.40**	**183.98**

The standalone gap at existing retail tariff is INR 183.98 Cr in the APR of FY 2018-19. The estimated gap is carried over to the next year and has been considered while determining the tariff for FY 2019-20.

5. Chapter 5: Determination of Aggregate Revenue Requirement for FY 2019-20, FY 2020-21 and FY 2021-22 (2nd MYT Control Period)

5.1. Background

In this Chapter, the Commission has determined the Aggregate Revenue Requirement (ARR) for FY 2019-20, FY 2020-21 and FY 2021-22 (2nd MYT Control Period). The determination of Aggregate Revenue Requirement has been done in accordance with the MYT Regulations, 2018.

5.2. Approach for determination of ARR for each year of the 2nd MYT Control period

The Commission has computed the cost of individual elements constituting the Aggregate Revenue Requirement for each year of the Control Period based on figures approved in the Business Plan Order dated October 31, 2018, the actual information available of various parameters for FY 2017-18 as per the audited accounts and the provisional information available for FY 2018-19. The ARR has been determined for each year of the Control Period whereas the revenue at existing tariff is determined only for FY 2019-20 to arrive at the revenue Gap/(Surplus) for FY 2019-20.

5.3. Projection of Number of consumers, Connected Load and Energy Sales

Petitioner's Submission

The Petitioner has considered the same energy sales, connected load and number of consumers as approved by the Commission in the Business Plan Order.

Table 73: Number of consumers submitted by the Petitioner for the MYT Control Period

Category	FY 2019-20	FY 2020-21	FY 2021-22
Domestic	50,811	52,122	53,467
Commercial	7,944	8,009	8,075
Agriculture	1,419	1,458	1,498
LT Industry	1,740	1,757	1,775
HT/EHT Industry	809	810	811
Public Lighting	718	765	815
Public Water Works	137	143	150
Temp. Supply	414	414	414
Total	**63,992**	**65,478**	**67,005**

Table 74: Connected load submitted by the Petitioner for the MYT Control Period (kW)

Category	FY 2019-20	FY 2020-21	FY 2021-22
Domestic	153,559	165,844	179,111
Commercial	26,388	27,832	29,354
Agriculture	4,283	4,430	4,583

Category	FY 2019-20	FY 2020-21	FY 2021-22
LT Industry	113,829	116,492	119,218
HT/EHT Industry	580,988	596,500	612,427
Public Lighting	1,462	1,491	1,521
Public Water Works	858	892	927
Temp. Supply	1,986	1,986	1,986
Total	**883,353**	**915,468**	**949,128**

Table 75: Energy sales submitted by the Petitioner for the MYT Control Period (MU)

Category	FY 2019-20	FY 2020-21	FY 2021-22
Domestic	135.57	143.31	151.49
LIG/Kutir Jyoti	0.00	0.00	0.00
Commercial	65.87	70.36	75.15
Agriculture	5.39	5.70	6.02
LT Industry	220.08	233.44	247.61
HT/EHT Industry	2,178.22	2,281.90	2,390.52
Public Lighting	10.99	11.83	12.73
Public Water Works	4.55	5.19	5.19
Temp. Supply	6.40	6.40	6.40
Total	**2,627.07**	**2,758.13**	**2,895.11**

Commission's Analysis

The Commission in the Business Plan Order had estimated the category wise energy sales, number of consumers and connected load based on historical trends and actual data available for previous years. The detailed methodology has been discussed in the Business Plan Order dated October 31, 2018. The Commission retains the same energy sales, number of consumers and connected load as approved in the Business Plan Order.

Table 76: Number of consumers approved by the Commission for the MYT Control Period

Category	FY 2019-20	FY 2020-21	FY 2021-22
Domestic	50,811	52,122	53,467
Commercial	7,944	8,009	8,075
Agriculture	1,419	1,458	1,498
LT Industry	1,740	1,757	1,775
HT/EHT Industry	809	810	811
Public Lighting	718	765	815
Public Water Works	137	143	150
Temp. Supply	414	414	414
Total	**63,992**	**65,478**	**67,005**

Table 77: Connected load approved by the Commission for the MYT Control Period (kW)

Category	FY 2019-20	FY 2020-21	FY 2021-22
Domestic	153,558.89	165,843.60	179,111.09
Commercial	26,388.17	27,831.60	29,353.99
Agriculture	4,283.14	4,430.48	4,582.89
LT Industry	113,828.87	116,492.47	119,218.39
HT/EHT Industry	580,988.02	596,500.40	612,426.96
Public Lighting	1,461.76	1,491.00	1,520.82
Public Water Works	858.13	892.11	927.44
Temp. Supply	1,986.00	1,986.00	1,986.00
Total	**883,353**	**915,468**	**949,128**

Table 78: Energy sales approved by the Commission for MYT Control Period (MU)

Category	FY 2019-20	FY 2020-21	FY 2021-22
Domestic	135.57	143.31	151.49
LIG/Kutir Jyoti	0.10	0.10	0.10
Commercial	65.87	70.36	75.15
Agriculture	5.39	5.70	6.02
LT Industry	220.08	233.44	247.61
HT/EHT Industry	2,178.22	2,281.90	2,390.52
Public Lighting	10.99	11.83	12.73
Public Water Works	4.55	5.19	5.92
Temp. Supply	6.40	6.40	6.40
Total	**2,627.16**	**2,758.22**	**2,895.94**

The Commission approves the number of consumer, connected load and energy sales as shown in the table above for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.4. Inter-State Transmission Loss

Petitioner's submission

The Petitioner has considered the Inter-State transmission loss of 3.66% for each year, same as approved in APR for FY 2018-19.

Commission's analysis

The Commission considers the transmission loss levels for each year of the control period in line with the loss considered in the Business Plan Order for the Control Period. The same shall be revised based on actuals during the truing-up exercise.

The following table provides the Inter-State transmission losses approved by the Commission for the MYT Control Period.

Table 79: Inter-State transmission loss as approved by the Commission (%)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Inter-State transmission loss	3.66%	3.66%	3.66%

The Commission approves an Inter-State transmission loss of 3.66% for each year of the MYT Control Period.

5.5. Intra-State Distribution Loss

Petitioner's submission

The Petitioner has submitted that it has achieved distribution loss level of 6.85% for FY 2017-18 as against the target of 8.40%. It further submitted that reduction in distribution loss involves significant amount of capital expenditure and that it will be EDDD's endeavor to bring the distribution loss level further down in the subsequent years. Accordingly, revised estimates for distribution losses for FY 2018-19 and trajectory proposed by the Petitioner for the upcoming Control Period is as given below:

Table 80: Distribution loss trajectory proposed by the Petitioner for the upcoming Control Period (%)

S. No.	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	**Intra-State distribution loss**	6.70%	6.60%	6.50%

Commission's analysis

The Commission in the Business Plan Order dated October 31, 2018 had approved the trajectory of distribution loss for EDDD for the next Control Period. The Commission approves the same for MYT Control Period.

The table below provides the Intra-State distribution loss approved for the MYT Control Period:

Table 81: Intra-State distribution loss as approved by the Commission (%)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Intra-State distribution loss	6.70%	6.60%	6.50%

The Commission approves the Intra-State distribution loss of 6.70%, 6.60% and 6.50% for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.6. Power Purchase Quantum & Cost

Petitioners Submission

The Petitioner for projecting the energy availability during the MYT Control Period has considered the firm and infirm allocation from various generating stations. Detailed methodology for projecting the power availability to the Petitioner from various sources is summarized as follows:

1. Power Purchase Quantum:

The power availability for FY 2018-19 has been estimated based on the revised allocation issued by the Western Region Power Committee (WRPC) vide letter number WRPC/Comml-I/6/Alloc/2018/5733 dated June 28, 2018. The energy allocation from various generating stations has been summarized as follows:

Table 82: Energy Allocation as submitted by the Petitioner (MW)

Name of Plant	Plant Capacity (MW)	Avg. DD Allocation (%)	Avg. DD Allocation (MW)
NTPC Stations			
KSTPP	2,100	2.30%	48
KSTPP-III	500	1.12%	6
VSTPP-I	1,260	0.99%	12
VSTPP-II	1,000	0.86%	9
VSTPP- III	1,000	1.06%	11
VSTPP- IV	500	2.38%	12
VSTPS-V	500	1.57%	8
KAWAS	656	4.73%	31
JGPP	657	4.77%	31
BHILAI UNIT-I &II	500	14.00%	70
SIPAT-I	1,980	1.20%	24
SIPAT-II	1,000	0.93%	9
MSTPS-I	500	2.38%	12
MOUDA-II	1,000	1.62%	16
SOLAPUR	660	1.90%	13
LARA	1,600	0.46%	7
GADARWARA	1,600	0.94%	15

Name of Plant	Plant Capacity (MW)	Avg. DD Allocation (%)	Avg. DD Allocation (MW)
KHSTPP-II	1,000	0.13%	1.3
NPCIL			
KAPS	440	2.04%	8.98
TAPP 3&4	1,080	1.14%	12.26
NSPCL	500	14%	70
Others			
RGPPL	1,967	1.93%	38

The availability of power from various sources has been considered as per the following methodology:

NTPC: The net energy generated from NTPC stations has been estimated by considering average PLF of past three years and normative auxiliary consumption as per CERC Tariff Regulations. Based upon the generated energy from each plant and its corresponding entitlement to the UT of Daman & Diu, the energy availability has been calculated.

NPCIL: The energy generated from NPCIL stations has been estimated by considering the average PLF of the past three years. Based upon the generated energy from each plant and its corresponding entitlement to the UT of Daman & Diu, the energy availability has been calculated.

NSPCL: The estimation of energy generated from the NSPCL Bhilai has been done based on an average PLF of 90%. Based upon the generated energy from the plant, the energy availability to the UT of Daman & Diu has been calculated.

RGPPL: The Petitioner expects that it will not be getting any power from Ratnagiri for FY 2018-19 and the upcoming Control Period, hence no power purchase from the power plant has been considered.

Auxiliary consumption: Auxiliary consumption of 7.75% and 2.50% has been considered for estimating the net generation from coal and gas based generating stations respectively.

Inter-State transmission losses: The Petitioner has considered 3.66% Inter-State transmission losses

Further, to meet the Solar RPO for the Control Period, the Petitioner has submitted that it is in the process of purchasing 80 MW power from NTPC, 50 MW from Solar Energy Corporation of India (SECI), and 40 MW from open tender on long term basis (25 years) on Power Purchase Agreement (PPA) basis. Additionally, EDDD has an installed capacity of 13.59 MW of Solar plants in its territory, out of which 10 MW is ground mounted and 3.59 MW is Solar rooftop. It is expected that an additional 1 MW of rooftop Solar plant will be added to the existing capacity during the Control Period.

2. Power Purchase Cost:

The cost of purchase from the central generating stations for MYT Control Period has been estimated based on the following assumptions:

- Fixed cost for the MYT Control Period has been projected at the same level as estimated for various stations for FY 18-19.
- Variable cost for each NTPC generating stations for the MYT Control Period has been projected at the same rate as received during the first six months of FY 2018-19.
- The EDDD has projected other charges (tax, incentives, etc) for the MYT Control Period at similar level as estimated for full year of FY 18-19.

- For nuclear plants i.e. KAPP and TAPP single part tariff, the actual average variable cost per unit has been considered at the same rate as received during the first six months of FY 2018-19 for projecting the power purchase cost for the MYT Control Period.
- For power purchase from renewable energy sources, EDDD has considered the purchase of Solar power at INR 3.00 per unit. For the Non-Solar power, EDDD has considered a rate of INR 4.48 per unit. Further, EDDD has considered the purchase of Non-Solar renewable energy certificates at INR 1.50 per unit.
- The average power purchase cost for procurement of power from the energy exchange has been considered at INR 2.95/unit.

The projected power purchase cost is as shown in the table below:

Table 83: Power Purchase quantum (MU) and Cost (INR Crore) submitted by Petitioner for Control Period

S. No.	Source	Name of Project	FY 2019-20		FY 2020-21		FY 2021-22	
			Quantum (MU)	Cost (INR Cr)	Quantum (MU)	Cost (INR Cr)	Quantum (MU)	Cost (INR Cr)
1	NTPC	KSTPP	346.71	70.46	346.71	70.46	346.71	70.46
2		KSTPP-III	40.25	11.10	40.25	11.10	40.25	11.10
3		VSTPP-I	83.66	20.75	83.66	20.75	83.66	20.75
4		VSTPP-II	57.96	12.82	57.96	12.82	57.96	12.82
5		VSTPP- III	71.38	19.03	71.38	19.03	71.38	19.03
6		VSTPP- IV	79.71	25.52	79.71	25.52	79.71	25.52
7		VSTPS-V	52.76	17.84	52.76	17.84	52.76	17.84
8		KAWAS	82.19	42.61	82.19	42.61	82.19	42.61
9		JGPP	96.43	50.36	96.43	50.36	96.43	50.36
10		Sipat-I	169.49	44.96	169.49	44.96	169.49	44.96
11		Sipat-II	66.47	17.84	66.47	17.84	66.47	17.84
12		MSTPS-I	40.33	28.66	40.33	28.66	40.33	28.66
13		MOUDA-II	54.84	36.26	54.84	36.26	54.84	36.26
14		KHSTPP-II	8.09	3.24	8.09	3.24	8.09	3.24
15		SOLAPUR	61.84	41.16	61.84	41.16	61.84	41.16
16		LARA	49.73	14.32	49.73	14.32	49.73	14.32
17		GADARWARA	101.84	34.12	101.84	34.12	101.84	34.12
18	NSPCL	Bhilai	469.51	185.22	469.51	185.22	469.51	185.22
19	NPCIL	KAPPS	50.86	16.30	50.86	16.30	50.86	16.30
20		TAPPS (#3 and #4)	77.33	24.78	77.33	24.78	77.33	24.78
21	Others	Ratnagiri	0.00	0.00	0.00	0.00	0.00	0.00
22		IEX	485.00	143.08	625.00	184.38	775.00	228.63
23		UI/Deviation	0.00	0.00	0.00	0.00	0.00	0.00
24		Solar	17.12	0.00	17.12	0.00	17.12	0.00
25		Non Solar (Hydro)	70.00	31.36	70.00	31.36	70.00	31.36
26		Solar REC	0.00	0.00	0.00	0.00	0.00	0.00
27		Non Solar REC	0.00	16.30	0.00	22.60	0.00	28.58
28		Solar (SECI, NTPC)	282.95	84.88	282.95	84.88	282.95	84.88
29		**Total**	**2,916.47**	**992.99**	**3,056.47**	**1,040.59**	**3,206.47**	**1,090.83**

Transmission Charges

The transmission charges payable to PGCIL are projected based on the total capacity allocation in the transmission network. Further, EDDD has taken into account the additional capacity share in the new stations while estimating the Inter-State transmission charges for ensuing year.

Table 84: Transmission charges submitted by Petitioner (INR Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Power Purchase Cost	**992.99**	**1,040.59**	**1,090.83**
PGCIL CHARGES	110.20	115.71	121.50
WRLDC	0.24	0.26	0.27
MSTCL	3.80	3.99	4.19
REC	0.00	0.00	0.00
GETCO	0.00	0.00	0.00
PGVCL	0.03	0.04	0.04
POSCO	0.00	0.00	0.00
Total Power Purchase Cost	**1,107.27**	**1,160.59**	**1,216.82**

Commission's Analysis

The Commission for the purpose of estimating the quantum and cost of power purchase for each year has relied on the station wise quantum approved in the Business Plan Order, actual energy availability for FY 2015-16, FY 2016-17 and FY 2017-18, provisional energy availability for first nine months of FY 2018-19, actual Plant availability factor (PAF) and Plant Load Factor (PLF) for previous years for each station, allocated share to the Petitioner and norms and cost approved in Tariff Orders for Central Generating Stations by CERC.

While determining the Power Purchase Quantum, the Commission has refined the projections made in the Business Plan Order based on certain recent updated information.

Accordingly, the source wise methodology followed for projection of quantum and cost of power procurement has been detailed as follows:

5.6.1. Availability of power

- **Allocation from Central Generating Stations (CGS):** The Commission has considered firm allocation and allocation from the unallocated quota from the central generating stations based on average allocation for FY 2018-19. The same has been obtained from Regional Energy Account (REA) of western region prepared by WRPC vide letter number WRPC/Comml-I/6/Alloc/2018/5733 dated June 28, 2018. The same share of allocation has been assumed for all the years of the upcoming Control Period.
- **Power purchase from new stations:** The Commission has considered the assumptions made by the Petitioner as below:
    - 7.34 MW allocation from Lara Super Thermal Power Station from last quarter of FY 2018-19
    - 15.30 MW allocation from Gadarwara Unit I.
- **Plant Load Factor (PLF):** The Commission has made the following assumptions with respect to PLF:
    - **NTPC, NSPCL plants:** The Commission has considered the load factor as average of PLF for previous 2 years and 5 months of FY 2018-19, obtained from CEA's Monthly Generation Overview Report. However, for Lara STPS and Gadardwara STPS, due to lack of past data, the Commission has assumed a PLF of 15% for FY 2018-19 (as per CEA Generation Report for August 2018) and the Petitioner's assumptions for the remaining years.
    - **NPCIL:** The Commission has considered the load factor as average of PLF for previous 2 years and 5 months of FY 2018-19, obtained from CEA's generation overview report. However, for Kakrapara Atomic Power Station (KAPS), the Commission has not considered PLF average of FY

2014-15 and FY 2015-16 as the plant is under shutdown since FY 2016-17 and has started operating in September 2018.

- **Auxiliary consumption:** The Commission has considered the Auxiliary consumption based on normative auxiliary consumption allowed in Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for thermal power plants. Accordingly, auxiliary consumption of 7.75% and 2.50% is considered for coal and gas based plants respectively. However, for nuclear generation power plants, the auxiliary consumption has been assumed as 10%.
- **Inter-State transmission losses:** The Commission has considered Inter-State transmission losses as 3.66% for all years of the upcoming Control Period as approved by the Commission in the MYT Order.
- **Availability of power from the Open Market, Unscheduled Interchange and Banking:** The energy deficit for the each year, as discussed in the section of energy balance has been assumed to be procured from the Open Market. No power has been projected under UI and Banking for any year.

5.6.2. *Power Purchase Cost*

Variable Charges:

- The per unit variable costs for various power stations and Open Market have been computed by taking the average of the actual per unit variable cost during the first 9 months from April 2018 to December 2018. An Y-o-Y escalation of 5% has been considered over the actual per unit variable cost to arrive upon the variable per unit cost for each year

Fixed Charges:

- The station wise fixed cost determined for FY 2018-19 has been escalated 2% to determine the fixed cost for each station

Other Charges:

- No other charges have been considered for the MYT Control Period. The same shall be considered as per actuals during the True-up of each year.

5.6.3. *Transmission Charges*

The Commission has projected the transmission charges payable to PGCIL based on the charges determined for APR of FY 2018-19 with y-o-y escalation of 2%.

5.6.4. *Total power purchase quantum and cost*

The energy availability and the power purchase cost approved by the Commission for each year of the Control Period have been shown in the following tables:

Table 85: Power Purchase Quantum (MU) and cost (INR Crore) approved for FY 2019-20

Details of the stations	Units Purchased at generator periphery (MU)	Variable Charges (INR Cr)	Fixed Charges (INR Cr)	Total Charges (INR Cr)	Per Unit Cost (INR/kWh)
NTPC					
KSTPP	348.23	50.12	23.57	73.69	2.12
KSTPP-III	40.49	5.88	5.18	11.06	2.73
VSTPP-I	86.21	14.41	7.19	21.60	2.51
VSTPP-II	59.58	9.36	3.96	13.32	2.24

Details of the stations	Units Purchased at generator periphery (MU)	Variable Charges (INR Cr)	Fixed Charges (INR Cr)	Total Charges (INR Cr)	Per Unit Cost (INR/kWh)
VSTPP- III	73.45	11.76	7.06	18.82	2.56
VSTPP- IV	82.81	13.32	11.86	25.18	3.04
VSTPS-V	56.37	29.81	13.70	43.51	4.27
KAWAS	101.96	35.79	30.38	66.17	4.95
GGPP	133.70	23.78	37.66	61.44	3.60
SIPAT-I	170.43	9.95	8.20	18.15	2.68
SIPAT-II	67.66	8.55	5.15	13.70	5.11
MSTPS-I	26.83	8.47	7.83	16.30	2.89
MOUDA-II	57.73	17.57	8.38	25.95	4.50
SOLAPUR	74.36	28.33	22.61	50.94	6.85
LARA	49.73	16.77	0.00	16.77	3.34
GADARWARA	55.92	21.61	0.00	21.61	3.37
KHSTPP-II	8.25	1.87	0.89	2.76	3.86
Subtotal - NTPC	**1,493.71**	**307.36**	**193.62**	**500.98**	**3.35**
NSPCL Bhilai	**564.94**	**132.15**	**103.51**	**235.67**	**4.17**
NPCIL					
KAPS	50.97	9.27	0.00	9.27	1.82
TAPP (3 & 4)	75.65	24.96	0.00	24.96	3.30
SUBTOTAL- NPCIL	**126.62**	**34.24**	**0.00**	**34.24**	**2.70**
OTHERS					
RATNAGIRI	0.00	0.00	0.00	0.00	0.00
Subtotal- Others	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
RPO*					
Solar (Own Generation)	17.78	0.00	0.00	0.00	0.00
Non-Solar	70.00	31.36	0.00	31.36	4.48
Solar (SECI,NTPC)	282.95	84.88	0.00	84.88	3.00
Solar REC	0.00	0.00	0.00	0.00	0.00
Non Solar REC	0.00	0.00	0.00	0.00	1.00
Subtotal- Others	**370.73**	**116.24**	**0.00**	**116.24**	**3.14**
Open market purchases	352.72	135.05	0.00	135.05	3.83
Unscheduled Interchange (UI) Overdrawal/Underdrawal	0.00	0.00	0.00	0.00	0.00
Total	**2,908.71**	**725.03**	**297.13**	**1,022.16**	**3.51**
Transmission Charges					
PGCIL CHARGES				113.42	

Details of the stations	Units Purchased at generator periphery (MU)	Variable Charges (INR Cr)	Fixed Charges (INR Cr)	Total Charges (INR Cr)	Per Unit Cost (INR/kWh)
OTHER CHARGES				2.62	
Subtotal				**116.04**	
Total Power Purchase Cost	**2,908.71**	**725.03**	**297.13**	**1,138.20**	**3.91**

* Cost for RPO is approved in Section 5.7

The Commission approves the quantum of power purchase as 2,908.71 MU at the generator periphery with a total cost of INR 1,138.20 Cr for FY 2019-20.

