TARIFF ORDER

True-up for FY 2019-20, Annual Performance Review for FY 2020-21 and Aggregate Revenue Requirement (ARR) and Determination of Retail Tariff for the FY 2021-22

Petition No. 34/2020

for

Electricity Department, Government of Puducherry (PED)

7th April 2021

JOINT ELECTRICITY REGULATORY COMMISSION
For the State of Goa and Union Territories,
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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
AMR	Automatic Meter Reading
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
CC	Current Consumption
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGRF	Consumer Grievance Redressal Forum
CGS	Central Generating Stations
COD	Commercial Operation Date
Cr	Crores
DDUGJY	Deen Dayal Upadhyaya Gram Jyoti Yojana
Discom	Distribution Company
DSM	Deviation Settlement Mechanism
DT	Distribution Transformer
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
IPDS	Integrated Power Development Scheme
IPP	Independent Power Producer
ISTS	Inter-State Transmission System
JERC	Joint Electricity Regulatory Commission for the state of Goa and Union Territories
KSEB	Kerala State Electricity Board Limited
LT	Low Tension
MCLR	Marginal Cost of funds based Lending Rate
MU	Million Units
MYT	Multi-Year Tariff
NFA	Net Fixed Assets
NTI	Non-Tariff Income

Abbreviation	Full Form
NTPC	NTPC Ltd.
OHOB	One Hut One Bulb
O&M	Operation and Maintenance
PLF	Plant Load Factor
PLR	Prime Lending Rate
PSDF	Power System Development Fund
PPA	Power Purchase Agreement
R&M	Repair and Maintenance
R-APDRP	Restructured Accelerated Power Development and Reforms Programme
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
TVS	Technical Validation Session
UI	Unscheduled Interchange
UT	Union Territory

Before the

Joint Electricity Regulatory Commission

For the State of Goa and Union Territories, Gurugram

QUORUM

Sh. M. K. Goel, Chairperson

Petition No. 34/2020

In the matter of

Approval for the True-up of the FY 2019-20, Annual Performance Review for the FY 2020-21, Aggregate Revenue Requirement (ARR) and Retail Tariff for the FY 2021-22.

And in the matter of

Electricity Department, Government of Puducherry (PED)..Petitioner

ORDER

Dated: 7th April 2021

1) This Order is passed in respect of the Petition filed by the Electricity Department, Government of Puducherry (PED) (herein after referred to as “The Petitioner” or “PED” or “The Licensee”) for approval of True-up of the FY 2019-20, Annual Performance Review for the FY 2020-21, Aggregate Revenue Requirement (ARR) and Retail Tariff for the FY 2021-22 before the Joint Electricity Regulatory Commission (herein after referred to as “The Commission” or “JERC”).

2) The Commission scrutinised the said Petition and generally found it in order. The Commission admitted the Petition on 18th December 2020. The Commission thereafter requisitioned further information/ clarifications on the data gaps observed to take a prudent view of the said Petition. The Commission also held a Technical Validation Session to determine sufficiency of data and the veracity of the information submitted. Further, due to the COVID-19 pandemic that had adversely impacted the movement of people as per the guidelines of GoI which had suggested avoiding of travel and gathering of people as far as possible, the Commission had decided to conduct the Public Hearing virtually. The virtual Public Hearing was held on 27th January 2021, and all the Stakeholders/Electricity Consumers present in the Public Hearing were heard.

3) In order to mitigate the hardship of Electricity Consumers and DISCOMs/EDs in view of nationwide lockdown due to COVID-19, the Commission had issued SUO MOTU ORDER NO. JERC/LEGAL/SMP/27/2020 on 10th April, 2020 wherein the Commission provided relief to industrial and commercial consumers and acknowledged the need for additional working capital requirement by the Distribution Licensees. Further, the Commission viewed that the lockdown will also impact certain other parameters of ARR like sales/sales mix, power purchase quantum and cost and revenue. The Commission opined that it will consider all such additional costs and variations in parameters appropriately while evaluating the APR of FY 2020-21 and thereafter in True-up of FY 2020-21. Accordingly, the Commission has considered the impact of lower sales, rebate received in power purchase cost and some other parameters due to COVID 19 as part of APR for FY 2020-21. Further, the Commission will consider the actual impact of COVID 19 on various parameters of ARR while carrying out the truing up for FY 2020-21.

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4) Further, suggestions/ comments/ views and objections were invited from the Stakeholders and Electricity Consumers. Public Hearing through video-conferencing was also held on 27th January 2021, and all the Stakeholders/Electricity Consumers present in the Public Hearing were heard.

5) The Commission based on the Petitioner's submission, relevant MYT Regulations, facts of the matter, rules and provisions of the Electricity Act, 2003 and after proper due diligence and prudence check, has approved the True-up of FY 2019-20, APR of FY 2020-21 and ARR along with Retail Tariff for the FY 2021-22.

6) A Summary has been provided as follows:

(a) The following table provides ARR, Revenue and gap as submitted by the Petitioner and approved by the Commission in the True-up of FY 2019-20:

Table 1: Standalone Revenue Gap/ (Surplus) approved for FY 2019-20 (In INR Cr)

S. No	Particulars	Petitioner's Submission	Approved by Commission
1	Net Revenue Requirement	1727.48	1,713.70
2	Revenue from Retail Sales at Existing Tariff	1502.85	**1,502.85**
	Net Gap /(Surplus)	**224.63**	**210.86**

(b) The following table provides ARR, Revenue and gap as submitted by the Petitioner and approved by the Commission in the APR of FY 2020-21:

Table 2: Standalone Revenue Gap/ (Surplus) approved for FY 2020-21 (In INR Cr)

S. No	Particulars	Petitioner's Submission	Approved by Commission
1	Net Revenue Requirement	1,535.99	1,464.79
2	Revenue from Retail Sales at Existing Tariff	1,467.40	1,487.21
3	**Gap / (Surplus) without Regulatory Surcharge**	**68.59**	**(22.42)**
4	Regulatory Surcharge (@4%)	57.67	59.49
5	Total Revenue (2+4)	1,525.07	1,546.70
6	**Net Gap /(Surplus) (1-5)**	**10.92**	**(81.91)**

(c) The following table provides ARR, Revenue and Standalone Gap/ (Surplus) at existing tariff (excluding Regulatory Surcharge) as submitted by the Petitioner and approved by the Commission for the FY 2021-22:

Table 3: Standalone Revenue Gap/ (Surplus) at existing tariff without regulatory surcharge for the FY 2021-22 (INR Cr)

S. No	Particulars	Petitioner's Submission	Approved by Commission
1	Annual Revenue Requirement	1,562.85	1,621.27
2	Revenue from sale of power at existing tariff	1,555.48	1,596.50
3	Standalone Revenue Gap/ (Surplus)	**7.37**	**24.77**

(d) To meet the revenue gap, the Commission has approved an average tariff hike of 2.25% while enhancing the regulatory surcharge from 4% to 5% for the FY 2021-22.

Table 4: Standalone Revenue Gap/ (Surplus) at approved tariff without regulatory surcharge for the FY 2021-22 (INR Cr)

Particulars	Petitioner's Submission	Now Approved
Net Revenue Requirement (a)	1,562.85	1,621.27
Revenue from Retail Sales at Approved Tariff (b)	1,555. 48	1,632.45
Standalone Gap /(Surplus) for the year (c=b-a)	**7.37**	**(11.18)**

(e) Accordingly, the cumulative revenue gap/ (surplus) at approved tariff by the end of the FY 2021-22, as approved by the Commission is given in the following table:

Table 5: Revised Revenue Gap/ Surplus with Regulatory Surcharge approved by Commission (INR Cr)

Particulars		FY 2019-20	FY 2020-21	FY 2021-22
Opening Gap /(Surplus)	(a)	146.96	375.88	312.23
Add: Gap/(Surplus)	(b)	210.86	(22.42)	24.77
Less: Additional Revenue on account of tariff increase	(c)	-	-	35.95
Less: Regulatory Surcharge @ 4%	(d)	Included above	59.49	-
Less: Regulatory Surcharge @ 5%	(e)	-	-	81.62
Closing Gap /(Surplus)	(f=a+b-c-d-e)	357.81	293.97	219.43
Average Gap/ (Surplus)	(g=(a+f)/2)	252.38	334.93	265.83
Carrying Cost	h=Computed at table no. 143	18.07	18.25	11.16
Final Closing Gap/ (Surplus)	**(i=f+h)**	**375.88**	**312.23**	**230.59**

(f) The Commission has made every effort to rationalize the tariffs so that they gradually reflect the true cost to service a category of consumer in accordance with the provisions of the Act. Accordingly, the Commission has approved relatively higher percentage increase in tariff for the cross-subsidized categories than the cross-subsidizing categories.

(g) The Commission has approved the Average Billing Rate (ABR) for FY 2021-22 as INR 5.82/kWh as against the approved Average Cost of Supply of INR 5.78/kWh.

(h) This Order shall come into force with effect from 1st April, 2021 and shall, unless amended or revoked, continue to be in force till further orders of the Commission.

(i) The Commission has approved the kVAh based tariff for the HT/EHT, Industrial and Commercial categories.

7) The licensee shall publish the Tariff Schedule and salient features of Tariff as determined by the Commission in this Order 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.

8) Ordered accordingly, the attached documents giving detailed reasons, grounds and conditions are the Integral part of this Order.

Sd/-
(M.K. Goel)
Chairperson

Place: Gurugram
Date: 07th April 2021

(Certified Copy)

(Rakesh Kumar)
Secretary

1. Chapter 1: Introduction

1.1. About Joint Electricity Regulatory Commission (JERC)

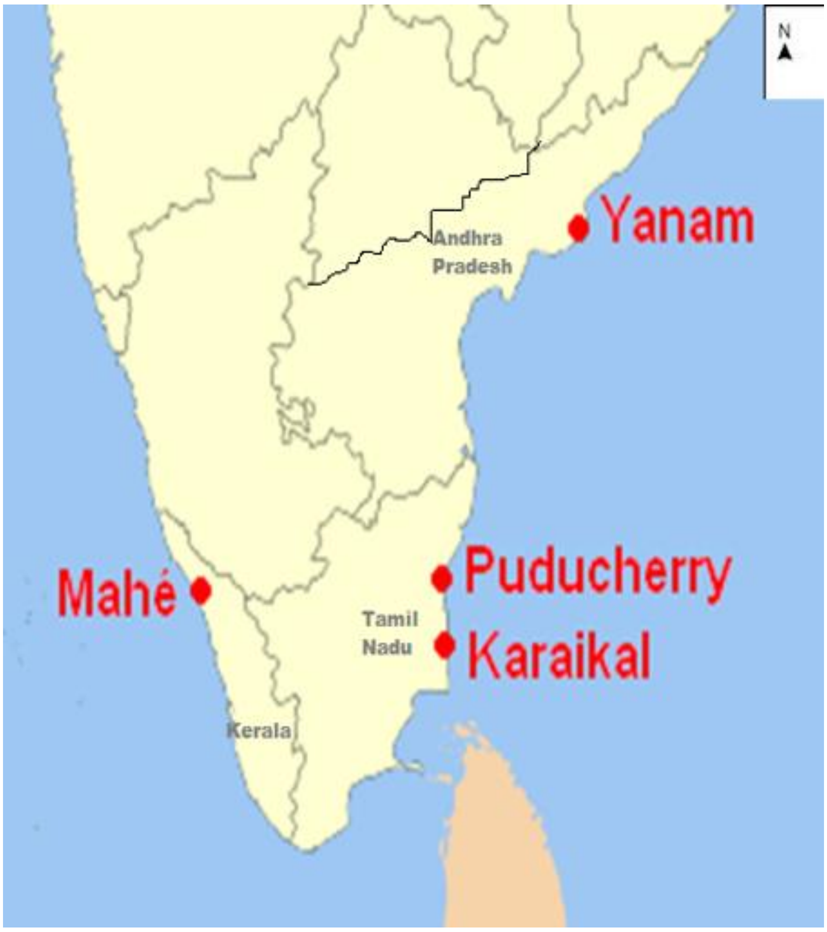
In exercise of powers conferred by the Electricity Act 2003, the Central Government constituted a Joint Electricity Regulatory Commission for all the Union Territories except Delhi to be known as "the Joint Electricity Regulatory Commission for the Union Territories" vide notification no. 23/52/2003-R&R dated 2nd May 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 30th May 2008.