The APPC has been computed at the UT Periphery excluding the transmission charges and cost of purchase of renewable energy. The same shall be used for the purpose of compensation / payment of surplus power at the end of each settlement period in case of Net-metering consumers by the Petitioner. The Average Power Purchase Cost (APPC) for FY 2019-20 has been determined as provided in the table below:

Table 86: Average Power Purchase Cost (APPC) for FY 2019-20

Particular	FY 2019-20
Total Power Purchase Cost (INR Cr)	1,138.20
Less: Transmission charges and Power Purchase cost from renewable energy sources (INR Cr)	232.28
Net Power Purchase Cost (INR Cr)	**905.92**
Total Power Purchase quantum (MU)	2828.73
Less: Quantum from renewable energy sources (MU)	370.73
Quantum of energy at State Periphery excluding quantum from renewable energy sources (MU)	**2,458.00**
APPC (Rs/kWh)	**3.69**

The Commission approves the Average Power Purchase Cost (APPC) as INR 3.69/ kWh for the FY 2019-20

Table 87: Power Purchase Quantum (MU) and cost (INR Cr) approved for FY 2020-21

Details of the stations	Units Purchased at generator periphery (MU)	Variable Charges (INR Cr)	Fixed Charges (INR Cr)	Total Charges (INR Cr)	Per Unit Cost (INR/kWh)
NTPC					
KSTPP	348.23	52.63	24.04	76.67	2.20
KSTPP-III	40.49	6.18	5.29	11.46	2.83
VSTPP-I	86.21	15.13	7.33	22.46	2.61
VSTPP-II	59.58	9.82	4.04	13.87	2.33
VSTPP- III	73.45	12.35	7.20	19.55	2.66
VSTPP- IV	82.81	13.99	12.10	26.09	3.15
VSTPS-V	56.37	8.89	7.99	16.88	4.44
KAWAS	101.96	31.31	13.97	45.28	5.13
GGPP	133.70	37.58	30.99	68.56	3.72
Sipat-I	170.43	24.97	38.41	63.38	2.78
Sipat-II	67.66	10.45	8.36	18.81	5.30

Details of the stations	Units Purchased at generator periphery (MU)	Variable Charges (INR Cr)	Fixed Charges (INR Cr)	Total Charges (INR Cr)	Per Unit Cost (INR/kWh)
MSTPS-I	26.83	8.98	5.26	14.23	3.00
MOUDA-II	57.73	18.45	8.55	27.00	4.68
SOLAPUR	74.36	29.74	23.06	52.81	7.10
LARA	49.73	17.61	0.00	17.61	3.48
GADARWARA	60.98	24.74	0.00	24.74	3.54
KHSTPP-II	8.25	1.96	0.91	2.87	4.06
Subtotal - NTPC	**1,498.77**	**324.78**	**197.49**	**522.27**	**3.48**
NSPCL Bhilai	**564.94**	**138.76**	**105.58**	**244.34**	**4.33**
NPCIL					
KAPS	50.97	9.74	0.00	9.74	1.91
TAPP (3 & 4)	75.65	26.21	0.00	26.21	3.46
Subtotal- NPCIL	**126.62**	**35.95**	**0.00**	**35.95**	**2.84**
Others					
Ratnagiri	0.00	0.00	0.00	0.00	0.00
Subtotal- Others	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
RPO*					
Solar (Own Generation)	17.78	0.00	0.00	0.00	0.00
Non-Solar	70.00	31.36	0.00	31.36	4.48
Solar (SECI,NTPC)	282.95	84.88	0.00	84.88	3.00
Solar REC	0.00	0.00	0.00	0.00	0.00
Non Solar REC	0.00	2.97	0.00	2.97	1.00
Subtotal- Others	**370.73**	**119.21**	**0.00**	**119.21**	**3.22**
Open market purchases	490.18	197.06	0.00	197.06	4.02
Unscheduled Interchange (UI) Overdrawal/Underdrawal	0.00	0.00	0.00	0.00	0.00
Total	**3,051.23**	**815.75**	**303.08**	**1,118.83**	**3.67**
Transmission Charges					
PGCIL CHARGES				115.69	
OTHER CHARGES				2.67	
Subtotal				**118.36**	
Total Power Purchase Cost	**3,051.23**	**815.75**	**303.08**	**1,237.19**	**4.05**

* Cost for RPO is approved in Section 5.7

The Commission approves the quantum of power purchase as 3,051.23 MU at the Generator Periphery with a total cost of INR 1,237.19 Cr for FY 2020-21.

Table 88: Power Purchase Quantum (MU) and cost (INR Cr) approved for FY 2021-22

Details of the stations	Units Purchased at Generator Periphery (MU)	Variable Charges (INR Cr)	Fixed Charges (INR Cr)	Total Charges (INR Cr)	Per Unit Cost (INR/kWh)
NTPC					
KSTPP	348.23	55.26	24.52	79.78	2.29
KSTPP-III	40.49	6.49	5.39	11.88	2.93
VSTPP-I	86.21	15.89	7.48	23.37	2.71
VSTPP-II	59.58	10.32	4.12	14.44	2.42
VSTPP- III	73.45	12.97	7.34	20.31	2.77
VSTPP- IV	82.81	14.69	12.34	27.03	3.26
VSTPS-V	56.37	9.34	8.15	17.49	4.62
KAWAS	101.96	32.87	14.25	47.12	5.32
GGPP	133.70	39.46	31.61	71.06	3.84
Sipat-I	170.43	26.22	39.18	65.40	2.88
Sipat-II	67.66	10.97	8.53	19.50	5.51
MSTPS-I	26.83	9.42	5.36	14.79	3.10
MOUDA-II	57.73	19.38	8.72	28.09	4.87
SOLAPUR	74.36	31.23	23.52	54.76	7.36
LARA	49.73	18.49	0.00	18.49	3.62
GADARWARA	60.98	25.98	0.00	25.98	3.72
KHSTPP-II	8.25	2.06	0.93	2.99	4.26
Subtotal - NTPC	**1,498.77**	**341.02**	**201.44**	**542.46**	**3.62**
NSPCL Bhilai	**564.94**	**145.70**	**107.70**	**253.39**	**4.49**
NPCIL					
KAPS	50.97	10.22	0.00	10.22	2.01
TAPP (3 & 4)	75.65	27.52	0.00	27.52	3.64
Subtotal- NPCIL	**126.62**	**37.74**	**0.00**	**37.74**	**2.98**
Others					
Ratnagiri	0.00	0.00	0.00	0.00	0.00
Subtotal- Others	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
RPO*					
Solar (Own Generation)	17.78	0.00	0.00	0.00	0.00
Non-Solar	70.00	31.36	0.00	31.36	4.48
Solar (SECI,NTPC)	282.95	84.88	0.00	84.88	3.00
Solar REC	0.00	0.00	0.00	0.00	0.00
Non Solar REC	0.00	12.16	0.00	12.16	1.00
Subtotal- Others	**370.73**	**128.40**	**0.00**	**128.40**	**3.46**
Open market purchases	639.79	270.07	0.00	270.07	4.22
Unscheduled Interchange (UI) Overdrawal/Underdrawal	0.00	0.00	0.00	0.00	0.00

Details of the stations	Units Purchased at Generator Periphery (MU)	Variable Charges (INR Cr)	Fixed Charges (INR Cr)	Total Charges (INR Cr)	Per Unit Cost (INR/kWh)
Total	**3,200.85**	**922.92**	**309.14**	**1,232.06**	**3.85**
Transmission Charges					
PGCIL Charges				118.00	
Other Charges				2.72	
Subtotal				**120.73**	
Total Power Purchase Cost	**3,200.85**	**922.92**	**309.14**	**1,352.79**	**4.23**

* Cost for RPO is approved in Section 5.7

The Commission approves the quantum of power purchase as 3,200.85 MU at the Generator Periphery with a total cost of INR 1,352.79 Cr for FY 2021-22.

5.7. Renewable Purchase Obligation (RPO)

Petitioner's submission:

The Petitioner is required to procure power from renewable sources for meeting the RPO. The RPO requirement for each year of the Control Period as submitted by the Petitioner has been provided in the following table:

Table 89: RPO Plan proposed by the Petitioner for the upcoming Control Period (MU)

Particular	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Sales within State (MU)	**2,502.34**	**2,627.07**	**2,758.13**	**2,895.11**
RPO obligation (%)	**9.00%**	**11.50%**	**14.10%**	**17.00%**
Solar	3.60%	4.70%	6.10%	8.00%
Non-Solar	5.40%	6.80%	8.00%	9.00%
RPO obligation for the year (MU)	**225.22**	**302.12**	**388.91**	**492.31**
Solar	90.09	123.48	168.25	231.68
Non-Solar	135.13	178.65	220.66	260.63
RPO Compliance (Procurement and own generation)	**87.78**	**371.58**	**371.58**	**371.58**
Solar	17.78	301.58	301.58	301.58
Non-Solar	70.00	70.00	70.00	70.00
RPO Compliance (REC certificate purchase)	**138.09**	**108.65**	**150.66**	**190.63**
Solar	72.96	0.00	0.00	0.00
Non-Solar	65.13	108.65	150.66	190.63

The Petitioner plans to fulfil the RPO targets through the mix of purchase of physical power and purchase of REC certificates. The Petitioner has submitted that it is in the process of purchasing 80 MW Solar power from NTPC, 50 MW Solar power from Solar Energy Corporation of India (SECI), and 40 MW Solar power from open tender on long-term basis (25 years) on Power Purchase Agreement (PPA) basis. Additionally, EDDD has an installed capacity of 13.59 MW of Solar plants in its territory, out of which 10 MW is ground mounted and 3.59 MW is Solar rooftop. It is expected that an additional 1 MW of rooftop Solar plant will be added to the existing capacity during the Control Period.

Commission's analysis:

In the current RPO compliance plan submitted by the Petitioner, the Commission acknowledges the efforts planned to procure more renewables from FY 2019-20 onwards. However, the Commission observes that, though the Petitioner is consistently meeting/surpassing its Solar obligations, it is relying on the REC purchases to meet its Non-Solar purchase obligations. The Commission expects the Petitioner to make all efforts to increase procurement of power from Non-Solar sources. As per the JERC (Procurement of Renewable Energy), (Third Amendment) Regulations, 2016 dated August 22, 2016, the Commission has notified the total RPO in terms of percentage of total energy mix of consumption excluding hydropower and has also specified the minimum quantum of Solar RPO to be met out the total RPO. The Commission has observed that the Licensee has projected over achievement of Solar RPO. Accordingly, the Commission has considered the cost of entire Solar RPO and the cost of Non-Solar RPO has been duly adjusted with the overachievement of Solar RPO.

Further, the actual compliance in respect of the pending RPO would be reviewed at the time of true-up of the respective years and supporting details such as purchase of RECs, bills from Solar/Non-Solar plants for the respective years must be submitted during the MYT filing.

In accordance with the sales projections approved by the Commission, the RPO targets are given below:

Table 90: RPO targets and compliance plan approved by the Commission (MU)

Description	FY 2019-20	FY 2020-21	FY 2021-22
Sales within State (MU)	2627.16	2758.22	2895.94
RPO Target (%)	**11.50%**	**14.10%**	**17.00%**
Solar	4.70%	6.10%	8.00%
Non-Solar	6.80%	8.00%	9.00%
RPO Target for the year (MU)	**302.12**	**388.91**	**492.31**
Solar	123.48	168.25	231.68
Non-Solar	178.65	220.66	260.63
RPO Compliance (Procurement and own generation) (MU)	**370.73**	**370.73**	**370.73**
Solar (including SECI)	170.73	168.25	231.68
Non-Solar (including adjustment of over-achievement of Solar RPO)	200.00	202.48	139.05
RPO Compliance (REC purchase) (MU)	**0.00**	**29.70**	**121.58**
Solar	0.00	0.00	0.00
Non-Solar	0.00	29.70	121.58
Cumulative Requirement till current year (MU)	**1,026.15**	**1,415.06**	**1,907.37**
Solar	342.61	510.86	742.54
Non-Solar	683.53	904.19	1164.83
Cumulative Compliance till current year (MU)	**1,014.63**	**1,415.06**	**1,907.37**
Solar	342.61	510.86	742.54
Non-Solar	672.02	904.19	1,164.83

Similar to the approach followed in the APR of FY 2018-19, the Commission has considered the gross energy generated from Solar rooftop plants while approving the RPO compliance for the year. The quantum for each year has been considered same as approved in the Business Plan Order. The Commission has considered the shortfall to be fulfilled by way of REC purchase and has assumed the rate of purchase for Solar and Non-Solar REC as INR 1.00/kWh (IEX Floor Price Rate). The same shall be trued-up on actual basis during the True-up.

The cost has already been considered in the total power purchase cost approved by the Commission in the previous section. The compliance and cost status towards RPO for each year of the MYT Control Period as approved by the Commission is provided in the following table:

Table 91: Cost towards compliance of Renewable Purchase Obligation for FY 2019-20 (INR Crore)

S. No	Description	RPO (MU)	Total Cost (INR Cr)	Avg. Rate (INR/kWh)
1	**Solar**	**170.73**	**45.89**	**2.69**
(a)	*Own Generation*	17.78	0.00	0.00
(b)	*Procurement*	152.95	45.89	3.00
(c)	*Renewable Energy Certificates*	*0.00*	*0.00*	*0.00*
2	**Non-Solar**	***200.00***	***70.36***	***3.52***
(a)	*Own Generation*	0.00	0.00	0.00
(b)	*Procurement*	200.00	70.36	4.48
(c)	*Renewable Energy Certificates*	0.00	0.00	0.00
	Total	**370.73**	**116.25**	**3.14**

The Commission approves INR 116.25 Cr towards compliance of RPO in the ARR of FY 2019-20.

Table 92: Cost towards compliance of Renewable Purchase Obligation for FY 2020-21 (INR Crore)

S. No	Description	RPO (MU)	Total Cost (INR Cr)	Avg. Rate (INR/kWh)
1	**Solar**	**168.25**	**45.14**	**2.68**
(a)	*Own Generation*	17.78	0.00	0.00
(b)	*Procurement*	150.47	45.14	3.00
(c)	*Renewable Energy Certificates*	0.00	0.00	0.00
2	**Non-Solar**	**232.17**	**74.07**	**3.19**
(a)	*Own Generation*	0.00	0.00	0.00
(b)	*Procurement*	202.48	71.10	3.51
(c)	*Renewable Energy Certificates*	29.70	2.97	1.00
	Total	**400.43**	**119.21**	**2.98**

The Commission approves INR 119.21 Cr towards compliance of RPO in the ARR of FY 2020-21.

Table 93: Cost towards compliance of Renewable Purchase Obligation for FY 2021-22 (INR Crore)

S. No	Description	RPO (MU)	Total Cost (INR Cr)	Avg. Rate (INR/kWh)
1	**Solar**	**231.68**	**64.17**	**2.77**
(a)	*Own Generation*	17.78	0.00	0.00
(b)	*Procurement*	213.90	64.17	3.00
(c)	*Renewable Energy Certificates*	0.00	0.00	0.00
2	**Non-Solar**	**260.63**	**64.23**	**2.46**
(a)	*Own Generation*	0.00	0.00	0.00
(b)	*Procurement*	139.05	52.08	3.75
(c)	*Renewable Energy Certificates*	121.58	12.16	1.00
	Total	**492.31**	**128.40**	**2.61**

The Commission approves INR 128.40 Cr towards compliance of RPO in the ARR of FY 2021-22.

5.8. Energy Balance

Petitioner's submission

The Petitioner has submitted the energy balance as shown in the following page:

Table 94: Energy Balance submitted by Petitioner (MU)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Retail Sales (a)	2,627.07	2,758.13	2,895.11
Open Access Sales (b)	0.00	0.00	0.00
Less: Energy Savings (c)	0.00	0.00	0.00
Total Sales (d=a+b-c)	**2,627.07**	**2,758.13**	**2,895.11**
Distribution Loss (MU) (e=g-d)	188.65	194.90	201.26
Distribution Loss (%) (f=e/g)	6.70%	6.60%	6.50%
Energy Required at Periphery (g)	**2,815.72**	**2,953.03**	**3,096.37**
Sale to common pool consumer/UI Sale(h)	7.55	5.12	6.28
Own generation (i)	17.12	17.12	17.12
Total energy requirement at UT periphery(j=g+h-i)	**2,806.15**	**2,941.02**	**3,085.53**
Less: Energy Purchased through UI at Periphery (k)	0.00	0.00	0.00
Less: Open Access Purchase at Periphery (l)	0.00	0.00	0.00
Less: Purchase through Renewable Sources (m)	352.95	352.95	352.95
Energy requirement at UT periphery from tied up sources (n=j-k-l-m)	**2,453.20**	**2,588.08**	**2,732.59**
Interstate loss (MU) (o=p-n)	93.20	98.32	103.81
Interstate loss (%)	3.66%	3.66%	3.66%
Energy requirement from Tied-Up sources at the generator end (p)	2,546.40	2,686.40	2,836.40
Total Energy requirement from tied up sources & UI at generator end (q=p+k)	**2,916.47**	**3,056.47**	**3,206.47**
Total Energy requirement in UT including Open Access (r=q+l)	**2,916.47**	**3,056.47**	**3,206.47**

Commission's analysis

The Commission notes that the Petitioner is resorting to short-term procurement of power through Common Pool / UI / Traders / Exchange for almost 17% of its total power requirement for FY 2018-19. The proportion further increases to 20% by the end of the Control Period. The Commission strongly feels that this arrangement is not sustainable and results in exposure of consumers to risk of fluctuating tariffs.

Therefore, the Commission directs the Petitioner to explore long-term / medium term power purchase arrangements and thereby minimizing its dependence on more risk free sources of power.

Based on the revised estimates of energy sales and power purchase quantum, the Commission approves the following energy balance for each year of the MYT Control period.

Table 95: Energy Balance approved by Commission (MU)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Retail Sales (a)	2,627.16	2,758.22	2,895.94
Open Access Sales (b)	0.00	0.00	0.00
Less: Energy Savings (c)	0.00	0.00	0.00

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Total Sales (d=a+b-c)	**2,627.16**	**2,758.22**	**2,895.94**
Distribution Loss (MU) (e=g-d)	188.66	194.91	201.32
Distribution Loss (%) (f=e/g)	6.70%	6.60%	6.50%
Energy Required at Periphery (g)	**2,815.82**	**2,953.13**	**3,097.26**
Sale to common pool consumer/UI Sale(h)	0.00	0.00	0.00
Own generation (i)	17.78	17.78	17.78
Total energy requirement at UT periphery(j=g+h-i)	**2,798.04**	**2,935.34**	**3,079.48**
Less: Energy Purchased through UI at Periphery (k)	0.00	0.00	0.00
Less: Open Access Purchase at Periphery (l)	0.00	0.00	0.00
Less: Purchase through Renewable Sources (m)	352.95	352.95	352.95
Energy requirement at UT periphery from tied up sources (n=j-k-l-m)	**2,445.09**	**2,582.40**	**2,726.53**
Interstate loss (MU) (o=p-n)	92.89	98.11	103.58
Interstate loss (%)	3.66%	3.66%	3.66%
Energy requirement from Tied-up sources at generator end (p)	**2,537.98**	**2,680.50**	**2,830.12**
Total energy available from tied-up sources at the generator end (q)	**2,185.27**	**2,190.33**	**2,190.33**
Deficit/(Surplus) (p-q)	**352.72**	**490.18**	**639.79**

The Commission approves the Total Energy Requirement at the State/UT Periphery for each year of the Control Period as shown in the table above. The Commission has estimated a deficit of 352.72 MU, 490.18 MU and 639.79 MU for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.9. Operation & Maintenance Expenses

The Operation & Maintenance Expenses comprise of the Employee Expenses, Administrative and General Expenses (A&G) and the Repair & Maintenance Expenses (R&M). Regulation 51 of the MYT Regulation, 2018 states the following:

51.1 The Operation and Maintenance expenses for the Distribution Wires Business shall be computed in accordance with this Regulation.

51.2 Operation and Maintenance (O&M) expenses shall comprise of the following:

a) Employee expenses - salaries, wages, pension contribution and other employee costs;

b) Administrative and General expenses including insurance charges if any; and

c) Repairs and Maintenance expenses.

51.3 The Distribution Licensee shall submit the required O&M expenses for the Control Period as a part of Multi Year Tariff Petition. O&M expenses for the base Year shall be approved by the Commission taking into account the latest available audited accounts, business plan filed by the transmission Licensee, estimates of the actuals for the Base Year, prudence check and any other factors considered appropriate by the Commission.

51.4 O&M expenses for the nthYear of the Control Period shall be approved based on the formula given below:

O&Mn = (R&Mn + EMPn + A&Gn) x (1 - Xn) + Terminal Liabilities

Where,

R&Mn = K x GFAn-1 x (WPIinflation)

EMPn = (EMPn-1) x (1+Gn) x (CPIinflation)

A&Gn = (A&Gn-1) x (CPIinflation)

'K' is a constant (expressed in %). Value of K for each Year of the Control Period shall be determined by the Commission in the Multi Year Tariff Order based on Licensee's filing, benchmarking of repair and maintenance expenses, approved repair and maintenance expenses vis-à-vis GFA approved by the Commission in past and any other factor considered appropriate by the Commission;

CPIinflation – is the average increase in Consumer Price Index (CPI) for immediately preceding three (3) Years before the base Year;

WPIinflation – is the average increase in the Wholesale Price Index (CPI) for immediately preceding three (3) Years before the base Year;

EMPn – Employee expenses of the Distribution Licensee for the nth Year;

A&Gn – Administrative and General expenses of the Distribution Licensee for the nth Year;

R&Mn – Repair and Maintenance expenses of the Distribution Licensee for the nth Year;

GFAn-1 – Gross Fixed Asset of the transmission Licensee for the n-1th Year;

Xn is an efficiency factor for nth Year. Value of Xn shall be determined by the Commission in the Multi Year Tariff Order based on Licensee's filing, benchmarking, approved cost by the Commission in past and any other factor the Commission feels appropriate;

Gn is a growth factor for the nthYear. Value of Gn shall be determined by the Commission for each Year in the Multi Year Tariff Order for meeting the additional manpower requirement based on Licensee's filings, benchmarking, approved cost by the Commission in past and any other factor that the Commission feels appropriate:

Provided that in case the Distribution Licensee has been in operation for less than three (3) Years as on the date of effectiveness of these Regulations, O&M Expenses shall be determined on case to case basis.

51.5 Terminal liabilities of employees of Licensee including pension expenses etc. shall be approved as per actuals submitted by the Licensee, subject to prudence check or be established through actuarial studies. Additionally, any variation due to changes recommended by the pay commission shall be allowed separately by the Commission, subject to prudence check.

51.6 For the purpose of estimation, the same value of factors – CPIinflation and WPIinflation shall be used for all Years of the Control Period. However, the Commission shall consider the actual values of the factors – CPIinflation and WPIinflation during the truing up exercise for the Year for which true up is being carried out and true up the O&M Expenses for that Year, only to the extent of inflation.

5.9.1. Employee Expenses

Petitioner's submission

The Petitioner has determined the employee expenses for each year of the Control Period based on the norms specified in the MYT Regulations, 2018. The employee expenses for FY 2018-19 have been taken as base. The growth factor (Gn) has been calculated on the basis projected growth in the number of employees year over year during the control period. The average increase in Consumer Price Index (CPI) has been calculated based on the average increase in the Consumer Price Index (CPI) for FY 2015-16, FY 2016-17 & FY 2017-18. The table below provides the employee expenses projected for each year of the MYT Control Period by the Petitioner:

Table 96: Employee Expenses submitted by Petitioner (INR Crore)

Particular	FY 2019-20	FY 2020-21	FY 2021-22
Employee Expenses	**17.93**	**18.69**	**19.50**

Commission's analysis

In accordance with the MYT Regulations, 2018, the Commission has determined the Employee expenses for each year of the MYT Control Period. The Regulation 6 of the MYT Regulations, 2018 stipulates the following:

6. Values for Base Year

6.1 The values for the Base Year of the Control Period shall be determined on the basis of the audited accounts or provisional accounts of last three (3) Years, and other factors considered relevant by the Commission:

Provided that, in absence of availability of audited accounts or provisional accounts of last three (3) Years, the Commission may benchmark the parameters with other similar utilities to establish the values for Base Year:

Provided further that the Commission may change the values for Base Year and consequently the trajectory of parameters for Control Period, considering the actual figures from audited accounts.

The Commission has averaged the actual employee expenses after deducting the impact of Seventh Pay Commission for FY 2015-16 to FY 2017-18 to arrive at the employee expenses for the median year. Thereafter, the employee expenses, thus, arrived have been escalated by the CPI inflation twice to arrive at employee expenses for the base year, FY 2018-19. The impact of Seventh Pay Commission has been calculated separately by escalating the impact of FY 2016-17 twice by the average CPI inflation to arrive at 7th pay Commission impact for the base year FY 2018-19. The resultant employee expenses (employee expenses plus impact of Seventh Pay Commission) have been escalated by Growth Factor determined based on the manpower plan approved in the Business Plan Order and CPI Inflation to arrive upon the employee expenses of each year of the Control Period.

The CPI Inflation has been computed as follows:

Table 97: Computation of CPI Inflation (%)

FY	Average of (Apr-Mar)	Increase in CPI Index	Average increase in CPI indices over 3 years
2015-16	265.00	5.65%	
2016-17	275.92	4.12%	
2017-18	284.42	3.08%	
		CPI Inflation	**4.28%**

Accordingly, the employee expenses approved by the Commission in the MYT Control Period have been provided in the following table:

Table 98: Employee Expenses approved by Commission (INR Crore)

S. No	Particulars	Average of preceding three years	Base Year	FY 2019-20	FY 2020-21	FY 2021-22
1	Employee Expenses	15.36				
2	Growth in number of employees (Gn)		0.37%	0.74%	0.37%	0.73%
3	CPI Inflation for preceding three years (CPI)		4.28%	4.28%	4.28%	4.28%
	Employee Expenses	**15.36**	**16.76**	**17.61**	**18.43**	**19.36**

The Commission approves Employee Expenses of INR 17.61 Cr, INR 18.43 Cr and INR 19.36 Cr for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.9.2. Administrative and General (A&G) Expenses

Petitioner's submission

The Petitioner has determined the A&G expenses for each year of the Control Period based on the norms specified in the MYT Regulations, 2018. The A&G expenses for FY 2018-19 have been taken as base. The average increase in Consumer Price Index (CPI) has been considered same as taken while projecting the employee expenses. The table below provides the A&G expenses projected for each year of the MYT Control Period along with various parameters considered.

Table 99: A&G submitted by Petitioner (INR Crore)

Particular	FY 2019-20	FY 2020-21	FY 2021-22
Projected A&G expenses	**6.36**	**6.63**	**6.92**

Commission's analysis

Similar to the methodology followed while estimating the employee expenses, the Commission has determined the A&G expenses for the median year after taking the average of actual A&G expenses of FY 2015-16, FY 2016-17 and FY 2017-18. The resultant A&G expenses have been escalated by CPI Inflation twice to arrive upon the A&G expenses for the base year. Thereafter, the A&G expenses are escalated by CPI Inflation to determine the A&G expenses for each year of the Control Period.

The A&G expenses approved by the Commission in the MYT Control Period have been provided in the following table:

Table 100: A&G Expenses approved by Commission (INR Crore)

S. No	Particulars	Average of preceding three years	Base Year	FY 2019-20	FY 2020-21	FY 2021-22
1	A&G Expenses	6.29				
2	CPI Inflation		4.28%	4.28%	4.28%	4.28%
3	**A&G Expenses**	**6.29**	**6.84**	**7.13**	**7.44**	**7.76**

The Commission approves the Administrative & General (A&G) expenses of INR 7.13 Cr, INR 7.44 Cr, INR 7.76 Cr for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.9.3. Repair & Maintenance Expenses (R&M)

Petitioner's submission

The Petitioner has determined the R&M expenses for each year of the Control Period based on the norms specified in the MYT Regulations, 2018. The average increase in Wholesale Price Index (WPI) has been calculated based on the increase in the Wholesale Price Index (WPI) for FY 2015-16, FY 2016-17 & FY 2017-18. The 'K' factor as prescribed in the regulations has been calculated as ratio of R&M & GFA for FY 2017-18 and has been considered the same for all the years.

The table below provides the R&M expenses proposed for each year of the MYT Control Period:

Table 101: R&M expenses submitted by Petitioner (INR Crore)

Particular	FY 2019-20	FY 2020-21	FY 2021-22
Projected R&M Expenses	**19.18**	**19.47**	**21.45**

Commission's analysis

The 'K' factor has been determined as the ratio of R&M to opening GFA for FY 2015-16, FY 2016-17 and FY 2017-18 as per audited accounts, averaged for three years. The 'K' factor has been computed as follows:

Table 102: Computation of 'K' factor for the MYT Control Period (INR Crore)

S. No	Particulars	FY 2015-16	FY 2016-17	FY 2017-18
1	R&M Expenses	12.60	17.50	14.83
2	Opening GFA	387.14	468.63	532.34
3	K Factor	3.25%	3.73%	2.79%
	K Factor Approved by the Commission (Average of 3 years)			**3.26%**

The 'K' factor is kept constant for all the years and multiplied with the opening GFA approved for (n-1)th year. The resultant amount is then escalated by WPI Inflation to arrive upon the R&M Expenses for each year of the Control Period.

The WPI Inflation has been computed as follows:

Table 103: Computation of WPI Inflation (%)

FY	Average of (Apr-Mar)	Increase in WPI Index	Average increase in WPI indices over 3 years
2015-16	109.72	-3.65%	
2016-17	111.62	1.73%	
2017-18	114.88	2.92%	
		WPI Inflation	**0.33%**

The R&M expenses approved by the Commission for each year of the MYT Control Period have been provided in the following table:

Table 104: R&M Expenses approved by Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening GFA (GFA_{n-1}) of previous year	600.13	609.68	673.78
4	K factor approved (K)	3.26%	3.26%	3.26%
5	WPI Inflation	0.33%	0.33%	0.33%
	R&M Expenses = (K x (GFA_{n-1}) x (1+$WPI_{inflation}$)	**19.62**	**19.93**	**22.03**

The Commission approves the Repair & Maintenance (R&M) expenses of INR 19.62 Cr, INR 19.93 Cr and INR 22.03 Cr for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.9.4. Total Operation and Maintenance Expenses (O&M)

The following table provides the total O&M expenses approved by the Commission for the MYT Control Period

Table 105: O&M Expenses approved by Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Employee Expenses	17.61	18.43	19.36
2	Administrative & General Expenses (A&G)	7.13	7.44	7.76
3	Repair & Maintenance Expenses	19.62	19.93	22.03
4	**Total Operation & Maintenance Expenses**	**44.36**	**45.80**	**49.14**

The Commission approves Operation & Maintenance (O&M) expenses of INR 44.36 Cr, INR 45.80 Cr and INR 49.14 Cr for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.10. Gross Fixed Assets (GFA) and Capitalisation

Petitioner's submission

The Petitioner has proposed capital expenditure and capitalisation plan as approved by the Commission in the Business Plan Order. The Petitioner has requested the Commission to approve the capital expenditure and capitalization as given in Table below:

Table 106: Capital Expenditure and Capitalisation proposed by the Petitioner

S.No.	Particulars	Total Scheme Amount	Proposed Expenditure		
			2019-20	2020-21	2021-22
1	Capital Expenditure	123.25	50.55	53.10	19.60
2	Capitalisation	123.25	9.55	64.10	49.60

Commission's analysis:

The Commission had approved the capital expenditure and capitalization for the next Control Period in the Business Plan Order dated October 31, 2018. The Commission considers the same for the Control Period and approves the capital expenditure and capitalization as shown in the table below.

Table 107: Capital Expenditure and Capitalisation approved by the Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Capital Expenditure	50.55	53.10	19.60
2	Capitalisation	9.55	64.10	49.60

The Commission approves the capital expenditure and capitalisation as shown in the table above.

5.11. Capital Structure

Petitioner's Submission

The entire capital deployment shall be through equity for the MYT control period.

Commission's analysis

The Regulation 26 of the MYT Regulations, 2018 specifies the following

26. Debt to Equity Ratio

26.1 In case of Existing Projects, debt to equity ratio allowed by the Commission for determination of tariff for the period ending March 31, 2018 shall be considered:

Provided that in case of retirement or replacement or De-capitalisation of the assets, the equity capital approved as mentioned above, shall be reduced to the extent of 30% (or actual equity component based on documentary evidence, if it is lower than 30%) of the original cost of such assets:

Provided further that in case of retirement or replacement or De-capitalisation of the assets, the debt capital approved as mentioned above, shall be reduced to the extent of outstanding debt component based on documentary evidence, or the normative loan component, as the case may be, of the original cost of such assets.

26.2 For New Projects, the debt-equity ratio as on the Date of Commercial Operation shall be 70:30 of the amount of capital cost approved by the Commission under Regulation 23, after prudence check for determination of tariff:

Provided that where equity actually deployed is less than 30% of the capital cost of the capitalised asset, the actual equity shall be considered for determination of tariff:

Provided also that if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as a normative loan for the Licensee for determination of tariff:

Provided also that the Licensee shall submit documentary evidence for the actual deployment of equity and explain the source of funds for the equity:

Provided also that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

Provided further that the premium, if any, raised by the Licensee while issuing share capital and investment of internal resources created out of its free reserves, for the funding of the scheme, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the transmission system or the distribution system, and are within the ceiling of 30% of capital cost approved by the Commission.

26.3 Any expenditure incurred or projected to be incurred on or after April 1, 2019, as may be admitted by the Commission, as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in this Regulation.

In accordance with above, since the Petitioner has submitted that the entire capitalisation is funded through equity, thus equity higher than 30% of capitalisation has been considered as normative loan. The opening Gross Fixed Assets for FY 2019-20 has been considered as closing Gross Fixed Assets approved in the APR of FY 2018-19. Further, the values of opening loan and equity has been considered as closing loan and equity approved in APR of FY 2018-19. The loan and equity addition has been considered on normative basis as 70% and 30% respectively of the approved capitalization for the year. Accordingly, the Commission has determined the capital structure for each year of the MYT Control Period as follows:

Table 108: Funding Plan approved by the Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Capitalisation	9.55	64.10	49.60
2	Debt (%)	70%	70%	70%
3	Equity (%)	30%	30%	30%
4	Normative Loan	6.69	44.87	34.72
5	Normative Equity	2.87	19.23	14.88

Table 109: GFA addition approved by th9e Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening Gross Fixed Assets	600.13	609.68	673.78
2	Addition During FY	9.55	64.10	49.60
3	Adjustment/Retirement During FY	-	-	-
4	Closing Gross Fixed Assets	609.68	673.78	723.38

Table 110: Normative Loan addition approved by the Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening Normative Loan	138.96	124.99	147.94
2	Add: Normative Loan During the year	6.69	44.87	34.72
3	Less: Normative Repayment equivalent to Depreciation	20.66	21.92	23.86
4	Closing Normative Loan	124.99	147.94	158.80

Table 111: Normative Equity addition approved by the Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening Equity	81.98	84.84	104.07
2	Additions on account of new capitalisation	2.87	19.23	14.88
3	Closing Equity	84.84	104.07	118.95

5.12. Depreciation

Petitioner's submission

The Petitioner has determined the depreciation on normative basis while considering the depreciation rate as per MYT Regulations, 2018.

The following table provides the depreciation for each year of the Control Period.

Table 112: Depreciation as submitted by the Petitioner (INR Crore)

S. No.	Particulars	FY 19-20	FY 20-21	FY 21-22
1	Opening GFA	623.15	632.70	696.80
2	Additions	9.55	64.10	49.60
3	Closing GFA	632.70	696.80	746.40
4	Average GFA	627.92	664.75	721.60
5	Depreciation Amount	21.69	23.01	25.06
6	Average Depreciation Rate	3.43%	3.30%	3.36%

Commission's analysis

Regulation 30 of the MYT Regulations, 2018 stipulates the following:

30. Depreciation

30.1 The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission:

Provided that the depreciation shall be allowed after reducing the approved original cost of the retired or replaced or decapitalized assets:

Provided also that the no depreciation shall be allowed on the assets financed through consumer contribution, deposit work, capital subsidy or grant.

30.2 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to a maximum of 90% of the capital cost of the asset.

30.3 Land other than the land held under lease shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the assets.

30.4 In case of existing assets, the balance depreciable value as on April 1, 2019, shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to March 31, 2018, from the gross depreciable value of the assets.

30.5 The depreciation shall be chargeable from the first Year of commercial operations. In case of projected commercial operation of the assets during the Year, depreciation shall be computed based on the average of opening and closing value of assets:

Provided that depreciation shall be re-calculated during truing-up for assets capitalised at the time of truing up of each Year of the Control Period, based on documentary evidence of asset capitalised by the Applicant, subject to the prudence check of the Commission.

30.6 For Transmission Licensee, the depreciation shall be calculated at rates and norms specified in the prevalent CERC Tariff Regulations for transmission system.

30.7 The depreciation for a Distribution Licensee shall be calculated annually, based on the Straight Line Method, over the Useful Life of the asset at rates specified in Appendix I of the Regulations.

30.8 In addition to allowable depreciation, the Distribution Licensee shall be entitled to advance against depreciation (AAD), computed in the manner given hereunder:

AAD = Loan (raised for capital expenditure) repayment amount based on loan repayment tenure, subject to a ceiling of 1/10th of loan amount minus depreciation as calculated on the basis of these Regulations:

Provided that advance against depreciation shall be permitted only if the cumulative repayment upto a particular Year exceeds the cumulative depreciation upto that Year:

Provided further that advance against depreciation in a Year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation upto that Year.

30.9 The Distribution Licensee shall provide the list of assets added during each Year of Control Period and list of assets completing 90% of depreciation in the Year along with Petition for annual performance review, true-up and tariff determination for ensuing Year.

30.10 The remaining depreciable value for a Distribution Licensee shall be spread over the balance useful life of the asset, on repayment of the entire loan.

The Commission has derived the weighted average rate of depreciation based on the asset wise depreciation rate specified in MYT Regulations, 2018, provided in the table below:

Table 113: Depreciation Rate (%)

Description	Rate
Plant & Machinery	3.60%
Buildings	1.80%
Vehicles	18.00%
Furniture & Fixtures	6.00%
Computers & Others	6.00%
Land	0.00%

The opening and closing GFA has been considered as approved in the *Section 5.11: Capital Structure* of this Order, adjusted by value of assets that have achieved 90% depreciation. Further, deprecation for each year has been computed on average Gross Fixed Assets (GFA) after considering the net addition proposed during each year. The overall depreciation rate is considered as the weighted average depreciation rate calculated based on the asset wise depreciation rates and asset classification as per the true-up of FY 2017-18.

The following table provides the calculation of deprecation during the MYT Control Period.

Table 114: Depreciation approved by Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening GFA for FY 2019-20 (a)	600.13	609.68	673.78
2	Less: Assets depreciated upto 90% till FY 2017-18 (b)	0.57	0.57	0.57
3	Revised opening Gross Fixed Assets (a-b)	599.56	609.11	673.21
4	Addition During FY	9.55	64.10	49.60
5	Adjustment/Retirement During FY	0.00	0.00	0.00
6	Closing Gross Fixed Assets	609.11	673.21	722.81
7	Average Gross Fixed Assets	604.33	641.16	698.01
8	Effective Rate of Depreciation (%)	3.42%	3.42%	3.42%
9	**Depreciation**	**20.66**	**21.92**	**23.86**

The Commission approves a depreciation of INR 20.66 Cr , INR 21.92 Cr and INR 23.86 Cr for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.13. Interest on Loan

Petitioner's submission

In line with the methodology adopted for computation of depreciation, the Petitioner has determined the Interest on Loan on normative basis. The Petitioner has considered funding of assets based on normative debt-equity ratio of 70:30 as per the MYT Regulations, 2018 for the MYT Control Period FY 2019-20 to FY 2021-22.

Repayment of the normative loan has been considered equivalent to the depreciation for the respective years in line with the MYT Regulations, 2018.

The interest at the SBI MCLR plus 100 basis at the rate of 9% has been applied on the average normative debt in order to project the interest on normative loans for the control period.

The following table provides the Interest on Loan projected for each year of the Control Period.

Table 115: Interest on Loan submitted by the Petitioner (INR Crore)

Particular	FY 2019-20	FY 2020-21	FY 2021-22
Opening Normative Loan	156.78	141.78	163.64
Add: Normative Loan during the year (70% of proposed capitalization)	6.69	44.87	34.72
Less: Normative Repayment	21.69	23.01	25.06
Closing Normative Loan	141.78	163.64	173.30
Average Normative Loan	149.28	152.71	168.47
Rate of Interest	9.00%	9.00%	9.00%
Interest on Normative Loan	**13.43**	**13.74**	**15.16**

Commission's analysis:

The Regulation 28 of the MYT Regulations, 2018 specifies the following:

28. Interest on Loan

28.1 The loans arrived at in the manner indicated in Regulation 26 on the assets put to use, shall be considered as gross normative loan for calculation of interest on the loan:

Provided that interest and finance charges on capital works in progress shall be excluded:

Provided further that in case of De-capitalisation or retirement or replacement of assets, the loan capital shall be reduced to the extent of outstanding loan component of the original cost of the de-capitalised or retired or replaced assets, based on documentary evidence.