JERC is a statutory 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 the interest of consumers and ensuring the supply of electricity to all areas.

1.2. About Puducherry

The Union Territory of Puducherry comprises of four regions namely Puducherry, Karaikal, Mahe and Yanam, which are not geographically contiguous and is spread over an area of 492 Sq. km with the total population of 12.45 lakhs as per provisional results of Census 2011. The basic profiles of four regions are as follows:

- Puducherry is the largest among the four regions and consists of 12 scattered areas interspersed with enclaves of Villupuram and Cuddalore Districts of Tamil Nadu.
- Karaikal is about 150 kms South of Puducherry and is bounded by Nagapattinam and Thiruvarur Districts of Tamil Nadu State.
- Mahe lies almost parallel to Puducherry 653 kms away on the west coast near Kannur District of Kerala State.
- Yanam is located about 840 kms north-east of Puducherry and it is located in the East Godhavari District of Andhra Pradesh State.



1.3. About Electricity Department, Govt. of Puducherry

The Electricity Department of the UT Administration of Puducherry (hereinafter referred to as PED), is a deemed licensee under Section 14 of the Electricity Act 2003 and is carrying out the business of transmission, distribution and retail supply of electricity in Puducherry, Karaikal, Yanam and Mahe regions of the Union Territory of

Puducherry. PED is divided into three circles, each headed by a Superintending Engineer. There are ten Technical Divisions across the three circles, each headed by an Executive Engineer.

The region wise profile (as on FY 2018-19) of the regions served by ED Puducherry is given below:

Table 6: Region wise profile (as on FY 2018-19) of the regions served by ED Puducherry

S. No.	Puducherry Region	Karaikal Region	Mahe Region	Yanam Region	Total UT of Puducherry
Consumers Nos. Dispersion	74%	18%	4%	4%	100%
Connected Load (kW)	75%	15%	5%	5%	100%
Energy Sales (MU)	79%	16%	2%	2%	100%
Area (Sq. Km)	60%	32%	2%	6%	100%
T&D Losses (%)	13%	13%	10%	10%	12.52%

The key duties being discharged by ED Puducherry are:

- To develop and maintain an efficient, coordinated and economical transmission and distribution system;
- To supply electricity on an application of the consumer in accordance with the provisions specified in the Electricity Act 2003;
- To provide non-discriminatory open access to the consumers;
- To establish a forum for redressal of grievances of the consumers.

PED does not have its own generation and procures power from various Central Generating Stations (CGS), neighbouring state utilities and the state-owned Puducherry Power Corporation Limited (PPCL), which runs a 32.5 MW gas-based combined cycle power plant in the Karaikal region. The entire power generated from PPCL is consumed within the Karaikal region.

PED operates a transmission network of 230 kV & 110 kV and distribution network at 33 kV, 22 kV, 11 kV and at LT levels. It supplies power to consumers through its 18 EHV substations, 489 km of EHT line, 2294 km of HT line, 2877 distribution transformers and 3845 km of LT line. PED also has 90 km of HT and 535 km of LT underground cabling for certain urban areas.

State Load Dispatch Center (SLDC), which is under the control of the PED, interacts with Regional Load Dispatch Centre (RLDC) for optimum scheduling and dispatch of electricity. It monitors grid operation on real time basis and passes on necessary instructions to field staff to control the flow of energy.

1.4. 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 (hereinafter referred to as MYT Regulations, 2018) on 10th August 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.

1.5. Filing and Admission of the Present Petition

The present Petition was admitted on 18th December 2020 and marked as Petition No. 34/2020. The Commission and the Petitioner subsequently uploaded the Petition on their respective websites.

1.6. Interaction with the Petitioner

A preliminary scrutiny/analysis of the Petition was conducted, and certain deficiencies were observed. Accordingly, discrepancy 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, capitalization, tariff proposal etc. The Petitioner submitted its response to the issues through various letters/emails.

The Commission conducted the Technical Validation Session (TVS) with the Petitioner at the Commission's office in Gurugram, during which the discrepancies in the Petition were conveyed and additional information required by the Commission was sought. Subsequently, the Petitioner submitted replies to the issues raised in this session and provided documentary evidence to substantiate its claims regarding various submissions. The following table provides the list of interactions with the Petitioner along with the dates:

Table 7: List of interactions with the Petitioner

S. No	Subject	Date
1	Issue of First Discrepancy Note	18.12.2020
2	Public hearing	27.1.2021
3	Technical Validation Session	19.1.2021
4	Replies received from the Petitioner with regard to Discrepancy Note	15.1.2021

1.7. Notice for Public Hearing

The Petitioner published the Public Notices for inviting suggestions/ comments from stakeholders on the Tariff Petition as given below:

Table 8: Details of Public Notices published by the Petitioner

S. No.	Date	Name of Newspaper	Language	Place of circulation
1	7.1.2021	New Indian Express	English	Puducherry, Karaikal, Mahe & Yanam
2	7.1.2021	The Daily Thanthi	Tamil	Puducherry, Karaikal
3	7.1.2021	Dinakaran	Tamil	Puducherry, Karaikal
4	15.1.2021	Kerala Kaumudi	Malayalam	Mahe
5	18.1.2021	Janamitra	Telugu	Yanam

The Commission also 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 Hearings.

Table 9: Details of Public Notices published by the Commission

Sl. No.	Date	Name of Newspaper	Place of Circulation
1	30.12.2020 22.1.2021	The Hindu	Visakhapatnam, Vijayawada
2		New Indian Express	All Tamil Nadu
3		Daily Thanthi	Puducherry
4		Dinakaran	Puducherry

1.8. Public Hearing

The COVID-19 pandemic has adversely impacted the movement of people as per the guidelines of GoI. These guidelines have also suggested avoiding of travel and gathering of people as far as possible. In view of above, the physical conduct of proceedings by the Commission was not possible. So, The Commission deemed it is necessary to provide an access to all the stakeholders by conducting proceedings remotely, by the use of audio and video enabled hearings in the matters of Petition submitted by Electricity Department, Puducherry. Therefore, the Commission has decided that the comments/suggestions of the stakeholders need to be heard virtually through video conferencing for seeking their opinion.

Accordingly, the Virtual Public Hearing was held on January 27, 2021 from 11 AM to discuss the issues, if any, 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 names of the stakeholders who attended the Public Hearing are provided in Annexure-I. The major issues discussed, the responses of the Petitioner thereon and the views of the Commission have been summarized in Chapter 2 of this Order.

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 suggestions/ comments from the public as per the provisions of the MYT Regulations, 2018.

The COVID-19 pandemic has adversely impacted the movement of people as per the guidelines of GoI. These guidelines have also suggested avoiding of travel and gathering of people as far as possible. In view of above, the physical conduct of proceedings by the Commission was not possible. So, The Commission deemed it is necessary to provide an access to all the stakeholders by conducting proceedings remotely, by the use of audio and video enabled hearings in the matters of Petition submitted by Electricity Department, Puducherry. Therefore, the Commission has decided that the comments/suggestions of the stakeholders need to be heard virtually through video conferencing for seeking their opinion.

Accordingly, the virtual Public Hearings was held on 27th January 2021 to discuss the issues, if any, related to the Petition filed by the Petitioner. During the Public Hearing, a few of the stakeholders who had submitted their comments in writing also presented their views in person before the Commission. Other participants from the general public, who had not submitted written suggestions/ comments earlier, were also given an equal opportunity to present their views/ suggestions in respect to the Petition.

The list of the Stakeholders is attached as **Annexure 1** to this Order.

2.2. Suggestions/ Comments of the Stakeholders, Petitioner's Response 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 the Chapters on tariff design and Directives. The Commission while finalizing the Tariff Order has suitably considered relevant observations. The submissions of the stakeholders, Petitioner's response and views of the Commission are summarized below:

2.2.1. Tariff for HT and EHT Industries

Stakeholders' Comments:

EHT Demand tariff should be 4% lower than HT but it is in reverse as the EHT Demand charges is 17% higher compared to HT Industrial tariff. The Demand charges for the EHT consumers in the neighbouring states are very low compared to Puducherry.

Petitioner's Response:

The Fixed charges / Demand charges are levied to meet the Committed Liability with Gencos / Transcos / Utility.

Even though, the Demand charge for EHT consumer is higher on comparing with HT consumer, the energy charges to EHT consumers are marginally lower than HT consumer. For HT consumers it is INR 5.50/unit whereas for EHT consumers it is INR 5.20/unit.

The stakeholder has taken into consideration only the Demand charges of the neighbouring States and not the Energy charges. The detailed workings show that the Tariff in whole is much lesser in Puducherry than other States even after considering the proposed tariff for FY 2021-22.

Commission's View:

The Commission notes the Stakeholders' concern. As responded by the Petitioner the Demand charges are levied to meet the committed liability with the Gencos / Transcos / Utility. The Commission while designing retail tariffs for the FY 2021-22 has kept in view the principles of determination of tariff set out in the Electricity Act, 2003 (EA 2003), Tariff Policy, 2016 and the JERC 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.

2.2.2. *Change in kWh based tariff to KVAh based tariff for HT and EHT consumers*

Stakeholders' Comments:

The proposal of the petitioner to revise the billing from KWh to KVAh will discourage consumers to keep the reactive compensation always in the healthy and further investment on this type of infrastructure will become least priority.

Petitioner's Response:

Most of the State Utility such as Karnataka, Chhattisgarh & Delhi have already adopted the method. A detail write up on KVah billing is enclosed at Annexure 2 of this Order.

Commission's View:

The Commission notes the Stakeholders' concern. The Commission believes that kVAh based tariff is essential for HT/EHT consumers in order to incentivize the consumers to maintain power factor in a more prudent manner. Accordingly, the Commission has introduced kVAh based tariff for HT & EHT consumers for FY 2021-22.

2.2.3. *Open Access additional surcharge*

Stakeholders' Comments:

The Petitioner does not justify the reason for levying a fixed component in the Power Purchase Cost. The additional surcharge in turn renders the OA system ineffective.

Petitioner's Response:

The Additional Surcharges have been imposed for Open Access consumers in order to compensate the long term commitment made by Electricity Department, Puducherry to various Gencos & Transcos.

When the consumer opts for open Access, the department has to make request to the Generators to back down the generation due to decrease in demand and still have to pay the fixed charges to the Generators without taking any power from them. Further Section 42(4) of Electricity Act 2003 specifies the Additional charges to be levied on the consumer to enable the Licensee to recover its fixed cost arising out of its obligation to supply. Therefore, the Additional Surcharge can't be removed.

Commission's View:

Earlier, 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 Open Access Regulations, 2017, a consumer now is only required to pay fixed charges on Admissible Drawal rather than on total contracted load.

As per the "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.