28.2 The normative loan outstanding as on April 1, 2019, shall be worked out by deducting the cumulative repayment as admitted by the Commission up to March 31, 2018, from the gross normative loan.

28.3 Notwithstanding any moratorium period availed by the Transmission Licensee or the Distribution Licensee, as the case may be, the repayment of loan shall be considered from the first Year of commercial operation of the project and shall be equal to the annual depreciation allowed in accordance with Regulation 30.

28.4 The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each Year applicable to the Transmission Licensee or the Distribution Licensee:

Provided that at the time of truing up, the weighted average rate of interest calculated on the basis of the actual loan portfolio during the Year applicable to the Transmission Licensee or the Distribution Licensee shall be considered as the rate of interest:

Provided also that if there is no actual loan for a particular Year but normative loan is still outstanding, the last available weighted average rate of interest for the actual loan shall be considered:

Provided further that if the Transmission Licensee or the Distribution Licensee does not have actual loan, then one (1) Year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for one (1)Year period, as may be applicable as on 1st April of the relevant Year plus 100 basis points shall be considered as the rate of interest for the purpose of allowing the interest on the normative loan.

28.5 The interest on loan shall be calculated on the normative average loan of the Year by applying the weighted average rate of interest:

Provided that at the time of truing up, the normative average loan of the Year shall be considered on the basis of the actual asset capitalisation approved by the Commission for the Year.

28.6 For new loans proposed for each Financial Year of the Control Period, interest rate shall be considered as lower of (i) one (1) Year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for one (1)Year period, as may be applicable as on 1st April of the relevant Year plus 100 basis points, and (ii) weighted average rate of interest proposed by the Distribution Licensee.

28.7 The above interest computation shall exclude the interest on loan amount, normative or otherwise, to the extent of capital cost funded by consumer contribution, deposit work, capital subsidy or grant, carried out by Transmission Licensee or Distribution Licensee.

28.8 The finance charges incurred for obtaining loans from financial institutions for any Year shall be allowed by the Commission at the time of Truing-up, subject to prudence check.

28.9 The excess interest during construction on account of time and/or cost overrun as compared to the approved completion schedule and capital cost or on account of excess drawal of the debt funds disproportionate to the actual requirement based on Scheme completion status, shall be allowed or disallowed partly or fully on a case to case basis, after prudence check by the Commission:

Provided that where the excess interest during construction is on account of delay attributable to an agency or contractor or supplier engaged by the Transmission Licensee, any liquidated damages recovered from such agency or contractor or supplier shall be taken into account for computation of capital cost:

Provided further that the extent of liquidated damages to be considered shall depend on the amount of excess interest during construction that has been allowed by the Commission.

28.10 The Transmission Licensee or the Distribution Licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the equally between the beneficiaries and the Transmission Licensee or the Distribution Licensee and the Consumers of Distribution Licensee.

28.11 Interest shall be allowed on the amount held as security deposit held in cash from Retail Consumers at the Bank Rate as on 1st April of the Financial Year in which the Petition is filed:

Provided that at the time of truing-up, the interest on the amount of security deposit for the Year shall be considered on the basis of the actual interest paid by the Licensee during the Year, subject to prudence check by the Commission.

The Commission has considered the values for opening loan and loan addition as approved in the *Section 5.11: Capital Structure* of this Order. Further, the repayment is considered same as depreciation approved for the respective year. In absence of any actual loans, the Commission has considered the 1-year SBI MCLR as on January 10, 2019 plus 100 basis points as rate of interest, in accordance with the MYT Regulations, 2018.

The following table provides the Interest on Loan approved by the Commission

Table 116: Interest on loan approved by Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening Normative Loan	138.96	124.99	147.94
2	Add: Normative Loan During the year	6.69	44.87	34.72
3	Less: Normative Repayment equal to Depreciation	20.66	21.92	23.86
4	Closing Normative Loan	124.99	147.94	158.80
5	Average Normative Loan	131.97	136.46	153.37
6	Rate of Interest (%)	9.55%	9.55%	9.55%
	Interest on Loan	**12.60**	**13.03**	**14.65**

The Commission approves Interest on Loan as INR 12.60 Cr, INR 13.03 Cr and INR 14.65 Cr for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.14. Return on Equity (RoE)

Petitioner's submission

The Petitioner has considered equity addition to the tune of 30% of assets capitalized during each year of MYT control period. Accordingly, the Petitioner has computed the Return on Equity at 16% on post tax basis as shown in the following table:

Table 117: Return on Equity as submitted by the Petitioner (INR Crore)

S. No	Return on Equity	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening Equity	69.23	72.09	91.32
2	Addition in equity on account of new capitalization	2.87	19.23	14.88
3	Closing Equity	72.09	91.32	106.20
4	Average Equity	70.66	81.71	98.76
5	**Return on Equity**	**11.31**	**13.07**	**15.80**

Commission's analysis:

The Regulation 27.2 and 27.3 of the MYT Regulations, 2018 stipulates the following

"27.2 The return on equity for the Distribution Wires Business shall be allowed on the equity capital determined in accordance with Regulation 26 for the assets put to use at post-tax rate of return on equity specified in the prevalent CERC Tariff Regulations for transmission system.

27.3 The return on equity for the Retail Supply Business shall be allowed on the equity capital determined in accordance with Regulation 26 for the assets put to use, at the rate of sixteen (16) per cent per annum."

The Commission has segregated the approved average equity (average of opening and closing equity) into average equity for Distribution Wires Business and Retail Supply Business based on the Allocation Statement provided in the MYT Regulations, 2018 i.e. 90% allocation for the Distribution Wires Business and 10% allocation for the Retail Supply Business. The Commission has considered a rate of 15.50% for the Distribution Wires Business (as per the prevalent CERC Regulations) and a rate of 16% for the Retail Supply Business. The equity component has been determined in accordance with capital structure as discussed above in *Section 5.11: Capital Structure*. The following table provides the Return on Equity approved for the Control Period.

Table 118: RoE approved by Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening Equity	81.98	84.84	104.07
2	Additions on account of new capitalisation	2.87	19.23	14.88
3	Closing Equity	84.84	104.07	118.95
4	Average Equity	83.41	94.46	111.51
5	Average Equity (Wires Business)	75.07	85.01	100.36
6	Average Equity (Retail Supply Business) Business)	8.34	9.45	11.15
7	Return on Equity for Wires Business (%)	15.50%	15.50%	15.50%
8	Return on Equity for Retail Supply Business (%)	16.00%	16.00%	16.00%
9	Return on Equity for Wires Business	11.64	13.18	15.56
10	Return on Equity for Retail Supply Business	1.33	1.51	1.78
11	**Total Return on Equity**	**12.97**	**14.69**	**17.34**

The Commission approves Return on Equity of INR 12.97 Cr, INR 14.69 Cr and INR 17.34 Cr for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.15. Interest on Security Deposits

Petitioner's submission

Interest on consumer security has been calculated on normative basis during each year of the MYT Control Period. The table below provides the calculation of interest on consumer security deposits proposed for each year of the MYT Control Period.

Table 119: Interest on Consumer Security Deposit submitted by the Petitioner (INR Crore)

Particular	FY 2019-20	FY 2020-21	FY 2021-22
Interest on Consumer Security Deposit	**3.16**	**3.16**	**3.16**

Commission's analysis:

Regulation 28.11 of the MYT Regulations, 2018 stipulates the following:

"Interest shall be allowed on the amount held as security deposit held in cash from Retail Consumers at the Bank Rate as on 1st April of the Financial Year in which the Petition is filed:

Provided that at the time of truing-up, the interest on the amount of security deposit for the Year shall be considered on the basis of the actual interest paid by the Licensee during the Year, subject to prudence check by the Commission."

The Interest on security deposits has been calculated in accordance with the MYT Regulations 2018, based on the average of the opening and closing consumer security deposits during the year. The Commission has not considered any addition in the consumer security deposits during the control period. The rate of interest has been considered equivalent to RBI Bank rate as on April 1, 2018 in accordance with the MYT Regulations 2018. The same shall be trued-up on the actual basis. The same is shown in the table below.

Table 120: Interest on Security Deposits approved by Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening Security Deposit	67.82	67.82	67.82
2	Add: Deposits During the year	0.00	0.00	0.00
3	Less: Deposits refunded	0.00	0.00	0.00
4	Closing Security Deposit	67.82	67.82	67.82
5	Average Security Deposit	67.82	67.82	67.82
6	Rate of Interest (%)	6.25%	6.25%	6.25%
7	**Interest on Security Deposit**	**4.24**	**4.24**	**4.24**

The Commission approves Interest on Security Deposit as INR 4.24 Cr for each year of the Control Period.

5.16. Interest on Working Capital

Petitioner's submission

The interest on working capital has been calculated based on the normative principles outlined in the MYT Regulations, 2018.

The working capital requirement for the Control Period has been computed considering the following

- Receivable equivalent to two (2) months of the expected revenue from charges for use of distribution wires at the prevailing tariff;

- O&M Expenses of one month
- Maintenance Spares at 40% of repair and maintenance expenses for one month
- Less consumer security deposit but excluding Bank Guarantee/Fixed Deposit Receipt

The SBI 1 Year MCLR as on April 1, 2018 plus 200 basis points i.e. 10% has been considered for computation of interest on working capital. The following table provides the Interest on working Capital proposed for each year of the Control Period.

Table 121: Interest on Working Capital submitted by the Petitioner (INR Crore)

Particular	FY 2019-20	FY 2020-21	FY 2021-22
Two months receivables	175.44	184.09	193.14
Add: One Month O&M Expenses	3.62	3.73	3.99
Add: 40% of repair and maintenance expenses for one month	0.64	0.65	0.71
Less: Consumer Security Deposit excl. BG/FDR	67.82	67.82	67.82
Total Working after deduction of Security Deposit	**111.88**	**120.65**	**130.02**
Interest Rate (%)	10%	10%	10%
Interest on Working Capital	**11.19**	**12.07**	**13.00**

Commission's analysis:

The Regulation 52 of the MYT Regulations, 2018 stipulates the following:

52. Norms of Working Capital for Retail Supply Business

52.1 The Distribution Licensee shall be allowed interest on the estimated level of working capital for the Retail Supply Business for the Financial Year, computed as follows:

(a) O&M Expenses for one (1) month; plus

(b) Maintenance spares at 40% of repair and maintenance expenses for one (1) month; plus

(c) Receivables equivalent to two (2) months of the expected revenue from charges for use of distribution

wires at the prevailing tariff;

Less:

(d) Amount, if any, held as security deposits under clause (b) of sub-section (1) of Section 47 of the Act from distribution system users except the security deposits held in the form of Bank Guarantees:

Provided that at the time of truing up for any Year, the working capital requirement shall be re-calculated on the basis of the values of components of working capital approved by the Commission in the truing up.

Further, Regulation 31.3 of the MYT Regulation, 2018 stipulates the following:

"31.3 The interest on working capital shall be a payable on normative basis notwithstanding that the Licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures.

31.4 The rate of interest on working capital shall be equal one (1) Year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for one (1)Year period, as may be applicable as on 1st April of the Financial Year in which the Petition is filed plus 200 basis points."

In accordance with the MYT Regulation, 2018, the Commission has computed the Interest on Working Capital for each year of the Control Period. The interest on working capital is considered as SBI MCLR rate as on April 1, 2018 plus 200 basis points (8.15%+2% = 10.15%). Accordingly, the interest on working capital has been calculated, as shown in the following table:

Table 122: Interest on Working Capital approved by Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	O&M Expense for 1 month	3.70	3.82	4.10
2	Maintenance spares at 40% of R&M expenses for one (1) month;	0.65	0.66	0.73
3	Receivables equivalent to two (2) months of the expected revenue requirement	204.60	222.04	243.09
4	Less: Amount, held as security deposits	67.82	67.82	67.82
5	**Net Working Capital**	**141.13**	**158.70**	**180.09**
6	Rate of Interest (%)	10.15%	10.15%	10.15%
7	**Interest on Working Capital**	**14.32**	**16.11**	**18.28**

The Commission approves the Interest on Working Capital as INR 14.32 Cr, INR 16.11 Cr and INR 18.28 Cr for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.17. Income Tax

Petitioner's submission

No submission has been made in this regard.

Commission's analysis:

Regulation 32 of MYT Regulations, 2018 stipulates the following:

32. Tax on Income

32.1 The treatment of tax on income for a Transmission Licensee shall be in accordance with the prevalent CERC Tariff Regulations.

32.2 The Commission in its MYT Order shall provisionally approve Income Tax payable for each Year of the Control Period, if any, based on the actual income tax paid, including cess and surcharge on the same, if any, as per latest audited accounts available for the Distribution Licensee, subject to prudence check.

32.3 Variation between Income Tax actually paid, including cess and surcharge on the same, if any, and approved, if any, on the income stream of the Licensed business of the Distribution Licensees shall be reimbursed to/recovered from the Distribution Licensees, based on the documentary evidence submitted at the time of truing up of each Year of the Control Period, subject to prudence check.

32.4 Under-recovery or over-recovery of any amount from the Consumers on account of such tax having been passed on to them shall be adjusted every Year on the basis of income-tax assessment under the Income-Tax Act, 1961, as certified by the statutory auditors. The Distribution Licensee may include this variation in its truing up Petition:

Provided that tax on any income stream other than the core business shall not be a pass-through component in tariff and tax on such other income shall be borne by the Distribution Licensee.

Since no Income tax has been paid by the Petitioner in the previous years, Nil income tax liability is assumed for the MYT Control Period and the same shall be trued-up based on the actual income tax paid by the Petitioner.

Table 123: Income Tax approved by Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	**Income Tax**	**0.00**	**0.00**	**0.00**

5.18. Provision for Bad & Doubtful Debts

Petitioner's submission

The Petitioner has not proposed and provision for bad and doubtful debts during the MYT Control Period.

Commission's analysis

The Regulation 62 of the MYT Regulations, 2018 stipulates the following

"62. Provision for bad and doubtful debts

62.1 The Commission may allow bad debts written off as a pass through in the Aggregate Revenue Requirement, based on the trend of write off of bad debts in the previous years, subject to prudence check:

Provided that the Commission shall true up the bad debts written off in the Aggregate Revenue Requirement, based on the actual write off of bad debts excluding delayed payment charges waived off, if any, during the year, subject to prudence check:

Provided also that the provision for bad and doubtful debts shall be limited to 1% of the annual Revenue Requirement of the Distribution Licensee:

Provided further that if subsequent to the write off of a particular bad debt, revenue is realised from such bad debt, the same shall be included as an uncontrollable item under the Non-Tariff Income of the year in which such revenue is realised."

The Commission also has not considered any Provision for Bad & Doubtful Debts for the MYT Control Period. The same shall be accounted for as per actuals in the true-up of respective years.

5.19. Non-Tariff Income

Petitioner's submission

The Petitioner has estimated the non-tariff income for the each year of the Control Period as shown in the following table:

Table 124: Non-Tariff Income submitted by the Petitioner (INR Crore)

Particular	FY 2019-20	FY 2020-21	FY 2021-22
Meter Rent	1.25	1.25	1.25
Misc. Income	4.15	4.35	4.57
Non-Tariff Income	**5.40**	**5.60**	**5.82**

Commission's analysis:

The Regulation 64 of the MYT Regulations, 2018 stipulates the following:

"64. Non-Tariff Income

64.1 The amount of Non-Tariff Income relating to the retail supply of electricity as approved by the Commission shall be deducted from the Aggregate Revenue Requirement in calculating the tariff for retail supply of electricity by the Distribution Licensee:

Provided that the Distribution Licensee shall submit full details of its forecast of Non-Tariff Income to the Commission along with its application for determination of tariff.

64.2 The Non-Tariff Income shall inter-alia include:

(a) Income from rent of land or buildings;

(b) Income from sale of scrap;

(c) Income from statutory investments;

(d) Interest on advances to suppliers/contractors;

(e) Rental from staff quarters;

(f) Rental from contractors;

(g) Income from hire charges from contactors and others;

(h) Income from advertisements, etc.;

(i) Meter/metering equipment/service line rentals;

(j) Service charges;

(k) Consumer charges;

(l) Recovery for theft and pilferage of energy;

(m) Rebate availed on account of timely payment of bills;

(n) Miscellaneous receipts;

(o) Deferred Income from grant, subsidy, etc., as per Annual Accounts;

(p) Prior period income, etc.:

Provided that the interest/dividend earned from investments made out of Return on Equity corresponding to the Retail Supply Business of the Distribution Licensee shall not be included in Non-Tariff Income:

Provided further that any income earned by a Distribution Licensee by sale of power to other Distribution Licensees or to Consumers as per Section 49 of the Act using the existing power purchase agreements or bulk supply capacity allocated to the Distribution Licensee's Area of Supply shall be reduced from the Aggregate Revenue Requirement of the Distribution Licensee for the purpose of determination of tariff. Such reduction shall be carried out in accordance with Joint Electricity Regulatory Commission for the State of Goa and Union

Territories (Connectivity and Open Access in Intra-State Transmission and Distribution) Regulations, 2017, as amended from time to time."

The Commission has considered a y-o-y escalation of 5% on each component of NTI as approved in APR of FY 2018-19 for each year of the Control Period. The same shall be Trued-up on actual basis.

The NTI approved for each year of the MYT Control Period has been shown in the following table:

Table 125: Non -tariff Income approved by Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Delayed Payment Charges	14.50	15.23	15.99
2	Meter Rent	1.31	1.38	1.45
3	Rebate from NTPC	0.00	0.00	0.00
4	Interest on FD and Others	3.37	3.54	3.72
5	Others	0.58	0.61	0.64
6	**Non- Tariff Income**	**19.76**	**20.75**	**21.79**

The Commission approves Non-Tariff Income of INR 19.76 Cr, INR 20.75 Cr and INR 21.79 Cr for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.20. Aggregate Revenue Requirement (ARR)

Petitioner's submission

Based on the expenses as detailed above, the Petitioner submitted the net aggregate revenue requirement for each year as shown in the following table:

Table 126: Aggregate Revenue Requirement (ARR) submitted by the Petitioner (INR Crore)

S. No.	Particular	FY 2019-20	FY 2020-21	FY 2021-22
1	Cost of power purchase for full year	1,107.27	1,160.59	1,216.82
2	O&M Expenses	43.47	44.80	47.86
3	Depreciation	21.69	23.01	25.06
4	Interest and finance charges	13.43	13.74	15.16
5	Return on Equity	11.31	13.07	15.80
6	Interest on Security Deposit	3.16	3.16	3.16
7	Interest on working capital	11.19	12.07	13.00
8	Income tax	0.00	0.00	0.00
9	Provision for Bad Debt	-	-	-
10	**Total Revenue Requirement**	**1,211.52**	**1,270.44**	**1,336.86**
11	Less: Non-Tariff Income	5.40	5.60	5.82
12	Less: Revenue from sale of surplus power	2.26	1.54	1.89
13	**Net Revenue Requirement**	**1,203.86**	**1,263.31**	**1,329.16**

Commission's analysis

On the basis of the detailed analysis of the cost parameters of the ARR the net revenue requirement for each year of the MYT Control Period is approved as provided in the following table:

Table 127: Aggregate Revenue Requirement approved by Commission (INR Crore)

S. No	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	Power Purchase Cost inclusive of cost towards RPO	1,138.20	1,237.19	1,352.79
3	Operation & Maintenance Expenses	44.36	45.80	49.14
4	Depreciation	20.66	21.92	23.86
5	Interest and Finance charges	12.60	13.03	14.65
6	Return on Equity	12.97	14.69	17.34
7	Interest on Security Deposit	4.24	4.24	4.24
8	Interest on Working Capital	14.32	16.11	18.28
9	Income Tax	0.00	0.00	0.00
10	Provision for Bad Debt	0.00	0.00	0.00
11	**Total Revenue Requirement**	**1,247.36**	**1,352.97**	**1,480.30**
12	Less: Non-Tariff Income	19.76	20.75	21.79
13	**Net Revenue Requirement**	**1,227.60**	**1,332.22**	**1,458.51**

The Commission approves net ARR of INR 1,227.60 Cr, INR 1,332.22 Cr and INR 1,458.51 Cr for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.

5.21. Revenue at existing Retail Tariff

Petitioner's submission

The Petitioner has estimated revenue from sale of power at existing tariff of INR 1052.63 Cr for FY 2019-20 based on the projected energy sales, connected load and number of consumers.

Commission's analysis

The category wise/ sub-category wise and slab-wise revenue at existing retail tariff is calculated as per the tariff rates applicable for FY 2018-19. The revenue from demand charges and the energy charges have been projected for each category/ sub-category and slab. The Commission has considered suitable assumptions wherever necessary. The revenue from category/ sub-category/ slab-wise revenue as computed by the Commission for FY 2019-20 has been shown in the following table

Table 128: Revenue at existing tariff computed by Commission (INR Crore)

S. No	Category	Phase	Fixed Charges (INR Cr)	Energy charges (INR Cr)	Total (INR Cr)	ABR (INR/unit)
1	**DOMESTIC SUPPLY (DS)**		**1.43**	**23.43**	**24.86**	**1.83**
1	0-100 units	Single	0.37	4.10	4.47	1.20
2	101-200 units	Single	0.17	3.04	3.21	1.69
3	201-400 units	Single	0.26	2.79	3.05	2.13
4	401 and above units	Single	0.23	5.26	5.48	2.40
5	0-100 units	Three	0.14	0.77	0.91	1.30
6	101-200 units	Three	0.07	0.87	0.94	1.72
7	201-400 units	Three	0.10	1.26	1.36	2.11
8	401 and above units	Three	0.09	5.35	5.44	2.34
2	**Low Income Group**					
1	Low Income Group		0.00	0.00	0.00	0.05
3	**COMMERCIAL / NON RESIDENTIAL (NRS)**		**0.30**	**20.73**	**21.02**	**3.19**
1	0-100 units	Single	0.09	1.26	1.35	2.57

S. No	Category	Phase	Fixed Charges (INR Cr)	Energy charges (INR Cr)	Total (INR Cr)	ABR (INR/unit)
2	101 Units and Above	Single	0.09	5.55	5.64	3.30
3	0-100 units	Three	0.06	0.67	0.72	2.61
4	101 Units and Above	Three	0.06	13.25	13.31	3.26
4	**AGRICULTURAL**		**0.00**	**0.36**	**0.36**	**0.66**
1	Upto 10 HP per unit		0.00	0.34	0.34	0.65
2	11 kV- 1 MW and above		0.00	0.02	0.02	0.90
5	**LT INDUSTRY**		**3.61**	**66.02**	**69.64**	**3.16**
1	LT Industry		3.61	66.02	69.64	3.16
6	**INDUSTRY**		**142.38**	**772.96**	**915.33**	**4.20**
1	HT General		137.78	751.17	888.96	4.20
2	HT Industrial (Ferro)		4.59	21.78	26.37	4.24
5	**PUBLIC LIGHTING (PL)**		**0.00**	**4.12**	**4.12**	**3.75**
6	**PUBLIC WATER WORKS**		**0.03**	**1.50**	**1.53**	**3.36**
7	**TEMPORARY SUPPLY**		**0.00**	**3.80**	**3.80**	**5.94**
1	Temporary Supply		0.00	3.80	3.80	5.94
	TOTAL		**147.74**	**892.92**	**1,040.66**	**3.96**

The Commission has determined revenue from sale of power at existing tariff as INR 1,040.66 Cr in FY 2019-20.

5.22. Standalone Revenue Gap/ Surplus

Petitioner's submission

Based on the ARR and the revenue from retail tariff, the standalone revenue gap of INR 151.23 Cr is arrived at for FY 2019-20.

Commission's analysis

The Commission based on the approved ARR and existing retail tariff has derived the following Revenue Gap/(Surplus):

Table 129: Standalone Revenue Gap/ (Surplus) approved at existing tariff (INR Crore)

S. No	Particulars	Petitioners submission	Now Approved
1	Annual Revenue Requirement	1,203.86	1,227.60
2	Revenue from sale of power	1,052.63	1,040.66
3	**Revenue Gap/(Surplus)**	**151.23**	**186.94**

The standalone revenue gap at existing retail tariff is INR 186.94 Cr for FY 2019-20. The estimated gap is considered while determining the retail tariff for FY 2019-20, as discussed in the subsequent Chapter.

6. Chapter 6: Tariff Principles and Design

6.1. Overall Approach

The Commission while designing retail tariffs for FY 2019-20 has kept in view the principles of determination of tariff set out in the Electricity Act, 2003 (EA 2003), Tariff Policy, 2016 and the MYT Regulations, 2018.

The Commission, with this Tariff Order, has tried to meet the objectives of the EA 2003, as set out in its Preamble, including the protection of the interest of consumers, the supply of electricity to all areas and the rationalisation of tariffs. The EA, 2003 also directs to maintain a healthy balance between the interests of the utilities and the reasonableness of the cost of power being supplied to consumers. The Commission has also taken into consideration the EDDD's submissions as well as the Public responses in these proceedings.

The provision of supply of electricity to all the people is an essential driver for development, and influences social and economic change.

6.2. Applicable Regulations

Regulation 19 of MYT Regulations, 2018 states the following:

"***19. Annual determination of tariff***

19.1 The Commission shall determine the tariff of a Generating Company, Transmission Licensee and Distribution Licensee covered under a Multi Year Tariff framework for each Year during the Control Period, in accordance with timelines specified in Regulation 17, having regard to the following:

a) The approved forecast of Aggregate Revenue Requirement and Expected Revenue from Tariff and Charges of the Generating Company, Transmission Licensee and Distribution Licensee for such Financial Year, including modifications approved at the time of Mid-term Review, if any; and

b) Approved gains and losses, including the incentive available, to be passed through in tariff, following the truing up of previous Year.

"

Further, Regulation 67 of MYT Regulations, 2018 states the following:

"

67. Determination of Tariff

67.1 The Commission may categorize Consumers on the basis of their load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required and any other factor as considered appropriate by the Commission.

67.2 The Commission shall endeavour to determine cost of supply for each category/ sub-category of Consumers.

67.3 The Commission shall endeavour to reduce gradually the cross-subsidy between Consumer categories with respect to the cost of supply in accordance with the provisions of the Act.

67.4 The tariff proposal by Licensee and the tariff determination by the Commission shall be based on the following principles:

(a) The tariff for all categories shall preferably be two part, consisting of fixed and variable charges.

(b) The fixed charges in tariff shall progressively reflect actual fixed cost incurred by Distribution Licensee;
(c) The overall retail supply tariff for different Consumer categories shall progressively reflect the cost of supply for respective categories of Consumers;
(d) The tariff for residential Consumers shall be set considering the affordability of tariff for various class of Consumers;
(e) The tariff shall be set in such a manner that it may not present a tariff shock to any category of Consumers."

6.3. Cumulative Revenue Gap/ Surplus at Existing Tariff

Petitioner's Submission

The Petitioner has proposed a cumulative revenue surplus of INR 60.27 Cr till FY 2019-20. The standalone and consolidated revenue Gap/(Surplus) as submitted by the Petitioner has been tabulated below:

Table 130: Standalone Revenue Gap/ (Surplus) submitted by Petitioner (INR Crore)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Net Revenue Requirement	832.54	1,131.59	1,203.86
Revenue on existing tariff (Including OA charges)	886.41	1,003.18	1,052.63
Gap/(Surplus) for the year	(53.87)	128.40	151.23

Table 131: Cumulative Revenue Gap/ (Surplus) submitted by Petitioner (INR Crore)

Particular	FY 2017-18	FY 2018-19	FY 2019-20
Opening Gap/(Surplus)	(236.44)	(290.31)	(161.91)
Add: Gap/(Surplus) during the year	(53.87)	128.40	151.23
Closing Gap/(Surplus)	**(290.31)**	**(161.91)**	**(10.68)**
Additional Revenue at Proposed Tariff			49.59
Total Gap/(Surplus)			**(60.27)**

Commission's analysis

Regulation 8.4 of the MYT Regulation, 2014 stipulates the following:

"While approving such expenses/revenue to be adjusted in the future years as arising out of the Review and / or Truing up exercises, the Commission may allow the carrying costs as determined by the Commission of such expenses/revenue. Carrying costs shall be limited to the interest rate approved for working capital borrowings."

The Commission observes that the Petitioner has not taken any loan till date. As per the preamble of the Electricity Act, 2003, the Commission is required to balance the interest of all the Stakeholders while determining the tariff. Keeping in mind all of the above, the Commission as considered the Carrying Cost @ 8.00% which is the opportunity cost for the Petitioner for FY 2017-18 and FY 2018-19.

Further, Regulation 11.5 (c) of the MYT Regulation, 2018 stipulates the following:

"11.5 Upon completion of the exercise, the Commission shall pass an order recording:

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c) Carrying cost shall be allowed for a Generating Company, Transmission Licensee or Distribution Licensee on the amount of revenue gap for the period from the date on which such gap has become due, i.e., from the end of the Year for which true-up has been done, till the end of the Year in which it is addressed, on the basis of actual rate of loan taken by the Licensee to fund the deficit in revenue:

Provided that carrying cost on the amount of revenue gap shall be allowed subject to prudence check and submission of documentary evidence for having incurred the carrying cost in the years prior to the year in which the revenue gap is addressed:

Provided also that if no loan has been taken to fund revenue deficit, the Commission shall allow Carrying Cost on simple interest basis at one (1) Year State Bank of India (SBI) MCLR /any replacement there of as notified by RBI for the time being in effect applicable for 1 Year period, as may be, applicable as on 1st April of the relevant Year plus 100 basis points;

Provided further that in case of revenue surplus, the Commission shall charge the Licensee a Carrying Cost from the date on which such surplus has become due, i.e., from the end of the Year for which trueup has been done, till the end of the Year in which it is addressed on simple interest basis at one(1) Year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for 1 Year period, as may be, applicable as on 1st April of the relevant Year plus 100 basis points."

Since the Petitioner has not borrowed any loan, therefore the Commission allows Carrying Cost on simple interest basis at one (1) Year State Bank of India (SBI) MCLR plus 100 basis points for FY 2019-20.

Accordingly, the Commission determines the standalone revenue Gap/(Surplus) for each year and likewise taking into account the previous year's Gap/(Surplus), determines the cumulative revenue Gap/ (Surplus) at the end of FY 2019-20 as shown in the table as follows:

Table 132: Standalone Revenue Gap/ (Surplus) determined by Commission at existing tariff (INR Crore)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Net Revenue Requirement	**836.89**	**1,171.70**	**1,227.60**
Revenue from Retail Sales at Existing Tariff	873.64	987.72	1,040.66
Revenue from Open Access Charges	12.83	0.00	0.00
Total Revenue	**886.47**	**987.72**	**1,040.66**
Standalone Gap/(Surplus) for the year	**(49.58)**	**183.98**	**186.94**

Table 133: Consolidated Revenue Gap/ (Surplus) determined by Commission at existing tariff (INR Crore)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Opening Gap/(Surplus)	(236.44)	(306.92)	(140.13)
Addition Gap/(Surplus) due to standalone year	(49.58)	183.98	186.94
Closing Gap/(Surplus)	(286.02)	(122.94)	46.81
Average Gap/(Surplus)	(261.23)	(214.93)	(46.66)
Rate of Interest	8.00%	8.00%	9.55%
Carrying cost	(20.90)	(17.19)	(4.46)
Closing Gap/ (Surplus)	**(306.92)**	**(140.13)**	**42.35**

The Commission determines a cumulative revenue gap of INR 42.35 Cr till FY 2019-20 at existing tariff.

6.4. Treatment of the cumulative Gap/ Surplus and Tariff Design

As derived from above, the resultant cumulative revenue gap is INR 42.35 Cr. In view of this gap, the Commission has made some modifications in the existing tariff schedule. The individual approach adopted and the applicability of the same has been discussed in the following sections.

6.4.1. Designing of Tariff

Petitioner's Submission

1. The Petitioner has proposed to increase energy charges by INR 0.20/kWh for all categories except Domestic, Low Income Group and Agriculture category, resulting in an additional revenue of INR 49.59 Cr in FY 2019-20.
2. The Petitioner has proposed to start billing FPPCA charges again from FY 2019-20.

The category wise existing and proposed tariff submitted by the Petitioner is as follows:

Table 134: Retail tariff proposed by the Petitioner for FY 2019-20

S. No.	Category	Existing (FY 2018-19)		Proposed (FY 2019-20)	
		Fixed Charges	Energy Charges	Fixed Charges	Energy Charges
1	**LT-D/Domestic**				
1	0 to 100 Units	20 INR/Con/Month (single Phase) 45 INR/Con/Month (Three Phase)	1.10 INR/kWh	20 INR/Con/Month (single Phase) 45 INR/Con/Month (Three Phase)	1.10 INR/kWh
2	101 to 200 Units		1.60 INR/kWh		1.60 INR/kWh
3	201 to 400 Units		1.95 INR/kWh		1.95 INR/kWh
4	Beyond 401 Units		2.30 INR/kWh		2.30 INR/kWh
2	**Low Income Group**	INR 10/Con/month		INR 10/Con /month	
3	**LT-C/Commercial**				
1	1st 100 Units	25 INR/Con/Month (single Phase) 50 INR/Con/Month (Three Phase)	2.40 INR/kWh	25 INR/Con/Month (single Phase) 50 INR/Con/Month (Three Phase)	2.40 INR/kWh
2	Beyond 100 Units		3.25 INR/kWh		3.45 INR/kWh
4	**LT- Ag/ Agriculture**				
1	Upto 10 HP		0.65 INR/kWh		0.65 INR/kWh
2	Beyond 10 HP and upto 99HP		0.90 INR/kWh		0.90 INR/kWh
5	**LT-PL/Public Lighting**		3.75 INR/kWh		3.95 INR/kWh
6	**LT-Public Water Works**	INR 25/HP/month	3.30 INR/kWh	INR 25/HP/month	3.50 INR/kWh
7	**LT Industry**	INR 25/HP/month	3.00 INR/kWh	INR 25/HP/month	3.20 INR/kWh
8	**HT**				
1	HTC General Industrial / Motive Power 11KV or 66KV having CMD above 100KVA	INR 240/kVA/month	3.55 INR/kWh	INR 240/kVA/month	3.75 INR/kWh
2	HT Industrial((Ferro Metallurgical/ Steel Melting/ Steel Rerolling Power Intensive)	INR 425/kVA/month	3.50 INR/kWh	INR 425/kVA/month	3.70 INR/kWh

S. No.	Category	Existing (FY 2018-19)		Proposed (FY 2019-20)	
		Fixed Charges	Energy Charges	Fixed Charges	Energy Charges
9	**Hoardings/Sign Boards**	INR 100/kVA/month	6.20 INR/kWh	INR 100/kVA/month	6.40 INR/kWh

Commission's analysis

As discussed above, the Commission has determined the retail tariff for FY 2019-20 in accordance with the principles stated in the Electricity Act, 2003, Tariff Policy, 2016, and the MYT Regulations, 2018. The Tariff design in general is guided by the following principles:

1. Cost reflective: The tariffs determined should efficiently reflect the cost of supply for each consumer category.
2. Progressive tariffs: Ensuring progressivity among tariffs by having telescopic tariff slabs which encourages efficient consumption and at the same time promotes intra-category cross-subsidy by way of charging higher tariff for higher consumption to subsidise the lower consumption consumers
3. Revenue neutrality: There should be no impact on the utility's yearly revenue due to rationalization of tariffs i.e. the overall status quo should be maintained.
4. Affordability: Assessing affordability of electricity for Domestic & Commercial consumers for defining slab ranges and setting tariffs
5. Revenue stability: Utilities should ensure adequate fixed cost recovery from fixed/demand charges
6. Avoiding tariff shocks: Tariff shocks should be prevented and consumers should be kept informed about the future trends in tariffs
7. Demand management and grid stability: Demand management and grid stability should be ensured with demand-based tariffs
8. Simplified tariff structure: Tariff structure should be simplified to make it easily administrable by the utility and easy to understand for the consumer.
9. Smart tariff design: Tariff rate design should take into consideration trends in electric power such as small scale renewable generation by consumers, energy efficiency, electric vehicle charging, etc.

While all the above parameters contribute significantly in developing a sustainable tariff framework, there are certain parameters namely Cost of Supply and Tariff Affordability, which are of importance and constitute the building blocks in achieving the overall objective. The context and the approach for these parameters have been discussed as follows:

1. *Cost of Supply*

a) Context

Due to electricity being a crucial utility item for all consumers, over the period of time, various socio-economic issues have been factored in to determine the end user's tariffs. This has unfortunately led to severe imbalance between the tariffs levied vis-a-vis the cost of supply of the electricity, causing distress to the Discom. For example, in order to ensure that tariffs are kept in check for residential consumers, while still allowing cost recovery for Discoms, cross subsidy is built in between categories. The tariffs so determined, are skewed, with tariff for industrial and commercial consumers being higher and for other categories being lower than their respective costs of supply. The implications of this imbalance in tariffs is twofold – uncompetitive industries owing to higher input costs and inability of Discoms to recover sufficient tariffs from domestic consumers, resulting in financial distress. The issue is more pronounced for rural supply where tariffs are highly subsidized, actual cost of supply is higher and revenue recovery is poor.

It is thus essential that tariffs reflect the true cost to service a category of consumer. As a crucial first step towards cost-reflective tariffs, it is important for distribution utilities to determine the costs of supply (which cascade from generation to transmission and finally to distribution and retail supply of power) that should be prudently recovered from each consumer category. These costs should correspond to the actual costs being imposed by each consumer category on the Discom. By determining consumer category wise costs of supply, the Discom would be in a better position to allocate costs where relevant and determine how tariffs can be levied fairly on each category.

The overall approach that can be followed for accurately determining the Cost of Supply has been discussed as follows:

b) Approach:

Presently, the most commonly used approach for determining the cost of supply of electricity for tariff determination is the Average Cost of Supply method. The ACoS is computed by dividing the Annual Revenue Requirement (ARR) determined by the Commission for recovery through tariffs by the total energy sales for the year. However, this methodology does not indicate the costs incurred by consumers at different voltage levels using different assets of the network. Therefore, it does not help in determining accurate tariffs for particular consumers, eventually resulting in insufficient cost coverage.

As a next logical step, the Voltage wise cost of supply (VCoS) method provides a better reflection of cost to supply to consumers at different voltage levels. A simplified version of the same was suggested by ATE in 2010, to determine VCoS in the absence of all necessary data. In this method, the power purchase costs and other costs (such as network costs, wheeling costs etc.) are allocated to various consumer categories based on energy input or energy sales (as considered appropriate by the State Commission). This approach factors in the voltage level differentiation based on losses, however, it does not factor in asset utilization at different voltage levels.

A more refined version of determination of VCoS uses three parameters for allocating various costs to voltage levels – energy input at each voltage level, energy sales and asset allocation to voltage levels. The losses segregated voltage wise (as percentage of input energy) are to be allocated to different voltage levels based on energy input to each voltage level (as explained in subsequent sections). Subsequently, the cost elements such as power procurement costs, employee expenses, administrative and general expenses and income tax can be allocated to each voltage levels based on total sales at each voltage level. The cost elements, which are dependent on assets such as depreciation, interest costs, return allowed to utility etc. are allocated in ratio of assets allocated to each voltage level. The sum of all the cost components at each voltage level is the cost to supply the particular voltage (EHT/HT/LT).

The Commission is of the opinion that while VCoS differentiates cost allocation based on voltage levels, it does not factor in consumer category level differentiation. For instance, at the same LT level, cost of supplying electricity to a Commercial consumer may be different from that of a Residential consumer. Thus, it believes that the most progressive way forward for EDDD is to accurately determine the cost of supply is to attempt to determine Cost of Supply at category level. The Commission notes that states like Andhra Pradesh and Telangana have determined Category wise Cost of Supply albeit with several assumptions and EDDD must also attempt to determine the same.

On studying the existing methodologies followed internationally, among developing nations with energy access situations like India's, the Commission is of the opinion that the Category wise Cost of Supply methodology is an appropriate starting point. The embedded cost method identifies and appropriately assigns the historical or accounting costs that make up a Discom's revenue requirement to all categories and sub-categories of consumers.

This method involves three steps:

- Cost Functionalization
- Cost Classification

- Cost Allocation

Cost functionalization separates cost data into the functional activities performed in the operation of a utility system - power generation/supply, transmission, distribution and retail supply. Classification determines the portion of the cost that is related to specific cost-causal factors, such as those that are demand-related, energy-related, or customer-related. Finally, the cost allocation step assigns the costs to specific customer categories based on the customer's contribution to the specific classifier selected.

The Commission as part of this Order has determined the tariff according to the Average Cost of Supply (ACoS) due to lack of requisite data. The Commission strongly believes that determination of Category wise Cost of Supply is essential to ensure cost reflectivity in tariffs fixed for different categories. However, the Commission feels that to carry out this exercise a lot of field level information would be required such as Category wise co-incident and non- co-incident demand, Voltage wise value of assets (Voltage wise asset ratio), Voltage wise losses, Category wise break-up of costs related to Metering, Billing and Collection etc. which currently the Petitioner doesn't maintain. Therefore, in absence of the same the Commission is unable to determine the Category wise CoS in this Order but directs the Petitioner to start maintaining this data and submit the same in the tariff proceedings of next year.

2. *Tariff Affordability*

a) Context

The Commission understands that the consumer base of EDDD is varied and covers a wide spectrum of socio-economic backgrounds, specially the domestic category consumers. It is aware that most low income households spend a substantial share of their income on utility services such as electricity, heating and water. However, any envisaged tariff reforms is often objected to avoid further burdening of these consumers. But to improve the quality of service of electricity, the Discom has to undergo significant capital expenditure which eventually deteriorates the affordability of tariffs. Thus to tackle this problem and in the spirit of economic wellbeing of all consumer classes, the concept of cross-subsidies has been built into the current tariff structure.

However, the Commission believes that a more scientific and logical approach can be adopted to identify the right categories of consumers and the right cross-subsidy/subsidy requirement that will benefit the end consumers at the same time. Hence, the Commission believes that there is a strong need to develop a scientific methodology to assess the social impact of electricity tariffs.