2.2.4. Cross subsidy surcharge (CSS) and Wheeling charges

Stakeholders' Comments:

CSS and Wheeling charges should be limited to 20% of the applicable tariff in line guidelines of the National Tariff Policy.

Petitioner's Response:

The tariff policy mandates Electricity Regulatory Commission to determine road map of cross subsidy surcharge and bring tariff ± 20% of Average Cost of Supply (ACos).

As per section 39 & 40 of Electricity Act 2003, the surcharge / CSS shall be progressively reduced in a manner as specified by the Hon'ble Commission. As per Clause 83 of National Tariff Policy, for achieving the objective that the tariff progressively reflects the cost of supply of Electricity, the cross subsidy may be reduced gradually in a phased manner to keep tariff within ± 20% ACos. The PED requests the Hon'ble Commission to gradually reduce the CSS over a period of 5 years, to avoid tariff shock to the consumer, to achieve the above objective.

Commission's View:

The Commission while designing retail tariffs for the FY 2021-22 has kept in view the principles of determination of tariff set out in the Electricity Act, 2003 (EA 2003), Tariff Policy, 2016 and the JERC 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.

2.2.5. Computation of Renewable Purchase Obligation

Stakeholders' Comments:

The approach for computation of RPO obligations is not in line with the JERC (Procurement of Renewable Energy) Regulations – 2010.

Petitioner's Response:

The Petitioner submits that, it has considered the computation and methodology in line with the Hon'ble Commissions Tariff Order dated 18th May 2020 and other previous Tariff Order. Further in accordance with Regulation1(2) of JERC(Procurement of Renewable Energy) Regulations, 2010 prescribes that Renewable Energy shall be purchased are the defined minimum percentage of total sales during the year.

Commission's View:

For computation of RPO obligation, the Commission has followed approach in line with the JERC (Procurement of Renewable Energy) Regulations, 2010.

2.2.6. Computation of Fixed Charges

Stakeholders' Comments:

Fixed cost computation on INR/kWh basis is not reflective of actual fixed cost obligation on INR/MW basis. it is observed that the Petitioner while working out the Additional Surcharge has computed the fixed cost based on per unit rate (INR/ kWh) of power and not on INR/ MW basis, this shall lead to a higher implication of fixed cost if seen on INR/kWh basis as it does not take into account the impact of change in PLF due to change in demand/ load.

Petitioner's Response:

The methodology adopted by the Petitioner is in line with the methodology adopted by the Commission in previous Tariff Order. The Petitioner submits that it shall be following any such methodology as approved by the Commission.

Commission's View:

The Commission while designing retail tariffs for the FY 2021-22 has kept in view the principles of determination of tariff set out in the Electricity Act, 2003 (EA 2003), Tariff Policy, 2016 and the JERC MYT Regulations, 2018 as elaborated in Chapter 6 of this Order.

2.2.7. Power Exchange as part of the Merit Order Despatch (MoD)

Stakeholders' Comments:

Considering the advantages of competitive rates at the Market the Licensee may procure electricity at the Open Market or Exchange and optimise their power purchase costs. It is suggested that the Hon'ble JERC may consider formalising the optimisation through market by evolving appropriate procedure for considering short term market rates while finalising the Merit Order of the Discom.

Petitioner's Response:

Department submits that it ensures Merit Order despatch for the power stations as per the current guidelines while procuring power from tied-up sources.

The Petitioner submits that current MoD process is designed after due consideration of reliability of the power system including constraints such as ramp-up/ ramp-down time required for the Thermal stations, thus ensuring efficient load factors & operations of thermal power plants.

Further, the Petitioner submits that it opts for short-term power based in its requirement due to supply-demand mismatch.

Commission's View:

The Commission takes note of the stakeholder's comments and direct the Petitioner to procure power based on Merit Order Despatch (MoD) principles and explore options of procuring power from short term sources, whenever it helps in reducing the power purchase cost.

2.2.8. Purchase of renewable power from the G-TAM market

Stakeholders' Comments:

The Petitioner can fulfil its pending RPO obligations as well as the targets in forthcoming years by procuring RE power through the Green Term Ahead Market (GTAM) also.

Petitioner's Response:

The Petitioner submits that it would like to highlight that it plans to fulfil its RPO obligation by purchase of Renewable Energy during FY 22, and in subsequent years as has outlined in the Tariff Petition.

The Petitioner further submits that it may consider the suggested mode along with other options available to meets its RPO obligation considering the fixed cost of existing PPA agreements, power requirement, cost economics associated with procuring it, any technical constraints, quantum available & Discoms existing plans to purchase renewable power in future.

However, department submits that it has also highlighted its current plan to source RE power to fulfil RPO obligations under different MOUs as highlighted in the Tariff Petition.

Commission's View:

The Commission takes note of the stakeholder's comments. The Commission has taken a note of the shortfall of RPO compliance and also the Petitioner's efforts to enter into PSA's with power suppliers for purchase of Renewable Energy. The Commission has directed the petitioner to expedite its efforts towards RPO compliance at para 5.7 of this Order.

3. Chapter 3: True-up of FY 2019-20

3.1. Background

The True up for the FY 2019-20 has to be carried out as per the provisions of Regulation 11 of the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2018.

The Commission issued the Tariff Order for FY 2020-21, determining the Aggregate Revenue Requirement (ARR) and the tariff for FY 2020-21, Annual Performance Review (APR) of FY 2019-20 and True-up of FY 2017-18 and FY 2018-19 on 18th May 2020 (hereinafter referred to as the "Tariff Order").

3.1. Approach for the True-Up of FY 2019-20

The Petitioner has submitted audited accounts based on audit conducted by statutory auditors. The Commission in this Chapter now carries out the True-up of FY 2019-20, the first year of the second Control Period, in accordance with the principles laid down in the MYT Regulations, 2018.

3.2. Energy Sales

Petitioner's Submission

The Petitioner has submitted the total quantum of energy sales for FY 2019-20 as 2,684.27 MU as against an approved energy sales quantum of 2724.18 MU in the Tariff Order.

Commission's analysis

The MYT Regulations, 2018 stipulate that the variation in sales constitutes "uncontrollable factors" that are beyond the control of the Petitioner and cannot be mitigated. Regulation 12.1 of the MYT Regulations, 2018 in this regard stipulates the following

"For the purpose of these Regulations, the term "uncontrollable factors" for a Transmission or Distribution Licensee shall comprise of the following factors, which were beyond the control of the Licensee, and could not be mitigated by the Licensee:

a) Force Majeure events;

b) Change in Law, judicial pronouncements and Orders of the Central Government, State Government or Commission;

c) Variation in the number or mix of Consumers or quantities of electricity supplied to Consumers;

d) Transmission loss;

e) Variation in the cost of power purchase due to variation in the rate of power purchase from approved sources, subject to clauses in the power purchase agreement or arrangement approved by the Commission;

f) Variation in fuel cost;

g) Change in power purchase mix;

h) Inflation;

i) Transmission Charges for a Distribution Licensee;

j) Variation in market interest rates for long-term loans;

k) Employee expenses limited to one time payment owing requirements of a pay commission and terminal liability of employees;

l) Taxes and Statutory levies;

m) Taxes on income;

n) Income from the realisation of bad debts written off:

Provided that where the Applicant believes, for any variable not specified above, that there is a material variation or expected variation in performance for any Financial Year on account of uncontrollable factors, such Applicant may apply to the Commission for inclusion of such variable at the Commission's discretion, under this Regulation for such Financial Year:

Provided further that the uncontrollable factors for a Generating Company shall be as specified in the prevalent CERC Tariff Regulations."

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

Table 10: Energy Sales (MU) trued-up by the Commission

<table>
<tr><th>S. No.</th><th>Category</th><th>Approved in Tariff Order</th><th>Petitioner's Submission</th><th>Trued-up by Commission</th></tr>
<tr><td>1</td><td>Domestic</td><td>736.25</td><td>771.04</td><td>771.04</td></tr>
<tr><td>2</td><td>OHOB</td><td>10.24</td><td>0.32</td><td>0.32</td></tr>
<tr><td>3</td><td>Commercial</td><td>219.86</td><td>202.56</td><td>202.56</td></tr>
<tr><td>4</td><td>Agriculture</td><td>60.45</td><td>61.18</td><td>61.18</td></tr>
<tr><td>5</td><td>Public lighting</td><td>28.13</td><td>24.59</td><td>24.59</td></tr>
<tr><td>6</td><td>Industrial</td><td>127.08</td><td rowspan="2">158.07</td><td rowspan="2">158.07</td></tr>
<tr><td>7</td><td>Water tanks</td><td>35.70</td></tr>
<tr><td>8</td><td>Temporary supply</td><td>8.53</td><td>4.75</td><td>4.75</td></tr>
<tr><td>9</td><td>Total LT</td><td>1,226.24</td><td>1,222.51</td><td>1,222.51</td></tr>
<tr><td>10</td><td>HT 1-Industrial</td><td rowspan="2">1000.41</td><td rowspan="2">980.55</td><td rowspan="2">980.55</td></tr>
<tr><td>11</td><td>HT 1- Commercial</td></tr>
<tr><td>12</td><td>HT-2</td><td>68.86</td><td>69.07</td><td>69.07</td></tr>
<tr><td>13</td><td>HT-3 Industrial EHT</td><td>428.67</td><td>412.14</td><td>412.14</td></tr>
<tr><td>14</td><td>Total HT</td><td>1,497.93</td><td>1,461.76</td><td>1,461.76</td></tr>
<tr><td>15</td><td>Grand Total</td><td>2,724.18</td><td>2,684.27</td><td>2,684.27</td></tr>
</table>

The Commission approves 2684.27 MU as energy sales in the True-up of the FY 2019-20.

3.3. Open Access Sales and Purchase

Petitioner's Submission

There were NIL Open Access Sales and NIL Open Access Purchase approved by the Commission. The Petitioner has submitted the NIL Open Access Sales and NIL Open Access Purchase in the true-up.

Commission's analysis

The following table provides the Open Access Sales and Purchase approved by the Commission in the Tariff Order, the Petitioner's Submission and sales now trued-up by the Commission based on the information submitted by the Petitioner.

Table 11: Open Access Sales (MU) and Purchase trued-up by the Commission

S. No	Category	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	Open Access Sales	0	0	0
2	Open Access Purchase	0	0	0

The Commission approves NIL Open Access Sale and Purchase in the True-up of the FY 2019-20.

3.4. Inter-State Transmission Loss

Petitioner's Submission

The Petitioner has submitted the Inter-State Transmission Loss for different power stations as follows:

- For TANGEDCO, the Inter-State losses have been considered as 4%, on similar lines as approved by the Commission in the Tariff Order due to non-availability of requisite loss percentage figures.
- For Central Generating Stations (CGS), the actual losses are now working out to be 2.13% against an approved figure of 2.77% in the Tariff Order.

Commission's analysis

The Commission has verified the Inter-State losses from the supporting documentary evidence submitted by the Petitioner. The Commission accordingly approves the Inter-State Losses as shown in the following table:

Table 12: Inter-State Transmission Loss (%)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	TANGEDCO	4.00%	4.00%	4.00%
2	For Central Government Stations	2.77%	2.13%	2.13%

The Commission approves the Inter-State Transmission Loss as 2.13% for CGS stations and 4.00% for TANGEDCO in the True-up of the FY 2019-20.

3.5. Intra- State Transmission & Distribution (T&D) loss

Petitioner's Submission

The Petitioner has submitted that it has achieved an Intra-State T&D loss of 12.75% in the FY 2019-20 against target of 12.50%.