The overall approach that can be followed for determining the tariff affordability has been discussed as follows.

b) Approach

On reviewing methodologies adopted globally for social impact assessment of electricity tariffs by studying international research reports and studying model practices internationally, the Commission found that Tariff Affordability Ratio (TAR) is a reliable parameter to measure affordability of electricity in households.

TAR is defined by obtaining the burden incurred by a household for electricity as compared to the overall household expenditure. The rationale behind this concept is that the electricity is basic utility and is unavoidable in today's scenario, however, this does not ensure that the expenditure level is in line with the overall household expenditure. Hence, this concept helps to understand the affordability level of electricity on households with different economic levels.

The electricity expenditure can be determined initially for domestic consumers by computing the average consumption levels across each slab and the household expenditure can be estimated from national surveys of household expenditure across economic levels conducted by organizations like NSSO. Thereafter the distribution of consumers of the Discom across tariff slabs can be mapped across the established economic levels to develop the final affordability ratio matrix for the Discom's domestic consumer base.

Following the identification of the current ratio of Tariff Affordability, the Commission in consultation with the stakeholder's will develop benchmarks for acceptable affordability levels by studying trends across countries with a demography and energy scenario similar to that of India and propose appropriate tariffs. The final output shall help understand the Commission to modify tariffs in cases where there is more room for tariff increase or a need to correct tariffs. The exercise would also help the Commission in setting tariff slabs as per the paying capacity of the consumers, which would be beneficial especially for Domestic category consumers. Additionally this shall also help the Government to formulate better schemes to effectively channelize its intended benefits.

The Commission in these tariff proceedings is not carrying out this exercise due to unavailability of accurate data. The Petitioner is directed to ensure the sanctity of the data maintained pertaining to various categories.

Keeping in view the above principles and based on the category wise information submitted by the Petitioner, the Commission has determined and restructured the Retail Tariff applicable for FY 2019-20 as per the following:

1. On account of the projected standalone revenue gap during FY 2019-20 at existing tariff, the Commission has decided to increase the tariff by way of increasing the energy charges of all consumers categories except LIG, Agriculture and hoarding/signboards categories. There has been no change in Fixed Charges for all categories as shown in ***Table 135***.

2. Further, a new category namely HT Commercial is created which shall include commercial consumers connected at 11 kV and above.

3. The Commission believes that the demand for charging infrastructure for electric vehicles will increase in the near future due to increased commercialization. Furthermore, the Commission is of the opinion that to impart the necessary impetus for the adoption of E-Vehicles in the Territory a sustainable framework has to be developed and having a designated electricity tariff is the first step towards achieving it. Therefore, keeping in view the anticipated demand and need, the Commission introduces a new category namely Electric Vehicle Charging Stations for consumers setting up infrastructure for charging of Electric vehicles/ Electric rickshaws etc. and has fixed the tariff as per the guidelines of Ministry of Power, Govt. of India.

4. The Commission has decided to allow FPPCA billing to the consumers, as there is a consolidated gap at the end of FY 2019-20.

5. The Commission in Tariff Order for FY 2018-19 had directed the Petitioner to ensure proper infrastructure and capabilities to roll-out kVAh based tariff for its HT/EHT from the next tariff cycle. The Petitioner has already indicated its readiness for implementation of kVAh billing in both LT and HT categories and that necessary changes in metering has been made by them. The Commission accordingly approves kVAh based tariff for LT Industry, HT Industry and HT Commercial categories in FY 2019-20.

6. In response to Stakeholder's comments for reduction in tariff for Fishery Industry, the Commission has decided to reduce the Fixed Charges by 25% in the lean season from May to August to provide relief to the Fishery Industry.

6.4.2. Tariff Adjustment and Schedule:

The existing retail tariff and tariff now approved by the Commission for each consumer category has been shown in the table below:

Table 135: Existing and approved tariff by the Commission for FY 2019-20

S. No.	Category	Existing (FY 2018-19)		Approved (FY 2019-20)	
		Fixed Charges	Energy Charges	Fixed Charges	Energy Charges
1	**LT-D/Domestic**				
(i)	0 to 100 Units	20 INR/Con/Month (Single Phase) 45 INR/Con/Month (Three Phase)	1.10 INR/kWh	20 INR/Con/Month (Single Phase) 45 INR/Con/Month (Three Phase)	1.20 INR/kWh
(ii)	101 to 200 Units		1.60 INR/kWh		1.70 INR/kWh
(iii)	201 to 400 Units		1.95 INR/kWh		2.10 INR/kWh
(iv)	Beyond 401 Units		2.30 INR/kWh		2.45 INR/kWh
2	**Low Income Group**	INR 10/Con/month		INR 10/Con /month	
3	**LT-C/Commercial**				
(i)	1st 100 Units	25 INR/Con/Month (single Phase) 50 INR/Con/Month (Three Phase)	2.40 INR/kWh	25 INR/Con/Month (single Phase) 50 INR/Con/Month (Three Phase)	2.50 INR/kWh
(ii)	Beyond 100 Units		3.25 INR/kWh		3.40 INR/kWh
4	**HT Commercial**			INR 100/kVA/month	3.60 INR/kVAh
5	**LT- Ag/ Agriculture**				
(i)	Upto 10 HP (15 kW)		0.65 INR/kWh		0.65 INR/kWh
(ii)	Beyond 10 HP (15 kW) and upto 99HP (75 kW)		0.90 INR/kWh		0.90 INR/kWh
6	**LT-PL/Public Lighting**		3.75 INR/kWh		4.00 INR/kWh
7	**LT-Public Water Works**	25 INR/HP/month	3.30 INR/kWh	25 INR/HP/month	3.60 INR/kWh
8	**LT Industry**	25 INR/HP/month	3.00 INR/kWh	25 INR/HP/month	3.10 INR/kVAh
8	**HT/EHT Industry**				
(i)	HTC General Industrial / Motive Power 11KV or 66KV having CMD above 100KVA	240 INR/kVA/month	3.55 INR/kWh	240 INR/kVA/month	3.60 INR/kVAh
(ii)	HT Industrial((Ferro Metallurgical/ Steel Melting/ Steel Rerolling Power Intensive)	425 INR /kVA/month	3.50 INR/kWh	425 INR /kVA/month	INR 3.55/kVAh
9	**Hoardings/Sign Boards**	100 INR/kVA/month	6.20 INR/kWh	100 INR/kVA/month	6.20 INR/kWh
10	**Electric Vehicle Charging Station**			100 INR/kVA/Month	4.00 INR/kWh

6.4.3. Revenue from Approved Retail Tariff for FY 2019-20

Based on the retail tariff approved above, the revenue from approved tariff is shown in the following table. The Commission has not estimated any revenue for Electric Vehicle Charging Station and HT-Commercial categories due to unavailability of requisite data. The Commission as of now approves the k factor for the categories as shown in the table, however, directs the Petitioner to submit the requisite data for energy sales, no. of consumers and connected load in case any consumers are identified under this category.

Table 136: Revenue from approved retail tariff determined by Commission for FY 2019-20 (INR Crore)

S. No	Category	Phase	Fixed Charges (INR Cr)	Energy charges (INR Cr)	Total (INR Cr)	ABR (INR/unit)	k-Factor
1	**DOMESTIC SUPPLY (DS)**		**1.43**	**25.12**	**26.55**	**1.96**	**0.47**
(i)	0-100 units	Single	0.37	4.47	4.84	1.30	0.31
(ii)	101-200 units	Single	0.17	3.23	3.40	1.79	0.43
(iii)	201-400 units	Single	0.26	3.00	3.26	2.28	0.55
(iv)	401 and above units	Single	0.23	5.60	5.82	2.55	0.61
(v)	0-100 units	Three	0.14	0.84	0.98	1.40	0.34
(vi)	101-200 units	Three	0.07	0.92	0.99	1.82	0.44
(vii)	201-400 units	Three	0.10	1.36	1.46	2.26	0.54
(viii)	401 and above units	Three	0.09	5.70	5.79	2.49	0.60
2	**Low Income Group**						
(i)	Low Income Group		**0.00**	**0.00**	**0.00**	**0.05**	**-**
3	**COMMERCIAL / NON RESIDENTIAL (NRS)**		**0.30**	**21.67**	**21.97**	**3.34**	**0.80**
(i)	0-100 units	Single	0.09	1.31	1.40	2.67	0.64
(ii)	101 Units and Above	Single	0.09	5.81	5.90	3.45	0.83
(iii)	0-100 units	Three	0.06	0.69	0.75	2.71	0.65
(iv)	101 Units and Above	Three	0.06	13.86	13.92	3.41	0.82
4	**HT COMMERCIAL**		**0.00**	**0.00**	**0.00**	**0.00**	**1.00**
5	**AGRICULTURAL**		**0.00**	**0.36**	**0.36**	**0.66**	**0.16**
(i)	Upto 15 kW		0.00	0.34	0.34	0.65	0.16
(ii)	15kW – 75 kW		0.00	0.02	0.02	0.90	0.22
6	**LT INDUSTRY**		**3.61**	**68.22**	**71.83**	**3.26**	**0.78**
(i)	LT Industry		3.61	68.22	71.83	3.26	0.78
7	**INDUSTRY**		**142.33**	**825.10**	**967.43**	**4.44**	**1.06**
(i)	HT General		137.74	801.85	939.58	4.44	1.06
(ii)	HT Industrial (Ferro)		4.59	23.26	27.85	4.47	1.07
8	**PUBLIC LIGHTING (PL)**		**0.00**	**4.39**	**4.39**	**4.00**	**0.96**
9	**PUBLIC WATER WORKS**		**0.03**	**1.64**	**1.66**	**3.66**	**0.88**
10	**HOARDINGS/SIGN BOARDS**		**0.00**	**0.0**	**0.00**	**0.00**	**1.00**

S. No	Category	Phase	Fixed Charges (INR Cr)	Energy charges (INR Cr)	Total (INR Cr)	ABR (INR/unit)	k-Factor
11	**ELECTRIC VEHICLE CHARGING STATION**		**0.00**	**0.00**	**0.00**	**0.00**	**1.00**
12	**TEMPORARY SUPPLY**		**0.00**	**4.02**	**4.02**	**6.27**	*
(i)	Temporary Supply		0.00	4.02	4.02	6.27	*
	TOTAL		**147.69**	**950.52**	**1,098.21**	**4.18**	**-**

**1.50 times the k factor of the relevant category in which the connection falls*

The Commission approves revenue from approved Retail Tariff of INR 1,098.21 Cr for FY 2019-20 against a Net Revenue Requirement of INR 1,227.60 Cr.

The following table provides the category wise Average Cost of Supply (ACoS), Existing Average Billing Rate (ABR), Approved ABR and the change in tariff for each of the consumer categories.

Table 137: Tariff increase/decrease approved by Commission

S. No	Category	ACOS (INR/kwh)	ABR at existing tariff (INR/kwh)	ABR at approved tariff (INR/kwh)	Increase/ (Decrease) (%)
1	Domestic	4.67	1.83	1.96	6.80%
2	LIG/ Kutir Jyoti	4.67	0.05	0.05	0.00%
3	Commercial	4.67	3.19	3.34	4.51%
4	HT Commercial	4.67	0.00	0.00	0.00%
5	Agriculture	4.67	0.66	0.66	0.00%
6	LT Industry	4.67	3.16	3.26	3.15%
7	HT/EHT Industry	4.67	4.20	4.44	5.69%
8	Public Lighting	4.67	3.75	4.00	6.67%
9	Public Water Works	4.67	3.36	3.66	8.93%
10	EV Charging Station	4.67	0.00	0.00	0.00%
11	Temp. Supply	4.67	5.94	6.27	5.53%
12	**Total**	**4.67**	**3.96**	**4.18**	**5.53%**

The average increase in the retail tariff now approved by the Commission vis-à-vis prevailing tariff is 5.53%.

6.4.4. Cumulative Revenue Gap/ Surplus at Approved Tariff

Accordingly, on consideration of the change in revenue on account of increase in tariff, introduction of new sub-categories and the discontinuation of Regulatory Surcharge, the resultant Revenue Gap/(Surplus) has been shown in the table below:

Table 138: Cumulative Revenue Gap/ (Surplus) approved by Commission (INR Crore)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Net Revenue Requirement (a)	836.89	1,171.70	1,227.60
Revenue from Retail Sales at Approved Tariff (b)	873.64	987.72	1,098.21
Revenue from Open Access Charges (c)	12.83	0.00	0.00
Total Revenue (d= b+c)	886.47	987.72	1,098.21
Standalone Gap /(Surplus) for the year (e=a-d)	**(49.58)**	**183.98**	**129.39**

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Opening Gap /(Surplus) (f)	(236.44)	(306.92)	(140.13)
Add: Gap/(Surplus) (g)	(49.58)	183.98	129.39
Closing Gap /(Surplus) (h=f+g)	(286.02)	(122.94)	(10.75)
Average Gap/ (Surplus) (i=(f+h)/2)	(261.23)	(214.93)	(75.44)
Interest Rate on carrying cost (% ,j)	8.00%	8.00%	9.55%
Carrying Cost (k=j*i)	(20.90)	(17.19)	(7.20)
Final Closing Gap/ (Surplus) (l=k+h)	**(306.92)**	**(140.13)**	**(17.95)**

The Commission approves a cumulative revenue surplus of INR 17.95 Cr till FY 2019-20.

6.4.5. Highlights of the Tariff Structure

The highlights of the tariff structure approved by the Commission for FY 2019-20 are as follows:

1. The Commission has decided to increase the tariff by an average of 5.53% by way of increasing the energy charges of all consumers categories except LIG, Agriculture and hoarding/signboards categories. There has been no change in Fixed Charges for all categories.
2. A new category namely HT Commercial has been introduced which shall include commercial consumers connected at 11 kV and above.
3. The Commission has introduced a new category namely Electric Vehicle Charging Stations for consumers setting up infrastructure for charging of Electric vehicles/ Electric rickshaws etc. and has fixed the tariff as per the guidelines of Ministry of Power, Govt. of India.
4. The Commission has decided to allow FPPCA billing to the consumers, as there is a consolidated gap at the end of FY 2019-20.
5. The Commission has approved kVAh based tariff for LT Industry, HT Industry and HT Commercial categories in FY 2019-20.
6. As per the request for reduction in tariff for Fishery Industry, the Commission has decided to reduce the Fixed Charges by 25% in the lean season from May to August to provide relief to the Fishery Industry.

7. Chapter 7. Open Access Charges for FY 2019-20

7.1. Determination of Wheeling Charges

7.1.1. Allocation Matrix - Allocation of ARR into Wheeling and Retail Supply of Electricity

Petitioner's submission:

The Petitioner has submitted the allocation of ARR into wheeling and retail supply of electricity as shown in the table below.

Table 139: Allocation matrix as submitted by Petitioner for FY 2019-20

Particulars	Allocation (%)		Allocation FY 2019-20	
	Wheeling	Supply	Wheeling	Supply
Fuel Cost	0%	100%	0	0
Power Purchase Cost	0%	100%	-	1,107.27
Employee	70%	30%	12.55	5.38
R&M	50%	50%	9.59	9.59
A&G	90%	10%	5.73	0.64
Depreciation	90%	10%	19.52	2.17
Interest Cost on Long-term Capital Loans	90%	10%	12.09	1.34
Interest on Working Capital Loans	22%	78%	2.46	8.73
Interest on Security Deposit	0%	100%	-	3.16
Return on Equity	90%	10%	10.17	1.13
Provision for Bad Debt	0%	100%	-	-
Annual Revenue Requirement			**72.11**	**1,139.40**
Less: Non-Tariff Income	0%	100%	-	5.40
Less: Revenue from Surplus Power Sale	0%	100%	-	2.26
Net Revenue Requirement			**72.11**	**1,131.74**

Table 140: Voltage wise allocation of wheeling charges as submitted by the Petitioner

Category	Consumers	Sales (MU)	Asset Allocation (%)	Voltage wise losses (%)
LT	63,183	448.85	30%	24.69%
HT & EHT	809	2,178.22	70%	1.87%
Total	**63,992**	**2,627.07**	**100%**	**6.85%**

Accordingly, the Petitioner has submitted the following wheeling charges for FY 2019-20 as shown in the following table:

Table 141: Wheeling charges proposed for FY 2019-20 by the Petitioner

Category	O&M	Others	Total	Wheeling Charges (INR/kWh)
LT	27.51	13.27	40.79	0.68
HT & EHT	0.35	30.97	31.33	0.14
Total	**27.87**	**44.25**	**72.11**	**0.26**

Commission's Analysis:

As per MYT Regulations 2018,

"48.1 Every Distribution Licensee shall segregate accounts for Distribution Wires Business and Retail Supply Business and shall prepare an Allocation Statement. The wheeling charges pertaining to Distribution Wires Business of the Distribution Licensee shall be determined by the Commission on the basis of these segregated accounts:

Provided that in case complete accounting segregation has not been done, the following Allocation Statement shall be applicable….."

The Petitioner has erroneously submitted the allocation matrix as per the MYT Regulations, 2014. The Commission as per the MYT Regulations, 2018 has calculated the wheeling charges while taking into consideration the allocation matrix and the ARR approved in the Tariff order for FY 2019-20. The allocation between wheeling and retail supply business for FY 2019-20 as per the ARR approved in this Order is provided in the table below:

Table 142: Allocation matrix approved by Commission for FY 2019-20

Particulars	Allocation (%)		FY 2019-20		
	Wheeling	Supply	Wheeling	Supply	Total
Cost of power purchase for full year	*0%*	*100%*	0.00	1,138.20	1,138.20
Employee costs	*40%*	*60%*	7.04	10.57	17.61
Administration and General Expenses	*50%*	*50%*	3.57	3.57	7.13
Repair and Maintenance Expenses	*90%*	*10%*	17.66	1.96	19.62
Depreciation	*90%*	*10%*	18.59	2.07	20.66
Interest and Finance charges	*90%*	*10%*	11.34	1.26	12.60
Interest on Working Capital	*10%*	*90%*	1.43	12.89	14.32
Interest on consumer security deposit	*10%*	*90%*	0.42	3.81	4.24
Return on Equity			11.64	1.33	12.97
Provision of Bad & Doubtful Debt	*0%*	*100%*	0.00	0.00	0.00
Income Tax	*90%*	*10%*	0.00	0.00	0.00
Total Revenue Requirement			**71.70**	**1,175.66**	**1,247.36**
Less: Non-Tariff Income	*10%*	*90%*	1.98	17.78	19.76
Income from other Business	*50%*	*50%*			
Net Revenue Requirement			**69.72**	**1,157.88**	**1,227.60**

In order to determine the wheeling charges prudently, the Commission has allocated the wheeling costs on the basis of voltage levels. The wheeling charges are levied for the distribution network utilized by Open Access consumers and primarily comprise of O&M Expenses and other costs as provided in the table above. The criteria for allocation of wheeling costs is elaborated as follows:

- O&M Expenses are allocated on the basis of number of consumers under each category
- All expenses other than the O&M expenses are allocated on the basis of voltage wise asset allocation. The Petitioner in this regard was directed to submit the voltage wise asset allocation. However, the Petitioner has failed to submit the desired information and in the absence of such information, the Commission has assumed the voltage wise asset allocation.

The voltage wise asset allocation assumed and the number of consumers in each category has been shown as follows:

Table 143: Parameters assumed for voltage wise allocation of wheeling charges

Particulars	Energy Sales (MU)	Cumulative Loss (%)	Energy Input (MU)	Consumers	Voltage Wise Asset Allocation (%)
LT	448.95	24.43%	594.06	63,183	30.00%
HT & EHT	2,178.22	1.96%	2,221.76	809	70.00%
Total	**2,627.16**	**6.70%**	**2,815.82**	**63,992**	**100.00%**

HT/EHT wheeling charges have been allocated to HT/EHT and LT consumers based on the energy input at HT/EHT level for sale at HT/EHT and LT consumers. LT wheeling charges were allocated to LT consumers only. Accordingly, the Commission approves the Wheeling Charges as follows:

Table 144: Wheeling Charges approved by Commission

Category	O&M (INR Crore)	Others (INR Crore)	Total (INR Crore)	Wheeling Charges (INR/kWh)
LT	27.99	18.56	46.54	1.04
HT & EHT	0.28	22.90	23.18	0.11
Total	**28.27**	**41.45**	**69.72**	

The Commission approves wheeling charge of INR 1.04/ kWh at LT voltage level and INR 0.11/kWh at HT/EHT voltage level for FY 2019-20.

7.2. Determination of Additional Surcharge

Petitioner's Submission:

The Petitioner has submitted the additional surcharge for FY 2019-20 as determined in the tariff order FY 2018-19.

Table 145: Additional Surcharge submitted by the Petitioner for FY 2019-20

S. No.	Particulars	FY 2019-20
1	Total Power Purchase cost (INR Crores)	1,107.27
2	Fixed Cost component in Power Purchase Cost (excluding Transmission Charges) (INR Crores)	285.13
3	Energy Sales (MU)	2,627.07
4	**Additional Surcharge (INR/kWh)**	**1.09**

Commission's Analysis:

The Commission has notified the Joint Electricity Regulatory Commission for the State of Goa And Union Territories (Connectivity and Open Access in Intra-State Transmission and Distribution) Regulations, 2017. Regulation 4.5 (1) of the said Regulations states the following:

"*An Open Access Consumer, receiving supply of electricity from a person other than the Distribution Licensee of his area of supply, shall pay to the Distribution Licensee an additional surcharge in addition to wheeling charges and cross-subsidy surcharge, to meet the fixed cost of such Distribution Licensee arising out of his obligation to supply as provided under sub-section (4) of Section 42 of the Act:*

Provided that such additional surcharge shall not be levied in case Open Access is provided to a person who has established a captive generation plant for carrying the electricity to the destination of his own use."