Commission's analysis

The Commission has verified the Intra-State T&D loss levels based on the information available of energy drawal of the UT on the Southern Region Power Committee (SRPC) website and the energy sales as approved above. The Commission is constrained to consider Intra-State T&D loss of 12.75% in the FY 2019-20 for the purpose of determination of Energy Balance against an approved T&D loss of 12.50% in the Tariff Order.

Since, the Petitioner has not been able to achieve the Intra-State T&D loss target for the year, the disincentive for the same has to be borne by the Petitioner in accordance with the MYT Regulations, 2018. The calculation of the same has been discussed in detail in section 3.19 of this Order.

The table below provides the Intra-State T&D loss approved in the Tariff Order of FY 2019-20, Petitioner's Submission and as approved by the Commission now.

Table 13: Intra-State distribution loss (%)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	T&D Losses (%)	12.50%	12.75%	12.75%

The Commission, while Truing up for FY 2019-20, has considered the actual Intra-State T&D loss of 12.75% for the FY 2019-20. However, the dis-incentive for excess purchase of power on account of under-achievement of T&D loss target has been detailed in Section 3.19 and has been deducted from the trued-up ARR.

3.6. Power Purchase Quantum & Cost

Petitioner's Submission

The Petitioner submitted that it meets its total energy requirement from its allocation of the Central Generating Stations (CGS) and the State utilities like TANGEDCO and PPCL. PPCL is a generating company within the UT of Puducherry catering to the requirement of the Karaikal region. Hence, the power purchase quantum and cost for FY 2019-20, as submitted by the Petitioner in the Petition has been shown in the table below:

Table 14: Power Purchase cost submitted by the Petitioner (in INR Cr)

S. No.	Particulars	FY 2019-20		
		Purchase (MU)	Cost (INR Cr.)	Rate (INR/unit)
1	NTPC	1,225.55	405.34	3.31
2	NTPL	116.26	74.37	6.40
3	NLC	775.81	311.73	4.02
6	PPCL	240.23	81.26	3.38
7	KAIGA	315.64	116.71	3.70
8	NTPC - MAPS	29.21	10.72	3.67
9	NTECL	120.76	87.03	7.21
10	KKNP	359.08	152.88	4.26
11	NNTPS	24.74	13.87	5.61
12	KSEB		0.05	
13	Open market			
14	OA Power purchase			
15	PGCL (POC Charges)		89.30	
16	SRLDC Charges		0.56	
17	SRPC		0.14	
18	RPO Obligations	*	27.04	
19	UI Charges		8.70	
20	Power purchased expenses for prior period		96.09	
21	**Sub-Total - A**	**3,207.27**	**1,475.79**	**4.60**
22	Adjustments Bills / Debit Notes / Credit Notes for prior period		30.23	
23	Less: Rebate considered by PED while making payment		0.09	
24	**Power Purchase Cost (Sub- Total) - B**		**1,505.92**	
25	URS Income		0.43	

S. No.	Particulars	FY 2019-20		
		Purchase (MU)	Cost (INR Cr.)	Rate (INR/unit)
26	UI/DSM Charges		11.82	
27	RARS Charges		1.26	
28	Sale of Trading Materials		0.01	
29	**Sub-total (Additional Income) - C**		**13.51**	
30	**Net Power Purchase Cost (D=A+B - C)**	**3,207.27**	**1,492.41**	

* The Petitioner has submitted that RPO obligation has met through purchase of RECs and no physical power has been purchased.

Commission's analysis

The MYT Regulations, 2018 stipulate that any variation in the cost of power generation and/or power purchase shall be treated as an uncontrollable factor.

The Petitioner procures power mainly from NTPC Stations, NPCIL stations, and TANGEDCO. No power has been purchased through IEX/ Bilateral Purchase etc. The Petitioner submitted the overall Power Purchase cost as INR 1,505.92 Cr inclusive of transmission charges.

The Commission has verified the power purchase quantum and the cost as per the monthly station-wise bills submitted by the Petitioner for each source of power purchase. The cost has further been reconciled with the audited annual accounts of the FY 2019-20. As per the submissions of the Petitioner, the Commission has also considered the rebate on account of early payments made for the power purchase bills as part of the power purchase cost. The Central transmission charges along with the POSOCO charges have been considered as per actuals incurred by the Petitioner.

The following table provides the summary of the power purchase quantum and the cost approved by the Commission for the FY 2019-20.

Table 15: Power Purchase Quantum (MU) and cost (INR Cr) approved by the Commission

S. No.	Particulars	Now approved		
		Purchase (MU)	Cost (INR Cr.)	Rate (INR/unit)
1	NTPC	1,225.55	405.34	3.31
2	NTPL	116.26	74.37	6.40
3	NLC	775.81	311.73	4.02
6	PPCL	240.23	81.26	3.38
7	KAIGA	315.64	116.71	3.70
8	NTPC - MAPS	29.21	10.72	3.67
9	NTECL	120.76	87.03	7.21
10	KKNP	359.08	152.88	4.26
11	NNTPS	24.74	13.87	5.61
12	KSEB		0.05	
13	Open market			
14	OA Power purchase			
15	PGCL (POC Charges)		89.30	
16	SRLDC Charges		0.56	
17	SRPC		0.14	
18	RPO Obligations	*	27.04	

S. No.	Particulars	Now approved		
		Purchase (MU)	Cost (INR Cr.)	Rate (INR/unit)
19	UI Charges		8.70	
20	Power purchased expenses for prior period		96.09	
21	**Sub-Total - A**	**3,207.27**	**1,475.79**	**4.60**
22	Adjustments Bills / Debit Notes / Credit Notes for prior period		30.23	
23	Less: Rebate considered by PED while making payment		0.09	
24	**Power Purchase Cost (Sub- Total) - B**		**1,505.92**	
25	Less: URS Income, UI/DSM charges, RARS charges		**13.51**	
26	**Net Power Purchase Cost**		**1492.41**	

* The Petitioner has submitted that RPO obligation has met through purchase of RECs and no physical power has been purchased. The petitioner has submitted that it has also received 5.48 MUs of solar power on account of net metering (not included in above table since it was not a physical purchase by the department).

The Commission approves power purchase quantum of 3,207.27 MU and cost of INR 1,505.92 Cr in the True-up of the FY 2019-20. Net power purchase cost after adjustment for URS Income, UI/DSM charges, RARS charges stands at INR 1,492.41 Cr .

3.7. Renewable Purchase Obligation (RPO)

As per Regulation 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 22nd August 2016 and revised the RPO targets, according to which the Petitioner had to purchase 11.50% of its total consumption (including 4.70% from Solar) from renewable sources for the FY 2019-20.

Based on the above, the Commission has computed the cumulative RPO compliance and the pending backlog at the end of the FY 2019-20 as shown in the following table:

Table 16: Summary of Renewable Purchase Obligation (RPO) (MU)

S. No	Particulars	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
1	Solar Target	0.25%	0.30%	0.40%	0.40%	0.60%	0.85%	1.65%	2.50%	3.60%	4.70%
2	Non Solar Target	0.75%	1.70%	2.60%	2.60%	2.70%	2.70%	3.20%	4.20%	5.40%	6.80%
	Total Target	**1.00%**	**2.00%**	**3.00%**	**3.00%**	**3.30%**	**3.55%**	**4.85%**	**6.70%**	**9.00%**	**11.50%**
3	Sales Within UT	2,182.48	2,321.29	2,474.98	2,365.72	2,366.31	2,398.00	2,466.27	2,548.76	2,644.54	2,684.27
	RPO Target										
5	Solar	5.46	6.96	9.90	9.46	14.20	20.38	40.69	63.72	95.20	126.16
6	Non Solar	16.37	39.46	64.35	61.51	63.89	64.75	78.92	107.05	142.81	182.53
	Total RPO Target	**21.82**	**46.43**	**74.25**	**70.97**	**78.09**	**85.13**	**119.61**	**170.77**	**238.01**	**308.69**

S. No	Particulars	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
	RPO Compliance (Actual Purchase)										
7	Solar	-	-	-	-	-	-	0.50	0.62	2.40	5.48
8	Non Solar	-	-	-	-	-	-	-	-	-	-
	Total RPO Compliance (Actual Purchase)	**-**	**-**	**-**	**-**	**-**	**-**	**0.50**	**0.62**	**2.40**	**5.48**
	RPO Compliance (REC Certificate Purchase)										
9	Solar	-	-	-	-	-	69.00	-	-	-	4.30
10	Non Solar	-	-	48.00	112.00	90.69	14.00	-	97.26	-	122.81
	Total RPO Compliance (REC Certificate)	**-**	**-**	**48.00**	**112.00**	**90.69**	**83.00**	**-**	**97.26**	**-**	**127.11**
	RPO Compliance (REC+ Actual)										
11	Solar	-	-	-	-	-	69.00	0.50	0.62	2.40	9.78
12	Non Solar	-	-	48.00	112.00	90.69	14.00	-	97.26	-	122.81
	Total RPO Compliance	**-**	**-**	**48.00**	**112.00**	**90.69**	**83.00**	**0.50**	**97.88**	**2.40**	**132.59**
	Cumulative Requirement till current year										
13	Solar	5.46	12.42	22.32	31.78	45.98	66.36	107.06	170.78	265.98	392.14
14	Non Solar	16.37	55.83	120.18	181.69	245.58	310.33	389.25	496.29	639.10	821.63
	Total	**21.82**	**68.25**	**142.50**	**213.47**	**291.56**	**376.69**	**496.30**	**667.07**	**905.08**	**1,213.77**
	Cumulative Compliance till current year										
15	Solar	-	-	-	-	-	69.00	69.50	70.12	72.52	82.30
16	Non Solar	-	-	48.00	160.00	250.69	264.69	264.69	361.95	361.95	484.76
	Total	**-**	**-**	**48.00**	**160.00**	**250.69**	**333.69**	**334.19**	**432.07**	**434.47**	**567.06**
	Net Shortfall in RPO Compliance till current year										
17	Solar	5.46	12.42	22.32	31.78	45.98	(2.64)	40.19	103.29	196.10	312.47
18	Non Solar	16.37	55.83	72.18	21.69	(5.11)	45.64	124.56	134.34	277.15	336.87
	Total	**21.82**	**68.25**	**94.50**	**53.47**	**40.87**	**43.00**	**164.75**	**237.64**	**473.24**	**649.34**

There is a net shortfall in RPO compliance till the FY 2019-20 of 649.34 MU (312.47 MU – Solar and 336.87 MU Non-solar).

3.8. Energy Balance

Petitioner's Submission

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

Table 17: Energy Balance (MU) submitted by Petitioner

Sr. No.	Item	April-March (Actuals)
		FY 2019-20
A)	**Energy Requirement**	2684.27
1	Metered Sales	
2	Unmetered Sales	
3	**Total Sales within the UT**	**2,684.27**
4	Energy Drawal by TANGEDGO	9.50
5	Sales to Electricity Traders / Power Exchange	
6	Sale to Open acess Consumers	
7	**Total Sales**	**2,693.77**
8	**T&D Losses**	
a	Loss(%)	12.75%
b	Loss (MU)	392.23
9	**Total Energy Requirement**	**3,086.01**
B)	**Energy Availability**	
1	Net Power Purchase (ex Bus)	2,967.05
2	Own Generation (PPCL+Renewable)	240.23
3	Power purchase from Common Pool / UI-overdrawal / Traders / Exchange / Others	45.52
4	UI Underdrawal	99.65
5	Open Access Power Purchase at periphery	
6	**Net Power Purchased (1+2+3-4+5)**	**3,153.15**
7	Transmission Losses	67.14
	Transmission Losses (%)	2.13%
8	**Total Energy Availability (6-7)**	**3,086.01**
9	**Deficit/(Surplus)**	0.00

Commission's analysis

The information submitted by the Petitioner on power purchase quantum, UI over/ under drawl, IEX/ Bilateral purchase etc. has been examined and accordingly the energy balance for the FY 2019-20 is derived. The following table provides the energy balance approved in the Tariff Order, the Petitioner's Submission and now trued-up by the Commission.