Regulation 4.5 (2) of the said Regulations stipulates:

"This additional surcharge shall become applicable only if the obligation of the Licensee in terms of power purchase commitments has been and continues to be stranded or there is an unavoidable obligation and

incidence to bear fixed costs by the Licensee consequent to such a contract. However, the fixed costs related to network assets would be recovered through wheeling charges."

Further, Regulation 5.2 (1) (b) states the following:

"The quantum of drawal of electricity by a partial Open Access Consumer from the Distribution Licensee during any Time Block of a Day should not exceed the "Admissible Drawl of Electricity by the Open Access Consumer" which is the difference of Contract Demand and maximum quantum of Open Access for which approval has been granted by the Nodal Agency.

[Illustration: If an Open Access Consumer with a Contract Demand of 10 MW has been given an approval for a maximum Open Access quantum of 6MW for a period of 3 Months, the Admissible Drawl of Electricity from the Distribution Licensee during any Time Block shall be 4 MW for any Day during a period of 3 Months.]"

Therefore, in accordance with the above Regulations, the Commission has determined the Additional Surcharge as per the following:

Table 146: Additional Surcharge approved by Commission

S. No.	Particulars	FY 2019-20
1	Total Power Purchase Fixed Cost (excluding transmission charges) (INR Crores)	297.13
2	Energy Sales (MU)	2,627.16
3	**Additional Surcharge (INR/kWh)**	**1.13**

As per the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Open Access in Transmission and Distribution) Regulations, 2009, a consumer availing Open Access was required to pay fixed charges on contracted load even when the load was drawn partially from the Distribution Licensee. In addition, the consumer was also required to pay wheeling charges, additional surcharge and the cross-subsidy surcharge. **As per the new "Open Access Regulations, 2017", a consumer is now required to pay fixed charges on reduced demand after adjusting for demand drawn through Open Access in accordance with the regulation.**

The Commission approves an Additional Surcharge of INR 1.13/kWh for FY 2019-20.

The Commission directs the Petitioner to submit quarterly details of power stranded on account of consumers opting for open access along with the Additional Surcharge recovered from these consumers. The Commission will analyse the information and revise the applicable Additional Surcharge, if required.

7.3. Cross-Subsidy Surcharge

Petitioner's Submission:

The Petitioner has determined the cross subsidy charges on the basis of average cost of supply and is shown in the following table:

Table 147: Cross Subsidy Surcharge as submitted by the Petitioner for FY 2019-20

Category	ACOS (INR/kWh)	ABR (INR/kWh)	Cross Subsidy (INR/kWh)
LT	4.57	2.85	(1.72)
HT & EHT	4.57	4.24	(0.32)

Commission's Analysis:

The Commission in this Order has calculated the cross-subsidy surcharge with respect to voltage wise cost of supply. The following approach has been adopted to determine the voltage wise cost of supply:

- Voltage Wise losses at each voltage level are assumed for LT & HT/EHT voltage categories. The remaining losses are adjusted in the LT voltage level in order to maintain the Intra-State distribution losses at 6.70%, as approved in the ARR for FY 2019-20. Using these losses the energy input at each voltage level is determined based on the energy sales. The table below shows the energy input at each voltage level

Table 148: Energy Input at each voltage level (MU)

Category	Energy Sales (MU)	Cumulative Losses (%)	Energy Input (MU)
LT level	448.95	24.43%	594.06
HT/ EHT level	2,178.22	1.96%	2,221.76
Total	**2,627.16**	**6.70%**	**2,815.82**

Now the overall ARR approved for FY 2019-20 is divided into variable and fixed ARR with variable ARR comprising of variable power purchase cost and fixed ARR comprising of all the other costs.

The fixed component comprising of fixed cost of power purchase, O&M etc. is further allocated to each voltage category as per the following principles:

- The fixed cost of power purchase is assigned to each voltage level on the basis of energy input at respective voltage levels.
- The O&M expenses are allocated to each voltage level on the basis of the number of consumers. The resultant cost allocated to HT/EHT level is then further allocated to LT level on the basis of input energy, as the HT/EHT network is utilized by both HT/EHT and LT network consumers.
- The remaining fixed costs are allocated on the basis of voltage wise asset allocation assumed earlier and further allocated to respective voltage levels on the basis of input energy.

Table 149: Parameters used for allocation of fixed costs

Category	Energy Input (MU)	Voltage wise Asset Allocation (%)	Number of Consumers
LT level	594.06	30.00%	63,183
HT/EHT level	2,221.76	70.00%	809
Total	**2,815.82**	**100%**	**63,992**

The Variable component of the Power purchase cost is allocated on the basis of energy input. The Voltage wise cost of supply (VCoS) is then determined on the basis of energy sales of respective categories.

Accordingly, the VCoS is determined as shown in the table below:

Table 150: Voltage Wise Cost of Supply (VCoS)

Category	Allocated Fixed Cost (INR Cr)	Allocated Variable Cost (INR Cr)	Total Cost (INR Cr)	Energy Sales (MU)	VCoS (INR/kwh)
LT level	151.25	152.96	304.21	448.95	6.78
HT/EHT level	351.32	572.07	923.39	2,178.22	4.24
Total	**502.57**	**725.03**	**1,227.60**	**2,627.16**	**4.67**

The VCoS as determined above is used to determine the Cross-Subsidy Surcharge. Accordingly, the approved Cross-subsidy surcharge is shown in the table below.

Table 151: Cross-Subsidy Surcharge

Category	VCoS (INR/kWh)	ABR (INR/kWh)	Cross- Subsidy (INR/kWh)
LT	6.78	2.91	(3.86)
HT & EHT	4.24	4.44	0.20

Therefore, the Commission approves Cross-Subsidy Surcharge of INR 0.20/kWh at HT/EHT Voltage level for FY 2019-20.

7.4. Other Charges

Commission's Analysis:

All other charges would be determined as per the JERC Connectivity and Open Access in Intra-State Transmission and Distribution Regulations, 2017 as amended from time to time.

8. Chapter 8: Fuel and Power Purchase Adjustment Mechanism

The State of Goa and Union Territories of Andaman & Nicobar Islands, Lakshadweep, Chandigarh, Daman & Diu, Dadra & Nagar Haveli and Puducherry receive power from the Central Generating Stations, State Generating Stations, Independent Power Producer's (IPP's) through the long-term power purchase agreements and short term purchases – through exchange, bilateral purchases etc. The distribution licensees procure power from various available sources and supply power to the consumers at retail tariffs determined by the Commission. Power purchase cost accounts for more than 80% of the Annual Revenue Requirements (ARR) of the distribution licensees and includes the cost paid for procurement of power, transmission charges, Deviation Settlement Mechanism (DSM) charges, State Load Dispatch Center (SLDC)/ Regional Load Dispatch Center (RLDC) charges and is netted off with revenue earned from the sale of surplus power.

The cost of the long term power being procured by the distribution licensees is fixed by the Central Electricity Regulatory Commission (CERC) for plants supplying power to more than one State/UT (for example NTPC, NHPC etc.) and by the JERC for plants located within its territory/state (for IPP's, licensees own generation and other State generating sources). Charges for the Over-drawl/Under-drawl from the Grid and the Inter State Transmission charges, RLDC charges are fixed by the CERC, while Intra-State Transmission charges and SLDC charges are fixed by the JERC. Short term purchase/ sale of power is done through traders, bilateral contracts, banking and power exchanges at market determined prices.

While determining retail tariff for any year, the Commission first determines the ARR based on the projection of various cost elements including power purchase cost. Power purchase cost of the distribution licensee is derived from the power purchase quantum and per unit power purchase cost. Quantum of power purchase depends upon the energy sales to the retail consumer and distribution losses, out of which energy sales is not under the control of the distribution licensee. There is also variation in actual per unit power purchase cost vis-a-vis projected per unit power purchase cost due to change in fuel cost, change in power purchase mix i.e. thermal /hydel/renewable mix, long term/short term power mix etc. This makes power purchase cost uncontrollable in nature.

The Commission undertakes the truing up exercise for the variation in the cost and revenue once the audited accounts of the distribution licensee are available. For example, True-up of the FY 2017-18 will be undertaken by the Commission once the audited accounts of the FY 2017-18 are available. If the audited accounts for the FY 2017-18 are prepared timely, the impact of True-up of various cost and revenue items is allowed in the tariff of the FY 2019-20, along with the carrying cost for 2 years. As the power purchase cost is the major cost element of the ARR of the distribution licensee, adjustment due to change in power purchase cost at regular intervals is important in order to avoid the burden of carrying cost on the additional power purchase cost incurred during the year.

8.1. Legal Provisions

The relevant provisions of the Electricity Act, Regulations, Policy document and the ATE judgments, which enable the Commission to devise, adopt and implement a power purchase/ fuel price adjustment mechanism are as follows:-

(a) Indian Electricity Act, 2003- Section 62 (4)

"No tariff or part of any tariff may ordinarily be amended more frequently than once in any financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified."

(b) Tariff Policy, 2016, clause 5.11 – sub clause (h-4)

"Uncontrollable costs should be recovered speedily to ensure that future consumers are not burdened with past costs. Uncontrollable costs would include (but not limited to) fuel costs, costs on account of

inflation, taxes and cess, variations in power purchase unit costs including on account of adverse natural events."

(c) Tariff Policy, 2016, clause 8.2– sub clause 8.2.1-(1)

"8.2 Framework for revenue requirements and costs
Actual level of retail sales should be grossed up by normative level of T&D losses as indicated in MYT trajectory for allowing power purchase cost subject to justifiable power purchase mix variation (for example, more energy may be purchased from thermal generation in the event of poor rainfall) and fuel surcharge adjustment as per regulations of the SERC."

(d) Hon'ble ATE judgement in OP1 of 2011 dated 11 November, 2011

The Hon'ble ATE directed the SERCs to develop a power purchase cost adjustment mechanism within six months of the date of the Order. The relevant excerpt of the Order is shown as follows:

"(vi)Fuel and Power Purchase cost is a major expense of the distribution Company which is uncontrollable. Every State Commission must have in place a mechanism for Fuel and Power Purchase cost in terms of Section 62 (4) of the Act. The Fuel and Power Purchase cost adjustment should preferably be on monthly basis on the lines of the Central Commission's Regulations for the generating companies but in no case exceeding a quarter. Any State Commission which does not already have such formula/mechanism in place must within 6 months of the date of this Order must put in place such formula/mechanism."

8.2. Formula

The following mechanism shall be followed for calculation and passing on of variations in the Fuel and Power Purchase Cost Adjustment (FPPCA) in the end consumer tariff, which shall come into force w.e.f. 1st April 2019 (i.e. Power Purchased by the Licensee from 1st April 2019 onwards).

1. Periodicity for recovery (Cycle)

The licensee shall compute the fuel and power procurement cost variations on a quarterly basis. The adjustment shall be made in the consumers bills starting after a month following the end of the quarter on the units billed in the months following the quarter.

For example, FPPCA for the quarter April- June shall be done in the month of July and shall be reflected in the consumer bills raised in the months of August, September and October on the units billed for the months of July, August and September respectively.

2. Chargeability

FPPCA charges shall be levied on all consumer categories excluding Below Poverty Line (BPL) and Agriculture category consumers on per unit basis on monthly/ bi-monthly consumption depending on the billing cycle.

3. Formula

The FPPCA formula shall contain the following three components:

1. Power Purchase Cost adjustments which shall contain the following elements:
    - Variation in the Power Purchased from long term/ firm sources viz. CGS, IPP's, State, Own generation etc. This may consist of fixed cost, variable costs, arrears, other charges but excluding any kind of penalties
    - Variation in Short term power purchase cost through IEX, Bilateral etc. (shall be allowed upto a certain ceiling rate as may be fixed in the Tariff Order by the Commission).
    - Variation on account of Deviation Settlement Mechanism – Shall be allowed, but the incentive/penalty shall be excluded

2. Transmission cost adjustments which shall contain the following elements:
    - Variation on account of Central Transmission Charges including arrears/ revisions.
    - Variation on account of State Transmission charges including arrears/revisions
3. Other Charges which shall contain all the other elements not forming part of the above two components for example:
    - Any adjustments /reversals due to over recovery of charges
    - Any adjustments due to under recovery of charges in case the Commission decides to limit the FPPCA charges in previous quarters to avoid tariff shock or other reasons
    - Any other adjustments on account of factors not envisaged at the time of tariff fixation
4. Less any revenue from Additional Surcharge collected from Open Access consumer towards the stranded power purchase cost.

Based on the components as defined above, the new FPPCA formula can be represented as follows:

$$\boldsymbol{FPPCA\left(\frac{Rs.}{Unit}\right) =. \left(\frac{(Pact + \ Tact \ + Oact - ASact) * 10}{\{[PPOact * \ (1 - TLapp) + PPIact - PSOact] * (1 - DLapp)\} - Zact}\right) - Rapp}$$

Where:

- $Pact(in\ Rs. Cr.)$: Actual Power purchase cost inclusive of fixed cost, variable costs, arrears, and other charges excluding any kind of penalties incurred in the quarter. This shall include:
    - Cost of procurement from sources outside the State,
    - Cost of procurement from sources within the State,
    - Cost of DSM excluding any penal charges,
    - Cost of procurement from the Bilateral/ exchange etc.
    - Less: Revenue from sale of surplus power/ DSM
- $Tact\ (in\ Rs. Cr.)$: Actual Transmission cost inclusive of any kind of arrears, other charges etc. and excluding any kind of penalties incurred in the quarter. This shall include:
    - Inter-State transmission cost (PGCIL charges),
    - Intra-State transmission cost
- $Oact\ (in\ Rs. Cr.)$: Adjustments from the previous FPPCA quarter on account of over/ under recovery and any other incidental costs not accounted for at the time of retail tariff fixation
- $ASact\ (in\ Rs. Cr.)$: Revenue from Additional Surcharge collected from Open Access consumer towards the stranded power purchase cost
- $PPOact\ (in\ MU)$: Quantum of power purchased in the quarter from sources outside State/ Union Territory
- $TLapp\ (in\ \%)$: Approved Inter- State transmission losses for the year in consideration as provided in the relevant Tariff Order
- $PPIact\ \ (in\ MU)$: Quantum of power purchased in the quarter from sources within State/Union Territory, Bilateral/ Exchange and Over-drawal under the DSM
- $PSOact\ \ (in\ MU)$: Actual quantum of sale of surplus power/ under-drawal under the DSM in the quarter
- $DLapp\ (in\ \%)$: Approved T&D losses for the year in consideration as provided in the relevant Tariff Order

- $Zact\ (in\ MU)$: Actual energy sales for agriculture and BPL category consumers in the quarter

$$Rapp\ (\frac{Rs}{unit}) = \left(\frac{(Papp + Tapp) * 10}{\{[PPOapp * (1 - TLapp) + PPIapp - PSOapp] * (1 - DLapp)\} - Zapp}\right)$$

- $Papp\ (in\ Rs.Cr.)$: Total power purchase cost approved in the Tariff Order for a quarter inclusive of fixed costs, variable costs etc. and containing the following elements:
    - Cost of procurement from sources outside the State,
    - Cost of procurement from sources within the State,
    - Cost of procurement from the Bilateral/ exchange etc.
    - Less: Revenue from sale of surplus power
- $Tapp\ (in\ Rs.Cr.)$: Total transmission charges approved in the Tariff Order for a quarter consisting of the following elements:
    - Inter-State transmission charges (PGCIL charges),
    - Intra-State transmission charges
- $PPOapp\ (in\ MU)$: Quantum of power to be procured from sources outside State/ Union Territory in a quarter as approved in the Tariff Order
- $TLapp\ (in\ \%)$: Approved Inter- State transmission losses for the year in consideration as provided in the relevant Tariff Order
- $PPIapp\ (in\ MU)$: Quantum of power to be procured from sources within the State, bilateral/ exchange in a quarter as approved in the Tariff Order
- $DLapp\ (in\ \%)$: Approved T&D losses for the year in consideration as provided in the Tariff Order
- $PSOapp\ (in\ MU)$: Quantum of sale of surplus power approved in the Tariff Order for a quarter
- $Zapp\ (in\ MU)$: Sales for agriculture and BPL category consumers for a quarter as approved in the relevant Tariff Order

4. Other Terms and conditions

1. For the purpose of the Fuel and Power Purchase Cost Adjustment, all the bills admitted and credits, if any, received by the distribution licensee during the period in consideration, irrespective of the period to which they pertain, may be considered.

2. The FPPCA charges determined as per the formula above may be recovered from the consumers of all categories based on their billed units excluding the BPL and the agriculture category consumers.

3. The FPPCA charges for a quarter shall be limited to a $\pm$10% of the ABR of the consumer category. The distribution licensee shall be allowed to collect the FPPCA without obtaining approval from the Commission. However, the distribution licensee shall be required to submit the FPPCA calculation to the Commission at least one week before levying the same on the consumers.

4. The per unit FPPCA so worked out is charged differentially as per the approved retail tariff of the consumers. The determination of differential per unit FPPCA is mentioned below:
    - Step 1: Determination of Value of K

$$\frac{Approved\ Retail\ Tariff\ for\ a\ category\ or\ sub\ category\ (\frac{Rs.}{unit})}{Weighted\ Average\ Retail\ Tariff\ (WART)(\frac{Rs.}{unit})}$$

The value of K for different consumer category or sub category for the year in consideration is considered as approved in this Tariff Order.

- Step 2: Determination of proportionate FPPCA (INR/unit) consumer category/sub-category wise

$$FPPCA\left(\frac{Rs.}{Unit}\right) = Average\ FPPCA * K\ for\ that\ consumer\ category\ or\ sub - category$$

5. The Petitioner shall compute fuel and power procurement cost variations, and adjustments shall be made in the consumer bills based on the Fuel and Power Purchase Cost Adjustment (FPPCA) formula notified by the Commission in this Order.

   For the purpose of calculation, the approved per unit cost of power purchase ($R_{approved}$) shall be taken as INR 4.38 per unit for the FY 2019-20.

Table 152: $R_{approved}$ determined by Commission for FY 2019-20

S.No.	Particulars	Amount
1	Total Power Purchase Cost (INR Cr), Papp	1,022.16
2	Transmission Charges (INR Cr), T_{app}	116.04
3	Power Purchase Quantum from CGS Stations at Generator Ex-bus (NTPC, NPCIL, RGGPL) (MU), PPO_{app}	2,538.22
4	Approved Weighted Average Inter-State Transmission Loss (%), TL_{app}	3.66%
5	Power Purchase Quantum from sources within State/ Open Market, PPI_{app}	370.50
6	Quantum of Sale of Surplus Power (MU), PSO_{app}	0.00
7	Approved Intra-State T&D Loss (%), DL_{app}	6.70%
8	Energy Sales for LIG and Agriculture consumer category (MU), Z_{app} (MU)	5.49
9	**R_{app} (INR/kWh)**	**4.34**

9. Chapter 9: Directives

Over the years, the Commission has issued various directives to the Petitioner for necessary action at its end. It has been observed that the Petitioner has been making efforts to comply with the directives issued by the Commission. In order to strengthen the effective monitoring and ensure timely implementation of all the directives in true spirit, the Commission once again directs the Petitioner to submit the quarterly progress report along with the detailed action plan for all the directives issued in the subsequent section within 10 days of the end of each quarter of the financial year.

9.1. Directives continued in this Order

While examining the compliance note and supporting documents submitted by the Petitioner in the present Petition, it is observed that some of the directives issued in the previous Tariff Orders have not been fully complied with by the Petitioner.

The Commission is of the view that substantial time has already been given to the utility for compliance with these directions. Thus, the Commission hereby directs the utility to comply with the directions mentioned below in the given timeframe, failing which the Commission shall be constrained to initiate necessary action under Section 142 of the Electricity Act 2003 read with other provisions of the Act, and the Regulations made thereunder.