Table 18: Energy Balance (MU) approved by Commission

S. No.	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
A	**Energy Requirement**			
1	Sales Within Territory	2724.18	2684.27	2684.27
2	Sales to TANGEDCO	0.00	9.50	9.50
3	Sale to Open access consumer	0.00	0.00	0.00
4	Sale to Traders/Exchanges	0.00	0.00	0.00
5	Total Sales	2724.18	2693.77	2693.77
6	Distribution losses (%)	12.50%	12.75%	12.75%
7	**Energy required at the State/UT Periphery (MU)**	**3,113.34**	**3,076.50**	**3,076.50**
B	**Energy Availability**			
1	Total Power purchase quantum at Ex-bus	3,113.34	3,207.27	3,207.27
2	Power Purchase from UI Over-drawal / Traders / Exchange	0.00	45.52	45.52
3	Sales to common pool consumers / UI	0.00	99.65	99.65
4	**Total Power Purchase by PED at Ex-bus (1+2-3)**	**3,113.34**	**3,153.15**	**3,153.15**
	Open access purchase	-	0.00	0.00
6	**Net Power Purchased at State/UT Periphery (6-7)**	**3,113.34**	**3,153.15**	**3,153.15**
7	Transmission Losses	117.06	67.14	67.14
8	Transmission Loss (%)	2.77%	2.13%	2.13%
9	**Energy required at the State/UT Periphery (MU) + A2 +A3 +A4**	**3,099.10**	**3,086.01**	**3,086.01**
10	**Gap / (Surplus)**	**14.24**	**-**	**-**

3.9. Operation & Maintenance (O&M) 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 nth Year 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 (WPI inflation)

EMPn = (EMPn-1) x (1+Gn) x (CPI inflation)

A&Gn = (A&Gn-1) x (CPI inflation)

'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;

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

WPI inflation – 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;

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 nth Year. 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."

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

3.9.1. Employee Expenses

Petitioner's Submission

The following table provides the employee expenses as submitted by the Petitioner:

Table 19: Employee Expenses submitted by the Petitioner (In INR Cr)

Particulars	Actuals FY 2019-20
Salaries& Allowances	
Salary	131.03
Wages	0.83
Stipend	0.70
Overtime allowance	0.58
Total	133.14
Less: Add/Deduct share of others	
Total	133.14
Less: Employee Cost towards maintenance of other Govt Department	0.61
Less: Amount capitalized	16.26
Net amount	116.27
Add : prior period expenses	0.00
Total Employee Expenses	116.27

Commission's analysis

In accordance with the MYT Regulations, 2018, the Commission has determined the Employee expenses for the FY 2019-20. 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 considered the base year figures as per revised estimates for FY 2018-19 determined in the Tariff Order dated 18th May 2020. The Base Year expenses have been escalated by Growth Rate determined based on the manpower plan as submitted by the Petitioner and the actual CPI Inflation of the year 2019-20 to arrive upon the employee expenses of FY 2019-20.

Table 20: CPI Inflation Index

FY	Average of (Apr-Mar)	Increase in CPI Index
2019-20	322.50	7.53%

Table 21: Computation of employee expenses

S. No	Particulars	(Base Year)	Trued Up
		Revised estimates of FY 2018-19	FY 2019-20
1	Gn (Growth factor as per Petitioner Submission)		-6.40%
2	CPI (Actuals for FY 2019-20) (in %)		7.53%
3	Expenses with inflation and growth	**89.11**	**89.68**
4	Impact of 7th Pay Commission with inflation and growth	**19.52**	**22.57**
5	**Total Employee Expenses**	**108.63**	**112.25**

Table 22: Employee Expenses approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued Up by Commission
1	Employee Expenses	91.62	116.27[1]	89.68
2	Impact of 7th Pay Commission	20.07		22.57
3	**Total Employee Expenses**	**111.69**	**116.27**	**112.25**

The Commission now approves employee expenses of INR 112.25 Cr in the true-up of the FY 2019-20.

3.9.2. Administrative and General (A&G) Expenses

Petitioner's Submission

The following table provides the A&G expenses as submitted by the Petitioner:

Table 23: A&G Expenses submitted by Petitioner (In INR Cr)

S. No.	Particulars	Petitioner's Submission
1	Rent, rates & taxes	10.37
2	Other Professional charges including Regulatory Expenses (License + Petition Fees)	
3	Office Expenses including Legal, Professional & Special Service Charges	
4	Advertisement & Publicity	
5	Other A&G Charges	
6	Others	
7	Other material related expenses	
8	EESL Charges (DELP)	7.65
	Total	**18.02**

[1] Breakup of employee expenses into Impact of 7th Pay Commission is not available in the petition.

Commission's analysis

The Commission has considered the base year figures as per revised estimates for FY 2018-19 determined in the Tariff Order dated 18th May 2020. The Base Year expenses have been escalated the actual CPI Inflation of the year 2019-20 to arrive upon the A&G expenses of FY 2019-20.

Table 24: CPI Inflation Index

FY	Average of (Apr-Mar)	Increase in CPI Index
2019-20	322.50	7.53%

Table 25: Computation of A&G expenses

S. No	Particulars	(Base Year)	Trued Up
		FY 2018-19	FY 2019-20
1	CPI (Actuals for FY 2019-20) (in %)		7.53%
2	A&G Expenses	11.90	12.80
3	**Total A&G Expenses**	**11.90**	**12.80**

Table 26: A&G Expenses approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued Up by Commission
1	A&G Expenses	12.40	18.02	12.80
2	**Total A&G Expenses**	**12.40**	**18.02**	**12.80**

The Commission now approves the Administrative & General (A&G) expenses of INR 12.80 Cr in the True-up of FY 2019-20.

3.9.3. Repair & Maintenance Expenses (R&M)

Petitioner's Submission

The Petitioner has incurred R&M expenses of INR 5.98 Cr against the approved expenses of INR 9.69 Cr in the Tariff Order. R&M expenses are incurred towards day to day maintenance of the distribution network of the PED and form an integral part of the Petitioner's efforts towards reliable and quality power supply as also in the reduction of T&D losses in the system.

Commission's analysis

The 'K' factor as determined in the Tariff Order dated 18th May 2020 has been considered. The 'K' factor is kept constant for all the years and multiplied with the opening GFA approved for the (n-1)th year. The resultant amount is then escalated by WPI Inflation to arrive upon the R&M Expenses for the FY 2019-20.

The WPI Inflation has been computed as follows:

Table 27: Computation of WPI Inflation (%)

FY	Increase in WPI Index
2019-20	1.63%

The R&M expenses approved by the Commission for FY 2019-20 have been provided in the following table:

Table 28: Normative R&M Expenses worked out by the Commission (In INR Cr)

S. No	Particulars	FY 2019-20
1	Opening GFA (GFA_{n-1})	799.51
2	K factor approved (K) (%) (approved in Tariff Order dated 18th May 2020)	1.18%
3	WPI Inflation (Actuals for FY 2019-20) (%)	1.63%
4	**R&M Expenses = K x (GFA_{n-1}) x ($1+WPI_{inflation}$)**	**9.59**

Table 29: R&M Expenses approved by the Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued Up by Commission
1	**Repair & Maintenance Expenses (R&M)**	**9.69**	**5.98**	**9.59**

The Commission now approves the Repair & Maintenance (R&M) expenses of INR 9.59 Cr in the true-up of FY 2019-20.

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

In accordance with the MYT Regulations, 2018, the Commission has determined the sharing of gains/losses on account of controllable factors. The Regulation 14 of the MYT Regulations, 2018 stipulates the following:

"14 Mechanism for sharing of gains or losses on account of controllable factors

14.1 Approved aggregate gain to the Transmission Licensee or Distribution Licensee on account of controllable factors shall be shared equally between Licensee and Consumers:

Provided that the mechanism for sharing of gains or losses on account of controllable factors for a Generating Company shall be as specified in the prevalent CERC Tariff Regulations.

14.2 Approved aggregate loss, if any to the Transmission Licensee or Distribution Licensee on account of controllable factors shall be on account of the Licensee, and shall not be passed to the Consumers."

The Following table provides the O&M expenses, approved by the Commission in the Tariff Order for APR of FY 2019-20, Petitioner's submission and O&M expenses now trued up by the Commission.

Table 30: O&M Expenses approved by the Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Approved by Commission
1	Employee Expenses	91.62	116.27	89.68
	Impact of 7th Pay	20.07		22.57
	Total Employee Expenses	111.69	116.27	112.25
2	Administration & General Expenses (A&G)	12.40	18.02	12.80
3	Repair & Maintenance Expenses (R&M)	9.69	5.98	9.59
	Total	**133.78**	**140.27**	**134.64**

The Commission approves the Operation & Maintenance (O&M) expenses of INR 134.64 Cr in the true-up of FY 2019-20. Since the normative O&M expenses approved by the Commission are observed to be lower than the actual O&M expenses, 100% of the losses i.e. INR 5.63 Cr (140.27-134.64) is to be borne by the Petitioner in line with Regulation 14.2 quoted above.

3.10. Capitalisation

Petitioner's Submission

The Petitioner submitted the actual capitalisation for the FY 2019-20 as INR 64.78 Cr against an approved capitalization of INR 83.25 Cr in the Tariff Order.

Commission's analysis:

The Commission approves the Capitalisation as per the submission in the Final Accounts by the Petitioner.

The table below provides the capitalisation approved in the Tariff Order, the Petitioner's Submission and the capitalisation approved by the Commission now:

Table 31: Capitalisation approved by the Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	Capitalisation	83.25	64.78	64.78

The Commission approves the Capitalisation of INR 64.78 Cr in the True-up of FY 2019-20.

3.11. Capital Structure

Petitioner's Submission

The Petitioner submitted that the majority of capital assets shall be created out of equity contribution from Government of Puducherry and the actual borrowing of loan is only to the extent of implementing of the R-APDRP, DDUGJY and IPDS schemes.

Commission's analysis

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-capitalization 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-capitalization 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 the MYT Regulations, 2018, the Commission has determined the Capital Structure for FY 2019-20 as follows:

Table 32: GFA addition approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	Opening Gross Fixed Assets	799.52	799.51	799.51
2	Addition During the FY	83.25	64.78	64.78
3	Adjustment/Retirement During the FY	-	-	-
4	Closing Gross Fixed Assets	882.77	864.29	864.29

Table 33: Normative Loan addition approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	Opening Normative Loan	123.70	123.70	123.70
2	Add: Normative Loan During the year	58.28	45.34	45.34
3	Less: Normative Repayment equivalent to Depreciation	30.87	30.55	30.55*
4	Closing Normative Loan	151.11	138.50	138.50

**Depreciation has been calculated in the next section*

Table 34: Normative Equity addition approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	Opening Equity	239.86	239.85	239.85
2	Additions on account of new capitalisation	24.98	19.43	19.43
3	Closing Equity	264.83	259.29	259.29

3.12. Depreciation

Petitioner's Submission

The Petitioner has submitted the actual depreciation of assets as per the audited annual accounts of FY 2019-20.

The depreciation as claimed by the Petitioner has been tabulated below:

Table 35: Depreciation submitted by Petitioner (In INR Cr)

S. No	Particulars	Petitioner's Submission
1	Opening Gross Fixed Assets	799.51
2	Addition During the FY	64.78
3	Adjustment/Retirement During the FY	-
4	Closing Gross Fixed Assets	864.29
5	Average Gross Fixed Assets	831.90
6	Weighted Average Depreciation rate (%)	3.67%
	Depreciation	**30.55**

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: In the ARR Order, the Commission approved the following asset wise depreciation rate as per the CERC Tariff Regulations, 2014:

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 prescribed in MYT Regulations, 2018, provided in the following table:

Table 36: Depreciation Rate (%)

Description	Rate
Land & Land Rights	0.00%
Buildings	1.80%
Plant & Machinery	3.60%
Transformer	3.60%
Lines & Cables (HT & LT)	3.60%
Vehicles	18.00%
Furniture & Fixtures	6.00%
Office Equipment	6.00%
IT Equipment	6.00%
Testing & Measuring Equipment	6.00%
SCADA P&M	6.00%
SCADA Building	1.80%

The following table provides the calculation of depreciation during FY 2019-20.

Table 37: Depreciation approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	Opening Gross Fixed Assets	799.52	799.51	799.51
2	Addition During the FY	83.25	64.78	64.78
3	Adjustment/Retirement during the FY	-	-	-
4	Closing Gross Fixed Assets	882.77	864.29	864.29
5	Average Gross Fixed Assets	841.15	831.90	831.90
6	Weighted Avg. rate of Depreciation (%)	3.67%	3.67%	3.67%
	Depreciation	**30.87**	**30.55**	**30.55**

The Commission approves depreciation of INR 30.55 Cr in the True-up of FY 2019-20.

3.13. Interest and Finance Charges

Petitioner's Submission

The petitioner has estimated the Interest and Finance charges as per the JERC MYT Regulations, 2018 for the FY 2019-20. The Petitioner has submitted that the majority of capital assets are created out of the equity contribution from Government of Puducherry and the actual borrowing of loan is only to the extent of the R-APDRP schemes. The rate of interest considered is prevailing Prime Lending Rate of the State Bank of India as on 1stApril of that relevant year.

Commission's analysis:

Regulation 28 of the MYT Regulations, 2018 stipulates 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-capitalization 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 capitalization 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 rate of interest to be considered while determining the ARR shall be the weighted average interest rate of the actual loan portfolio. However, in absence of detailed data with respect to the actual loan portfolio, the Commission has considered the SBI 1 Year MCLR rate[2] plus 100 basis points as Rate of Interest, in accordance with the MYT Regulations, 2018.

As per the MYT Regulations, 2018, if the equity deployed is more than 30% of the capital cost, then equity in excess of 30% is considered as normative loan. The Interest on Loan has been has considered as the SBI 1 Year MCLR rate 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.

[2] SBI 1 Year MCLR rate as on 10th March 2019 which is applicable rate as on 1st April 2019

Table 38: Interest and Finance charges approved by Commission (In INR Cr)

S. No.	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	Opening Normative Loan	123.70	123.70	123.70
2	Add: Normative Loan During the year	58.28	45.34	45.34
3	Less: Normative Repayment= Depreciation	30.87	30.55	30.55
4	Closing Normative Loan	151.11	138.50	138.50
5	Average Normative Loan	137.40	131.10	131.10
6	Rate of Interest (%)	9.55%	9.55%	9.55%
7	**Interest on Loan**	**13.12**	**12.52**	**12.52**
8	Financing Charges	-	2.70	2.70
	Interest and Finance Charges	**13.12**	**15.22**	**15.22**

The Commission approves the Interest and Finance Charges of INR 15.22 Cr in the True-up of the FY 2019-20.

3.14. Return on Equity (RoE)

Petitioner's Submission

Return on Equity (RoE) is computed in accordance with the MYT Regulations 2018, RoE is computed on 30% of the capital base. Opening equity is considered equivalent to closing equity for FY 2018-19 and additional equity to the tune of 30% is proposed to be capitalized during the year. Accordingly, RoE is computed at 16% post-tax.

Commission's analysis:

RoE has been calculated on normative basis on the average of opening and closing of equity during the year at the rate of 16% and 15.50%, as applicable, (on post-tax basis) with an opening equity considered equivalent to the closing equity of FY 2018-19 as approved in the True-up. Income Tax payable shall be considered taken on actual basis at the time of True-up. The following table provides the RoE approved in the Tariff Order, the Petitioner's Submission and RoE now approved by the Commission.

Table 39: RoE approved by Commission (In INR Cr)

S. No	Particulars		Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	Opening Equity Amount	A	239.86	239.85	239.85
2	Equity Addition during year	B	24.98	19.43	19.43
3	Closing Equity Amount	C	264.83	259.29	259.29
4	Average Equity Amount	D = (A+B)/2	252.34	249.57	249.57
5	Average Equity-Wires Business	E = D*90%	227.11	224.61	224.61
6	Average Equity (Retail Supply Business)	F=D*10%	25.23	24.96	24.96
7	Return on Equity for Wires Business (%)	G	15.50%	15.50%	15.50%
8	Return on Equity for Retail Supply Business (%)	H	16.00%	16.00%	16.00%
9	Return on Equity for Wires Business	I=G*E	35.20	34.82	34.82
10	Return on Equity for Retail Supply Business	J=H*F	4.04	3.99	3.99
11	**Total Return on Equity**	**K=I+J**	**39.24**	**38.81**	**38.81**

The Commission approves a Return on Equity of INR 38.81 Cr in the True-up of FY 2019-20.

3.15. Interest on Security Deposits

Petitioner's Submission

The Petitioner submitted that Interest on the Consumer Security Deposits on normative basis is calculated as INR 13.14 Cr, however, only INR 5.11 Cr has been paid to the consumers and the balance is proposed to be paid during the subsequent years. The Petitioner has considered the amount actually paid to the consumer in the True-up of FY 2019-20.

Commission's analysis:

Interest on Security Deposits has been calculated in accordance with the MYT Regulations, 2018 based on the average of opening and closing consumer security deposits during the year. The opening security deposit has been derived based on the closing security deposit as approved in the True-up of FY 2018-19. The addition during the year has been considered the same as submitted by the Petitioner. The rate of interest has been considered equivalent to the prevailing RBI Bank rate. The table below provides the calculation of interest on consumer security deposits for the year.

Table 40: Interest on Consumer Security Deposits approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	Opening Security Deposit	193.46	193.46	193.46
2	Add: Deposits During the year	21.74	17.36	17.36
3	Less: Deposits refunded	0.00	0.00	0.00
4	Closing Security Deposit	215.20	210.82	210.82
5	Average Security Deposit	204.33	202.14	202.14
6	Rate of Interest (%)	6.50%	6.50%	6.50%
7	**Interest on Security Deposit on normative basis**	**13.28**	**13.14**	**13.14**
	Interest on Security Deposit paid to consumers	**13.28**	**5.11**	**5.11**

The Commission approves interest on security deposit as INR 5.11 Cr in the True-up of FY 2019-20.

3.16. Interest on Working Capital

Petitioner's Submission

Interest on Working Capital has been calculated based on the normative principles outlined in the JERC MYT Regulations, 2018.

The Petitioner has computed the Interest on Working Capital at rate of 10.55% and is claimed as under:

Table 41: Interest on Working Capital submitted by Petitioner (In INR Cr)

S. No	Particulars	Petitioner's Submission
1	O&M Expenses for 1 month	11.69
2	Maintenance spares at 40% of R&M	0.20
3	Receivables of two months of billing	287.91
4	Total Working Capital Requirement	299.80
5	Less: Security Deposit excluding BG/FDR	202.14
6	Net Working Capital	97.66
7	Rate of Interest (%)	10.55%
	Interest on Working Capital	**10.30**

Commission's analysis:

The Commission has considered the receivables as proportionate ARR for 2 months, Gross Estimated O&M expenses(pre gain-sharing) as determined above and the Maintenance spares at 40% of R&M expenses(pre gain-sharing) for one month for computing the Working Capital Requirement for the year.

The Commission has considered the SBI Base rate as on 1st April 2019 for calculation of interest, as stipulated in the MYT Regulations, 2018.

Accordingly, the Interest on Working Capital has been calculated, as shown in the table below:

Table 42: Interest on Working Capital approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	O&M Expense for 1 month	11.15	11.69	11.22
2	Maintenance spares at 40% of R&M expenses for one (1) month;	0.32	0.20	0.32
3	Receivables equivalent to two (2) months of the expected revenue from charges for use of distribution wires at the prevailing tariff	253.94	287.91	250.47
4	Total Working Capital Requirement	265.41	299.80	262.01
5	Less: Amount held as security deposits	204.33	202.14	202.14
6	Net Working Capital	61.08	97.66	59.87
7	Rate of Interest (%)	10.55%	10.55%	10.55%
8	**Interest on Working Capital**	**6.44**	**10.30**	**6.32**

The Commission approves the Interest on Working Capital as INR 6.32 Cr in the True-up of FY 2019-20.

3.17. Provision for Bad & Doubtful Debts

Petitioner's Submission

The Petitioner has not claimed any amount towards bad and doubtful debts for the year.

Commission's analysis:

It is observed that as per the audited accounts, the licensee has not written off any amount in the FY 2019-20. Therefore, the Commission approved NIL provision for bad and doubtful debts in the True-up of FY 2019-20.

3.18. Non-Tariff Income (NTI)

Petitioner's Submission

The Petitioner has claimed a Non-Tariff Income of INR 5.19 Cr against the approved NTI of INR 8.96 Cr by the Commission.

Commission's analysis:

The Commission has verified the submission of the Petitioner from the audited accounts and found the same to be correct. The NTI approved in the Tariff Order, the Petitioner's Submission and now trued-up by the Commission is shown in the following table:

Table 43: Non- Tariff Income approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
	Total	**8.96**	**5.19**	**5.19**

The Commission approves Non-Tariff Income of INR 5.19 Cr in the True-up of FY 2019-20.

3.19. 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 Tariff Order dated 18th May 2020, the Commission had approved the distribution loss level of 12.50% for the FY 2019-20. As discussed earlier, the Petitioner has only been able to achieve an Intra-State T&D Loss of 12.75%. Thus, there is an underachievement of the loss target. In accordance with the MYT Regulations, 2018, the Commission has determined the sharing of gains/losses on account of controllable factors. The Regulation 14 of the MYT Regulations, 2018 stipulates the following:

"14 Mechanism for sharing of gains or losses on account of controllable factors

14.1 Approved aggregate gain to the Transmission Licensee or Distribution Licensee on account of controllable factors shall be shared equally between Licensee and Consumers:

Provided that the mechanism for sharing of gains or losses on account of controllable factors for a Generating Company shall be as specified in the prevalent CERC Tariff Regulations.

14.2 Approved aggregate loss, if any to the Transmission Licensee or Distribution Licensee on account of controllable factors shall be on account of the Licensee, and shall not be passed to the Consumers."

The disincentive has been derived by calculating the additional cost of power procured due to under achievement of the stipulated Intra-State T&D loss target of 12.50% by the Petitioner, at the Average Power Purchase cost

(APPC) of INR 4.83/kWh. The APPC has been derived at State/UT Periphery based on the Power Purchase cost approved in the True-up above and the Energy at State/UT Periphery computed after grossing up the retail energy sales (2,684.27 MU) with the approved Intra-State T&D Loss (12.50%).