9.1.1. Information for determination of Voltage-wise Wheeling Charges

Originally Issued in Tariff Order dated April 06, 2016
Commission's Latest Directive in Tariff Order Dated March 13, 2018 *The Commission has noted with concern that the Petitioner is yet to submit the voltage wise details of assets and voltage wise details of losses. The absence of this data hinders the fair distribution of cost of supply and consequently the tariff determination for various categories.* *The Commission now directs the Petitioner to ensure compliance of this directive within 2 months of issuance of this Order and submit the desired details for the FY 2016-17 and FY 2017-18, failing which the Commission will be constrained to take appropriate action against the Petitioner.*
Petitioner's Response in the Present Tariff Petition *The details of voltage wise assets and expenses has been submitted along with the allocation methodology as a part of the MYT Petition.*
Commission's Response *The Commission has noted the compliance to the above directive and directs to maintain/update the same regularly. The Commission accordingly drops the directive.*

9.1.2. Promotion of Solar Generation

Originally Issued in Tariff Order dated April 06, 2016
Commission's Latest Directive in Tariff Order Dated March 13, 2018 *The Petitioner is directed to share the Solar Policy of Daman and Diu with the Commission and also share the revised report on Promotion of Solar generation with regard to the new Solar Policy. In order to increase Public awareness, the Petitioner may publish the Solar Policy on its website.*
Petitioner's Response in the Present Tariff Petition *The Renewable energy generation has been the top most priority for Administration of Daman and Diu. Renewable Energy Policy 2017, a very first step in promotion of Solar, has been notified and copy of the same is enclosed along with this report as Annexure V (Volume 2) of Petition.*
Commission's Response *The Commission has noted the compliance to the above directive and accordingly drops the directive.*

9.1.3. Power Purchase Planning

Originally Issued in Tariff Order dated March 13, 2016
Commission's Latest Directive in Tariff Order Dated March 13, 2018 *The Petitioner is directed to create a five year power purchase plan taking into account the sales envisaged by the Petitioner and the various power sources available. Till now the Petitioner has relied on UI to fulfil its power purchase needs in the occurrence of deficit. For instance, 100.14 MU were scheduled through UI. On the other hand no power was purchased through the open markets. This indicates lack of adequate planning for power purchase as well as exposes the utility to the risk of dynamic of UI charges.*
Petitioner's Response in the Present Tariff Petition *The report on power purchase planning is being enclosed along with this petition as Annexure VI (Volume 2).*
Commission's Response *The Commission has noted the compliance to the above directive and accordingly drops the directive.*

9.1.4. Assets created from consumer contribution

Originally Issued in Tariff Order dated March 13, 2016
Commission's Latest Directive in Tariff Order Dated March 13, 2018 *The Petitioner has failed to submit the details of assets created through consumer contribution, if any. The Petitioner is not entitled to get depreciation on these assets. The Commission has currently considered the entire GFA towards depreciation and will reduce the depreciation in future, once the details of the consumer contribution are made available. The Commission directs the Petitioner to submit detailed scheme wise consumer contributions, the impact of which shall be accounted by Commission in future Tariff Orders.*
Petitioner's Response in the Present Tariff Petition *The details of assets created from consumer contribution shall be submitted to the Commission shortly.*
Commission's Response *The Commission has noted with concern that Petitioner is yet to submit the details of assets created from consumer contribution. The absence of this data constraints the Commission in fair determination of average cost of supply and tariff. The Commission directs the petitioner to submit the data pertaining to the assets created from consumer contribution along with the Tariff petition for determination of retail Tariff for FY 2020-21.*

9.1.5. Creation of SLDC

Originally Issued in Tariff Order dated March 13, 2016
Commission's Latest Directive in Tariff Order Dated March 13, 2018 *Currently the functions of scheduling of power is being performed by the ED DD itself. The Commission directs the Petitioner to form a separate SLDC which is ring fenced from the ED DD. The Petitioner is directed to employ employees dedicated to the SLDC operations, which are independent from the ED DD.*
Petitioner's Response in the Present Tariff Petition *Presently, the Department acts as a vertically integrated entity, looking after transmission, distribution, and system operation. However, as per the direction of Commission, ring-fencing has been initiated for SLDC operation. Till now, we have implemented following,* *• Head of the SLDC is nominated* *• Necessary staff to SLDC has been provided for independent operation* *• Budget of SLDC is separately provided by Administration.*
Commission's Response *The Commission appreciates the efforts of the Petitioner towards creating an independent SLDC. The Commission directs the Petitioner to expedite the process of creation of separate SLDC and submit a detailed implementation plan for the same within 3 months of the issuance of this Order.*

9.1.6. kVAh based tariff

Originally Issued in Tariff Order dated March 13, 2016
Commission's Latest Directive in Tariff Order Dated March 13, 2018 *During the Technical Validation Session the Commission enquired about the Petitioner's readiness to implement kVAh tariff for its high voltage consumers. The Petitioner responded that it does not currently possess the requisite infrastructure to implement the same. The Commission also notes that in spite of having similar conditions as the ED DD, DNHPDCL has already implemented kVAh tariff for its HT/EHT consumers.* *The Commission thus directs the Petitioner to ensure that proper infrastructure and capabilities are in place to roll-out kVAh based tariff for its HT/EHT from the next tariff cycle.*
Petitioner's Response in the Present Tariff Petition *The Electricity Department is in process to quantify benefits of KVAH billing in the context of existing framework ToD Tariff. As implementation of KVAH billing requires meter software upgrades along with ToD changes, techno-commercial feasibility is under process. The report of the same along with outcome shall be submitted to Commission shortly.*
Commission's Response *The Petitioner has already indicated its readiness for implementation of kVAh billing and that necessary changes in metering has been made by them. The Commission has accordingly approved kVAh based tariff for LT Industry, HT industry and HT commercial categories in FY 2019-20. The compliance report regarding implementation of kVAh billing in above categories may be submitted to the Commission accordingly within 3 months of the issuance of this Order.*

9.1.7. Operational safety and policy for accidents and compensation

Originally Issued in Tariff Order dated March 13, 2016
Commission's Latest Directive in Tariff Order Dated March 13, 2018 *During the Public Hearing in Diu, Stakeholders submitted their grievance with regard to an accidental electrocution caused during construction of overhead power lines, which led to the death of a construction worker. It was brought to notice that no compensation has thus far been granted by the ED DD to the aggrieved family, to which the ED DD submitted that it is in the process of granting the compensation.* *The Commission directs the Petitioner to earnestly ensure that the concerns of the aggrieved family are adequately addressed. The Commission directs the Petitioner to ensure that proper safety manuals are in place and are updated on a regular basis. To check enforcement of established safety procedures, ED DD is directed to ensure periodic Safety Audits through independent professional agencies and adequate training of construction supervisory staff.* *The Commission also directs the Petitioner to develop a compensation policy for the victims of accidents caused due to the working of the Petitioner. The Commission has directed to share the status of the above mentioned interventions within two months of this Order.*
Petitioner's Response in the Present Tariff Petition *The Department has not developed independent safety policy. Presently, the Department follows the safety guidelines/regulations notified by CEA. Compensation is being granted to the workers as per the guidelines of the Administration.*
Commission's Response *The Commission has noted the compliance to the above directive and accordingly drops the directive.*

9.1.8. Tariff Schedule

Originally Issued in Tariff Order dated March 13, 2016
Commission's Latest Directive in Tariff Order Dated March 13, 2018 *The Commission has noted that the fixed charges notified by the Commission in Tariff Schedule of the Tariff Order for the FY 2016-17 for the Domestic and LT Commercial consumers categories were not charged by the Petitioner during FY 2016-17. The Tariff Schedule notified by the Commission must not be deviated from and the Petitioner is obligated to follow it. The Commission has taken note of the deviation and is of the*

view that this is a serious violation of the Tariff Schedule prescribed and directs the Petitioner to follow the entire Tariff Schedule.
Petitioner's Response in the Present Tariff Petition *The Department had no intention of not complying with the Tariff Order issued by the Commission and the Department had always complied with the Tariff Order and directive issued by the Commission.* *With respect to the specific issue of not recovering the fixed charges from the Domestic and LT commercial consumers, it is submitted that prior to the FY 2016-17, no fixed charges or minimum charges were recovered from the consumers of aforesaid categories. The general Public has also strongly opposed during Public hearings for any tariff hike in domestic category. The department had proposed minimum charges in the MYT Petition for the Control Period FY 2016-17 to FY 2018-19. The Commission in its Tariff Order for FY 2016-17 approved fixed charges for both the consumer categories.* *However, keeping in view of revenue surplus of the Electricity Department, Daman & Diu at the closing of FY 2015-16 from the consumers of aforesaid categories, the total minimum charges recovered during the FY 2016-17 for domestic and commercial categories are INR 21.62 Lakh and INR 5.36 Lakh respectively.* *In view of above submission, the Department request the Commission to condone the non-compliance of the Tariff Order as the same was done unintentionally and also submit that the Department shall comply with the Tariff Orders in the future and is recovering the fixed charges as approved in the Tariff Order for FY 2018-19.*
Commission's Response *The Petitioner is directed to comply with the Tariff Orders issued by the Commission and accordingly drops the directive.*

10. Chapter 10: Tariff Schedule

10.1. Tariff Schedule

Table 153: Tariff Schedule

S. No.	Category	Fixed Charges	Energy Charges
1.	**DOMESTIC**		
(i)	0-100 units	INR/Consumer/Month Single Phase: INR 20 Three Phase: INR 45	1.20 INR/kWh
(ii)	101-200 units		1.70 INR/kWh
(iii)	201-400 units		2.10 INR/kWh
(iv)	401 and above		2.45 INR/kWh
(v)	Low Income Group (Up to 2x40 W bulbs only)	Power supply to low income group connections will be charged at INR10 per service connection per month. For any unauthorized increase in the load beyond 2*40 watts, penal charges at the rate of INR20 per month per point will be levied and the installation will be liable for disconnection.	
2.	**COMMERCIAL**		
(i)	0-100 units	INR/Consumer/Month Single Phase: INR 25 Three Phase: INR 50	2.50 INR/kWh
(ii)	101 units and above		3.40 INR/kWh
3.	**HT COMMERCIAL**		
(i)	HT Commercial	100 INR/kVA/month	3.60 INR/kVAh
4.	**AGRICULTURE**		
(i)	For sanctioned load up to 10 HP (15 kW)	-	0.65 INR/kWh
(ii)	Beyond 10 HP (15 kW) and up to 99 HP (75 kW) sanctioned load	-	0.90 INR/kWh
5.	**PUBLIC LIGHTING**		
(i)	For all units	-	4.00 INR/kWh
6.	**LT Public Water Works**		
(i)	LT Public Water Works	25.00/- INR per HP or part thereof	3.60 INR/kWh
7.	**LT INDUSTRIAL**		
(i)	LTP Motive Power	25.00/- INR per HP or part thereof	3.10 INR/kVAh
1) Fixed Charges shall be reduced by 25% in the lean season from May to August for Fishery Industry			
8.	**HT/EHT Industry**		
(i)	High Tension Consumer (For all units)	240 INR/kVA/month	3.60 INR/kVAh

S. No.	Category	Fixed Charges	Energy Charges
(ii)	HT Industrial (Ferro Metallurgical/ Steel Melting/ Steel Rerolling/Power Intensive (For all units)	425 INR/kVA/month	3.55 INR/kVAh
• Fixed Charges shall be reduced by 25% in the lean season from May to August for Fishery Industry			
9.	**HOARDINGS/SIGNBOARDS**		
(i)	Hoarding/Signboards	100 INR/ kVA / Month or part thereof	6.20 INR/kWh
10.	**EV CHARGING STATION**	100 INR/kVA/month	4.00 INR/kWh
11.	**Temporary Supply**		
	Tariff for Temporary Connection shall be Fixed/ Demand charges (if any) plus energy charges (for relevant slab, if any) under corresponding permanent supply category plus 50% of both. For multi activity pursuit, applicable Tariff for temporary connection shall be with reference to that of non-domestic category for permanent supply.		

10.2. Applicability

Table 154: Applicability of Tariff Schedule

Category	Applicability	Point of Supply/Notes
1. Domestic	This schedule shall apply to private houses, hostels, hospitals run on Non-commercial lines, Charitable, Educational and Religious Institutions for Light, Fans, Radios, Domestic Heating and other household appliances including water pumps up to 2 HP.	
2. LT Commercial	This schedule shall apply to Shops, Offices, Restaurants, Bus Stations, Photo Studios, Laundries, Cinema Theatres, Industrial Lighting, clubs and other Commercial installations.	This includes all categories which are not covered by other tariff categories including Domestic Category, Low Income Group, Industrial LT, HT/EHT Category (A&B), Agriculture and Poultry, Public Lighting.
3. HT Commercial	This schedule shall apply to all the consumers falling under the LT Commercial category above but connected at 11 kV or above voltage level	
4. Agriculture	This schedule shall apply to Agriculture or poultry loads up to 99 HP sanctioned load will be considered in this category.	
5. Public Lighting		
6. LT Public Water Works		

Category	Applicability	Point of Supply/Notes
7. LT Industrial	This schedule shall apply to all Low Tension Industrial Motive Power Connections including water works/pumps with sanctioned load up to 120 HP.	
8. HT/EHT consumers	This schedule shall apply to all Industrial/Motive power consumers drawing through 11 kV and 66 kV systems having contract demand of 100 kVA and above.	
9. HHT Industrial (Ferro Metallurgical/ Steel Melting/ Steel Rerolling/Power Intensive (For all units)		
10. Hoardings / Signboards	This schedule shall apply to electricity for lighting external advertisements, external hoardings and displays at departments stores, malls, multiplexes, theatres, clubs, hotels, bus shelters, Railway Stations shall be separately metered and charged at the tariff applicable for "Advertisements and Hoardings" category, except such displays which are for the purpose of indicating / displaying the name and other details of the shop, commercial premises itself. Such use of electricity shall be covered under the prevailing tariff for such shops or commercial premises. The connection for "Advertisements and Hoardings" category would be covered under the permanent supply of connection.	
11. Electric Vehicle Charging Stations	This tariff schedule shall apply to consumers that have set up Public Charging Stations (PCS) in accordance with the technical norms/ standards/specifications laid down by the Ministry of Power, GoI and Central Electricity Authority (CEA) from time to time. The tariff for domestic consumption shall be applicable for domestic charging (LT/HT)	
12. Temporary Supply	The Temporary Tariff is applicable for a temporary period of supply for a period of maximum one (1) year at a time, which may be further extended, as per the provisions of Supply Code Regulations.	

10.3. General Conditions of HT and LT Supply

1. The tariffs are exclusive of electricity duty, taxes and other charges levied by the Government or other competent authority from time to time which are payable by the consumers in addition to the charges levied as per the tariffs.

2. Unless otherwise agreed to, these tariffs for power supply are applicable for supply at one point only.

3. Supply to consumers having contracted load between 100 KVA to 4000 KVA (including licensee common feeders and express feeders/dedicated feeders) shall generally be at 11 KV and for more than 4000 KVA up to 25000 KVA at 66 KV. For the consumer who requires load more than 25000 KVA, the supply voltage shall be at 220 KV level.

4. If energy supplied for a specific purpose under a particular tariff is used for a different purpose not contemplated in the contract for supply and/or for which a higher tariff is applicable, it will be deemed as unauthorized use of electricity and shall be dealt with for assessment under the provisions of Section 126 of the Electricity Act, 2003 & Supply Code Regulation notified by JERC.

5. If connected load of a domestic category is found to be at variance with the sanctioned/contracted load as a result of replacement of appliances such as lamps, fans, fuses, switches, low voltage domestic appliances, fittings, it shall not fall under Section 126 and Section 135 of the EA 2003.

6. **Power Factor Charges** - LT and Agriculture Connection running without proper capacitors installed so as to maintain Power Factor of 0.85 as per the Supply Code Regulations 2018 shall be charged extra 2.5% of units consumed as additional power factor charges. Payment of the power factor charge won't exempt the consumer from his responsibility to maintain the power factor. The conditions for disconnection of a consumer supply in case of non-achievement of minimum level of power factor as prescribed in the Supply Code Regulations notified by JERC, shall apply. ED-DD reserves the right to install a suitable capacitor at its own cost and recover the cost thereof as arrears of energy charges. In case the monthly average power factor is less than 0.70 lagging, the installation is liable for disconnection after due notice

7. If the consumer fails to pay the energy bill presented to him by the due date, the Department shall have the right to disconnect the supply after giving 15 days notice as per the provisions of the Act and the Supply Code Regulations.

8. Fixed charges, wherever applicable, will be charged on pro-rata basis from the date of release of connection. Fixed charges, wherever applicable, will be double as and when bi-monthly billing is carried out. Similarly, slabs of energy consumption will also be considered accordingly in case of bi-monthly billing.

9. The billing in case of HT/EHT shall be on the maximum demand recorded during the month or 85% of contracted demand, whichever is higher. If in any month, the recorded maximum demand of the consumer exceeds its contracted demand, that portion of the demand in excess of the contracted demand shall be billed at double the normal rate. Similarly, energy consumption corresponding to excess demand shall also be billed at double the normal rate. The definition of the maximum demand would be in accordance with the provisions of the Supply Code Regulation. If such over-drawal is more than 20% of the contract demand then the connections shall be disconnected immediately.

   Explanation: Assuming the contract demand as 100 KVA, maximum demand at 120 KVA and total energy consumption as 12000 kWh, then the consumption corresponding to the contract demand will be 10000 kWh (12000*100/120) and consumption corresponding to the excess demand will be 2000 kWh. This excess demand of 20 KVA and excess consumption of 2000 kWh will be billed at twice the respective normal rate. Such connections drawing more than 120 kVA, shall be disconnected immediately.

10. Unless specifically stated to the contrary, the figures of energy charges relate to paisa per unit (kWh) charge for the energy consumed during the month.

11. Delayed payment surcharge shall be applicable to all categories of consumers. Delayed payment surcharge of 2% per month or part thereof shall be levied on all arrears of bills. Such surcharge shall be rounded off to the nearest multiple of one rupee. Amount less than 50 paisa shall be ignored and amount of 50 paisa or more shall be rounded off to the next rupee. In case of permanent disconnection, delayed payment surcharge shall be charged only up to the month of permanent disconnection.

12. **Advance Payment Rebate:** If payment is made in advance well before commencement of the consumption period for which the bill is prepared, a rebate @ 1% per month shall be given on the amount (excluding security deposit) which remains with the licensee at the end of the month. Such rebate, after adjusting any amount payable to the licensee, shall be credited to the account of the consumer.

13. **Prompt Payment Rebate:** If payment is made at least 7 days in advance of the due date of payment, a rebate for prompt payment @ 0.25 % of the bill amount shall be given. Those consumers having arrears shall not be entitled for such rebate.

14. **TOD Tariff**: For the purpose of TOD Tariff, the peak/off-peak/normal hours and charges for the corresponding period shall be as under:

Table 155: Definition of Time of Day and applicable Tariff

Time of use	Demand Charges	Energy Charges
Normal period (6:00 a.m. to 6:00 p.m)	Normal Rate	Normal rate of energy charges
Evening peak load period (6:00 p.m to 10.00 p.m)	Normal Rate	120% of normal rate of energy charges
Off-peak load period (10:00 p.m to 6:00 a.m)	Normal Rate	90% of normal rate of energy charges

15. The adjustment on account of Fuel and Power Purchase Cost variation shall be calculated in accordance with the FPPCA formula notified in Chapter 9 of this Order. Such charges shall be recovered/refunded in accordance with the terms and conditions specified in the FPPCA formula.

16. The values of the 'K' factor applicable for the different consumer categories for use in the FPPCA formula shall be as specified in this Tariff Order.

10.4. Schedule of Miscellaneous Charges

Table 156: Schedule of Miscellaneous Charges

Description	Approved Charges
Monthly Meter Rental Charges	
Single Phase LT meter	INR 10 per month or part thereof
Three Phase LT meter	INR 25 per month or part thereof
LT Meter with MD indicator	INR 200 per month or part thereof
Tri-vector Meter	INR 500 per month or part thereof
Note: The type of meters to be installed in consumer premises will be decided by the department. Generally the consumers having connected load above 50 HP will be provided with L.T.M.D meters	
Reconnection Charges	
LT Services	
• Single Phase LT	INR 100/-
• Three Phase LT	INR 500/-
HT Services	INR 1500/-
Note: If the same consumer seeks reconnection within 12 months from the date of reconnection or disconnection, 50% will be added to above charges	
Testing Fee for Various Metering Equipment	
Single Phase	INR 200/-
Three Phase	INR 500/-

Description	Approved Charges
Three Phase Tri-vector Meter (0.5 Class) Industrial LT Consumer	INR 1,000/-
Three Phase Tri-vector Meter (0.5 Class) 11 kV HT Consumer	INR 1,000/-
Three Phase Tri-vector Meter (0.2 Class) 66 KV EHT Consumers	INR 1,500/-
ABT meter 0.2 class-66 kV/11kV Consumer	INR 3,000/-
Combined CT/PT Unit for 11 KV Consumer	INR 1,000/-
66 KV CT/ PT Unit	INR 1,000/-
Three Phase CT Block	INR 500/-
CT Coil	INR 500/-
Service Connection Charges	
Single Phase LT	INR 250/-
Three Phase LT	INR 1,000/-
HT (First 500 KVA)	INR 10,000/-
HT (Beyond 500 KVA)	INR 1,000/- per 100 KVA or part thereof
Extra Length - Single Phase	INR 50 /- per meter
Extra Length - Three Phase	INR 100/- per meter
Extra length chargeable will be beyond the permissible 30 meters free length from existing network for new connections for all categories except agriculture. Free length in respect of new agriculture consumer is 300 meters.	
Entire Cost of setting up HT connection would be borne by the consumer and the agreement period would be two years for the category. 15% supervision charges shall be recovered by the ED DD.	
Fees (Non-refundable) for submission of Test Report of wiring Completion	
Single Phase Lighting / Domestic	INR 20/- Per Test Report
Three Phase Lighting / Domestic	INR 50/- Per Test Report
Single Phase Lighting / Non Domestic	INR 100/- Per Test Report
Three Phase Lighting / Non Domestic	INR 200/- Per Test Report
Three Phase LT Industries	INR 500/- Per Test Report
Single Phase / Three phase Agriculture / Streetlight / Public Lighting & others	INR 100/- Per Test Report
HT Industries upto 500 KVA	INR 2,000/- Per Test Report
HT Industries upto 2500 KVA	INR 8,000/- Per Test Report
HT Industries above 2500 KVA	INR 15,000/- Per Test Report