The assessment of disincentive for higher Intra-State T&D Loss is shown in the following table:

Table 44: Disincentive towards underachievement of Intra-State distribution loss (In INR Cr)

S. No	Particulars			
1	Retail Sales	A	2,684.27	2,684.27
2	T&D Loss (%)	B	12.50%	12.75%
3	Power Purchase at State/UT Periphery	C	3,067.74	3,076.50
4	Gain/(Loss) (MU) (3,067.74– 3,076.50)	D		(8.76)
5	Average Power Purchase Cost (APPC)	E		4.75
6	Gain/ (Loss) (INR Cr)	F=DxE/10		(4.16)
	Sharing (50% to PED in case of gain and 100% to PED in case of loss) (INR Cr)			(4.16)

The Commission determines and approves INR 4.16 Cr as a disincentive for underachieving the Intra-State Distribution Loss target in the True-up of FY 2019-20.

3.20. Aggregate Revenue Requirement (ARR)

Petitioner’s Submission

Based on the expenses as detailed above, the net aggregate revenue requirement of INR 1,727.48 Cr is submitted for approval in the True-up of FY 2019-20.

Commission’s analysis

The Commission on the basis of the detailed analysis of the cost parameters of the ARR has considered and approved the revenue requirement in the True-up of FY 2019-20 as given in the following table:

Table 45: Aggregate Revenue Requirement approved by Commission for FY 2019-20 (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission	Reference
1	Power Purchase Cost	1,295.84	1,492.41	1,492.41	Table 15
2	Operation & Maintenance Expenses	133.78	140.27	134.64	Table 30
3	Depreciation	30.87	30.55	30.55	Table 37
4	Interest and Finance charges	13.12	15.22	15.22	Table 38
5	Return on Equity	39.24	38.81	38.81	Table 39
6	Interest on Security Deposit	13.28	5.11	5.11	Table 40
7	Interest on Working Capital	6.44	10.30	6.32	Table 42
9	Incentive/ (Disincentive) on achievement of norms	0.00	0.00	-4.16	Table 44

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission	Reference
10	**Total Revenue Requirement**	**1,532.58**	**1,732.67**	**1,718.89**	
11	Less: Non-Tariff Income	8.96	5.19	5.19	Table 43
12	**Net Revenue Requirement**	**1,523.62**	**1,727.48**	**1,713.70**	

The Commission approves net Aggregate Revenue Requirement of INR 1,713.70 Cr in the True-up of the FY 2019-20.

3.21. Revenue at existing Retail Tariff

Petitioner's Submission

The Petitioner has submitted the net actual revenue for the FY 2019-20 as INR 1502.85 Cr (including revenue from regulatory surcharge). The table below provides the revenue at existing tariff as submitted by the Petitioner:

Table 46: Revenue at existing tariff submitted by the Petitioner for FY 2019-20 (In INR Cr)

S. No.	Category of Consumers	Energy Sales FY 19-20 (MUs)	Revenue (INR in Cr)				
			Demand Charges	Energy Charges	Total Billing	Surcharge (4%)	Total
1	**Domestic & Cottage**						
A	0-100	353.11	6.56	52.97	59.53	2.38	61.91
B	101-200	195.03	4.89	48.76	53.65	2.15	55.79
C	201-300	102.89	2.61	44.76	47.37	1.89	49.26
D	> 300	116.82	2.65	65.42	68.07	2.72	70.80
E	OHOB	3.50	0.37	0.00	0.37	0.01	0.38
F	**Total**	**771.35**	**17.09**	**211.90**	**228.99**	**9.14**	**238.15**
2	**Commercial**						
A	0-100	39.37	3.32	21.65	24.98	1.00	25.98
B	101-250	45.61	1.36	29.65	31.00	1.24	32.24
C	> 250	117.58	3.49	84.66	88.15	3.53	91.68
D	**Total**	**202.56**	**8.17**	**135.96**	**144.13**	**5.77**	**149.90**
3	**Agriculture**						
A	Small Farmers	8.532	0.07	0.00	0.07	0.003	0.08
B	Other Farmers	52.648	2.67	0.00	2.67	0.11	2.78
C	**Total**	**61.180**	**2.75**		**2.75**	**0.11**	**2.86**
4	**Public Lighting**	24.59	4.99	16.60	21.59	0.86	**22.45**
5	**LT industrial**						
A	LT industrial	119.29	0.96	69.19	70.15	2.81	72.95
B							
C	Water Tank	38.77	0.02	25.98	26.00	1.04	27.04
D	**Total**	**158.06**	**0.98**	**95.16**	**96.14**	**3.85**	**99.99**

S. No.	Category of Consumers	Energy Sales FY 19-20 (MUs)	Revenue (INR in Cr)					
			Demand Charges	Energy Charges	Total Billing	Surcharge (4%)	Total
6	Temporary Supply-LT & HT	4.77		4.73	4.73	0.19	4.92
7	**Total LT**	**1222.51**	**33.98**	**464.35**	**498.33**	**19.92**	**518.25**
8	HT 1 industrial	897.08	103.90	479.94	583.84	23.35	607.19
	HT 1 Commercial	83.47	14.38	45.91	60.29	2.41	62.70
9	HT 2 - Others	69.07	14.37	44.89	59.26	2.37	61.63
10	HT 3- EHT	412.14	16.30	210.19	226.49	9.06	235.55
11	**Total HT**	**1461.76**	**148.94**	**780.93**	**929.87**	**37.19**	**967.06**
12	**Gross Total**	**2684.27**	**182.92**	**1245.28**	**1428.20**	**57.11**	**1485.31**
13	**Penal charges**						**46.86**
14	**Less Incentives**						**-28.97**
15	**Total**						**1503.19**
16	Export to Other Region						2.12
17	Consumption of this Financial Year's March billed in Next FY's April						85.17
18	Consumption of previous FY's March billed Current FY's in April						-87.53
19	**Total**						**1502.95**

Commission's analysis

While verifying the consumer category wise revenue it was observed that the total revenue was reflected as INR 1,502.85 Cr in the annual accounts. The category/ slab wise revenue now Trued-up by the Commission is shown in the following table:

Table 47: Revenue at existing tariff approved by Commission for FY 2019-20 (In INR Cr)

S. No.	Category of Consumers	Energy Sales FY 19-20 (MUs)	Revenue (INR in Cr)					
			Demand Charges	Energy Charges	Total Billing	Surcharge (4%)	Total
1	**Total Billings**	**2,684.27**	**182.92**	**1,245.28**	**1428.20**	**57.11**	**1,485.31**
2	**Penal charges**						**46.86**
3	**Less Incentives**						**-28.97**
4	**Total**						**1,503.19**
5	Export to Other Region						2.12

S. No.	Category of Consumers	Energy Sales FY 19-20 (MUs)	Revenue (INR in Cr)				
			Demand Charges	Energy Charges	Total Billing	Surcharge (4%)	Total
6	Consumption of this Financial Year's March billed in Next FY's April						85.17
7	Consumption of previous FY's March billed Current FY's in April						-87.53
8	**Gross Total**						**1502.95**
9	Adjustment as per Annual Accounts						(0.10)
10	**Net Total Revenue**						**1502.85**

The Commission approves the revenue from the sale of power as INR 1,502.85 Cr in the True-up of the FY 2019-20.

3.22. Standalone Revenue Gap/ Surplus

Petitioner's Submission

Based on the ARR submitted and the revenue from retail tariff, the standalone revenue gap of INR 224.63 Cr is arrived at in the True-up of FY 2019-20.

Commission's analysis

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

Table 48: Standalone Revenue Gap/ Surplus for FY 2019-20 (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Trued-up by Commission
1	Net Revenue Requirement	1523.62	1727.48	1,713.70
2	Total Revenue (including surcharge)	1608.83	1502.85	1,502.85
	Net Gap / (Surplus)	**(85.21)**	**224.63**	**210.86**

The Commission, in the True-up of FY 2019-20 approves standalone gap of INR 210.86 Cr. The treatment of the standalone gap has been discussed in Chapter 0 Tariff Principles and Design.

4. Chapter 4: Annual Performance Review of FY 2020-21

4.1. Background

The Tariff Order for the FY 2020-21 was issued by the Commission on 18th May 2020 approving the ARR and Retail Tariff for the FY 2020-21. This Chapter covers the Annual Performance Review (APR) of the FY 2020-21 vis-à-vis the cost parameters approved by the Commission in the Tariff Order. The Annual Performance Review for the FY 2020-21 is to be carried out as per the provisions of Regulation 11 of the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2018.

4.2. Approach for the Review for the FY 2020-21

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 the FY 2020-21 has been done based on the 6 months' actual data as provided by the Petitioner for the FY 2020-21 of the Power Purchase Quantum and the Cost, Energy Sales, Capitalisation etc. Based on such data 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, 2018 and on the basis of the norms approved in the MYT Order dated 25th May 2019 and Tariff Order of FY 2020-21.

4.3. Energy Sales

Petitioner's Submission

The Petitioner has submitted a revised estimate of energy sales as 2,586.73 MU for the FY 2020-21, based on the actual energy sales for the first 6 months (H1) of the financial year. Energy sales for H2 of the financial year have been considered as half of the actual energy sales for the FY 2019-20.

Commission's analysis

The audited figures for FY 2019-20 and provisional information provided by the Petitioner for the first 6 months of the FY 2020-21 have been examined by the Commission. The Commission, for identifying the trend in energy sales for various categories could not rely on the month-wise data for previous years since, as submitted in the reply to the deficiency note, the Petitioner was not able to generate and submit the month-wise sales data pertaining to issue with adoption of a new software. The year 2020-21 being subject to the COVID-19 pandemic has been an exceptional year. Hence, the Commission considers it prudent to determine the Energy Sales with H1 sales are considered as actuals of 2020-21 and for H2 the half of the sales of FY 2019-20 escalated with CAGR.

The following table provides the energy sales approved by the Commission in the Tariff Order, the Petitioner's submission and as now approved by the Commission.

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Table 49: Energy Sales (MU) approved by the Commission

S. No.	Category	Approved in Tariff Order	Petitioner's Submission	Actual sales in H1 2020-21	Sales approved in FY 2019-20	Growth rate		Now Approved by Commission
1	Domestic	761.79	825.60	441.68	771.04	5 year	3.95%	842.43
2	OHOB	10.24	10.92	5.46	0.32	Subjective Rate	0.00%	5.62
3	Commercial	227.11	187.16	85.88	202.56	5 year	2.14%	189.33
4	Agriculture	61.04	71.14	37.54	61.18	5 year	1.43%	68.57
5	Public lighting	28.69	21.95	10.88	24.59	3 year	0.48%	23.23
6	Industrial	166.04	139.41	68.31	158.07	Subjective Rate	2.00%	129.15
7	Water tanks		35.40	16.02		Subjective Rate	2.00%	35.79
8	Temporary supply	8.96	5.08	2.58	4.75	Subjective Rate	0.00%	4.96
9	**Total LT**	**1,263.87**	**1,296.66**	**665.76**	**1,222.51**			**1,299.07**
10	HT 1-Industrial	1,029.51	771.22	361.02	980.55	3 year	1.27%	857.52
11	HT 1-Commercial		80.08					
12	HT-2	71.77	63.17	28.64	69.07	4 year	3.58%	64.41
	HT-3 Industrial EHT	441.14	375.60	169.53	412.14	Subjective Rate	1.27%	378.21
	Total HT	**1,542.42**	**1,290.07**	**559.19**	**1,461.76**			**1,300.14**
	Grand Total	**2,806.29**	**2,586.73**	**1227.53**	**2,684.26**			**2,599.21**

The Commission approves energy sales of 2,599.21 MU in the APR of FY 2020-21.

4.4. Open Access Sales and Purchase

Petitioner's Submission

The Petitioner has not projected or scheduled any energy sales/purchase under Open Access in the FY 2020-21

Commission's analysis

The Commission in this regard considers the Petitioner's submission and approves NIL Open Access Sale and Purchase accordingly.

The Commission now approves NIL open access sales and purchase in the APR of FY 2020-21.

4.5. Inter-State Transmission Loss

Petitioner's Submission

The Petitioner has submitted the Inter-State Transmission Loss for different power stations as follows:

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- For TANGEDCO, the Inter-State losses have been considered as 4%, on similar lines as approved by the Commission in the ARR of FY 2019-20 due to non-availability of requisite loss figure.
- For Central Generating Stations such as NTPC and NPCIL etc., the transmission loss has been considered as per the weekly data published on the Southern Regional Power Committee (SRPC) website.

Commission's analysis

The Commission in the APR of FY 2020-21 considers the transmission loss levels in line with latest submission by the Petitioner.

The table below provides the Inter-State Transmission Losses submitted and now approved by the Commission.

Table 50: Inter-State Transmission Loss (%)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	TANGEDCO	4.00%	4.00%	4.00%
2	For Central Government Stations	2.77%	2.12%	2.12%

The Commission approves the Inter-State Transmission Loss as 2.12% for CGS stations and 4.00% for TANGEDCO in the APR of FY 2020-21.

4.6. Intra-State Transmission and Distribution (T&D) loss

Petitioner's Submission

The Petitioner has proposed Intra-State T&D loss level at 11.75% against an approved loss of 11.75% in the Tariff Order. The Petitioner further submitted that it has been achieving significant reduction in distribution losses and is having one of the lower T&D losses in India. These efforts shall be continued and will be enhanced. However, the loss reduction is a slow process after reaching at certain level and can happen after deployment of latest technological and advanced infrastructure developments are in place.

Commission's analysis

The Commission had approved loss level of 11.75% for FY 2020-21 in the Tariff Order dated 18th May 2020 while determining tariff for the FY 2020-21. The Commission in the APR of FY 2020-21 considers the loss level of 11.75% as approved in the Tariff Order for the FY 2020-21. The following table provides the Intra-State distribution loss approved in the MYT Order, the Petitioners submission and now approved by the Commission.

Table 51: Intra-State distribution loss (%)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Intra-State distribution loss	11.75%	11.75%	11.75%

The Commission approves Intra-State T&D loss of 11.75% in the APR of FY 2020-21.

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4.7. Power Purchase Quantum & Cost

Petitioner's Submission:

The Petitioner meets its total energy requirement from its allocation from the Central Generating Stations (CGS) and PPCL. PPCL is a generating company within the UT of Puducherry catering to the partial requirement of Karaikal region of PED. The quantum and cost of power purchase for FY 2020-21 have been estimated in the following manner:

The Petitioner has projected the quantum of power purchase by considering the actual power purchase for the 1st half of the year FY 2020-21 and for the purpose of the estimation of purchase quantum for H2 for FY 2020-21, the Petitioner has considered the revised estimates of power purchase quantum based on half-yearly power purchase quantum in FY 2019-20. The key assumptions for estimating the power purchase quantum and costs are as under:

1. **Power Purchase Quantum**

   PED has considered the revised estimates in line with the actual Power Purchase quantum in FY 2019-20. However, the per unit Cost of power purchase for each power source as per the estimated actual power purchase cost in FY 2020-21 H1 has been considered for estimating power purchase cost for FY 2020-21 H2.

2. **Power Purchase Cost**

   The Power purchase cost under MOD has been arrived at as follows:

   - For the year FY 2020-21, PED has considered the revised estimates of power purchase quantum in line with the estimated actual power purchase quantum in FY 2020-21 H1 & based on the half-yearly power purchase quantum in FY 2019-20 for FY 2020-21 H2. The revised power purchase quantum for FY 2020-21 is 3059.61 MUs.

   - Transmission Charges: The petitioner has considered the actual transmission charges paid by the Petitioner for H1 FY2020-21 in this Petition and has accordingly calculated the transmission charges for FY 2020-21 as a whole.

   - RPO cost: As per the Petitioner's submission the cumulative RPO obligation pending as on 1.4.2020 was 649.34 MUs (312.47 MUs Solar & 336.87 MUs Non-Solar). The Total RPO Obligation for FY 2020-21 is 14.10% (i.e. 6.00% Solar & 8.10% Non-Solar) amounting to stand alone obligation of 364.73 MUs for FY 2020-21 (155.20 MU Solar & 209.53 MUs Non-Solar).

Table 52: RPO Compliance cost as submitted by Petitioner

S.No	Description	Unit	Revised Estimates FY 2020-21	
			Physical	REC
1	Sales Within State	MUs	2,586.73	
2	RPO Obligation	%	**14.10%**	
	- Solar	%	6.00%	
	- Non Solar	%	8.10%	
3	RPO Obligation	**MUs**		**364.73**
	- Solar	MUs		155.20
	- Non Solar	MUs		209.53
4	RPO Purchase	**MUs**		-

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S.No	Description	Unit	Revised Estimates FY 2020-21	
			Physical	REC
	- Solar	MUs	5.48	
	- Non Solar	MUs		
5	Cumulative RPO Obligation		**1,008.59**	
	- Solar	MUs	462.19	
	- Non Solar	MUs	546.40	

Although the Petitioner has proposed that the standalone obligation for FY 2020-21 shall be met by purchase of RECs and Solar power, the estimated cost towards RPO compliance is proposed as NIL.

The Power Purchase Cost for the FY 2020-21 has been tabulated below:

Table 53: Power Purchase cost submitted by Petitioner for FY 2020-21 (In INR Cr)

Sr. No.	Source	Purchase	Energy recd. by Licensee	FC	VC	Others	Total
		MU	MU	INR Cr	INR Cr	INR Cr	INR Cr
A	**Central Sector Power Stations**						
I	**NTPC**	1,219.39	1,193.59	101.25	281.10	(4.79)	377.56
	RSTPS I & II	532.14	520.88	41.10	133.07	(4.79)	169.38
	RSTPS III	104.08	101.87	8.38	25.20	-	33.58
	Talcher Stage-II	515.99	505.07	34.56	102.67	-	137.23
	Simhadri Stage-II	67.19	65.77	17.20	20.17	-	37.37
2	**NLC**	779.89	763.39	102.17	211.73	92.17	406.07
	NLC TPS -II Stage-I	367.06	359.29	30.23	97.41	66.17	193.81
	NLC TPS-II Stage-II	114.07	111.66	6.81	29.56	13.88	50.24
	NLC TPS-I (Expn)	92.03	90.09	10.87	28.73	7.41	47.01
	NLC TPS II (Expn)	76.67	75.04	16.55	19.69	3.72	39.96
	NTPL	130.07	127.31	37.72	36.35	0.98	75.05
3	**NPCIL**	695.98	681.26	-	241.75	24.30	266.05
	MAPS	29.93	29.30	-	7.87	-	7.87
	KAPS	317.59	310.87	-	110.15	-	110.15
	KKNPP I	101.26	99.12	-	36.10	9.82	45.93
	KKNPP II	247.20	241.97	-	87.63	14.48	102.11
4	**OTHERS**	132.94	130.13	56.16	32.28	12.49	100.93
	NTECL-Vallur	48.10	47.08	35.74	12.39	(0.17)	47.96
	New NLC TS-I	84.85	83.05	20.42	19.89	12.66	52.97
5	**Within State Generation**						
	PPCL	231.39	231.39	35.12	60.69	(0.63)	95.18

Sr. No.	Source	Purchase	Energy recd. by Licensee	FC	VC	Others	Total
		MU	MU	INR Cr	INR Cr	INR Cr	INR Cr
C	**RPO Obligation**	-	-				-
D	**OTHER CHARGES**	-	-	-	**68.03**	-	**68.03**
	PGCIL Transmission Charges, Wheeling, Open Access & Trading Margin & Other Charges	-			68.03	-	68.03
D	**Total**	**3,059.61**	**2,999.76**	**294.70**	**895.59**	**123.54**	**1,313.83**

Commission's analysis:

The Commission while estimating the power purchase quantum and cost for FY 2020-21 has considered the actual quantum and cost of power till September 2019, as submitted by the Petitioner. The Commission has projected the quantum of energy and cost for the remaining 6 months of the FY 2019-20. The methodology followed for projecting the quantum and cost for the remaining months has been discussed as follows:

4.7.1. Availability of power

Availability of energy from NTPC Stations:

- The energy availability from NTPC Power Stations has been estimated based on the average energy available during the months of April – March in the last three financial years FY 2017-18 to FY 2019-20.

Availability of energy from NLC Stations:

- The energy availability from NLC Power Stations has been estimated based on the average energy available during the months of April – March in the last three financial years FY 2017-18 to FY 2019-20.

Availability of energy from NPCIL plants:

- The energy availability from Madras Atomic Power Station (MAPS) has been estimated based on previous years' figures since the plant has competed only one year of usage.
- The energy availability from Kaiga Stage I & II has been estimated based on 3 previous years' average.
- The energy availability from Kundakulum Power Station's Unit I & II has been estimated based on 3 previous years' average.

Availability of energy from Vallur Thermal Plant and New NLC TS -1:

- The energy availability from Vallur Thermal Station has been estimated based on 3 previous years' average.
- The energy availability from New NLC TS-1 (Neyveli New Thermal Power Station) plant has been considered as submitted by Petitioner since it is relatively new and shall be reconsidered at the time of True-up.
- Energy availability from PPCL has been estimated based on 3 previous years' average.

4.7.2. Power Purchase Cost

Variable Charges:

- The Variable Cost for existing plants has been computed based upon the average variable cost for the first six months of the FY 2019-20 (Apr'19 to Sep'19).
- For procurement of power from the Open Market, the Average Round the Clock (RTC) rate for the southern region during the calendar year 2020 has been considered.

Fixed Charges:

- The fixed costs have been considered based on the tariff Orders issued by the CERC for respective Central Generating Stations.
- The fixed charges for New NLC TS-1 plant has been considered as submitted by Petitioner since it is relatively new and shall be reconsidered at the time of True-up.
- For PPCL, the fixed cost for H1 has been considered at actuals as submitted by the Petitioner and for H2 the half of the fixed charges approved in Tariff Order for FY 2019-20 has been considered.
- The Fixed cost has been apportioned on the basis of Petitioner's share in each power station and average annual plant availability factor achieved during the last five years by each plant.

UI over-drawl/under-drawl:

The UI over-drawl/under-drawl quantum and amount would be considered at the time of True-up based on the UI bills.

Other Charges:

The Petitioner has submitted actual Other Charges as applicable for H1 of FY 2020-21. The same have been considered as the Other Charges for FY 2020-21.

4.7.3. Transmission Charges

The Commission has estimated the transmission charges payable to PGCIL based on the total capacity allocation of the transmission network to the Petitioner.

For this purpose, the latest quarterly (July'20 to Sep'20) Point of Connection (PoC) rates approved by the Central Electricity Regulatory Commission (CERC) in accordance with Regulation 17(2) of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 or the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 as applicable, have been considered.

4.7.4. Total Power Purchase Cost

The following table provides the Power Purchase Quantum and Cost approved by the Commission for FY 2020-21:

Secretary, JERC
(For Goa & UTs)

Table 54: Power Purchase Quantum (MU) and cost (INR Cr) approved by the Commission

Details of the stations	PP at periphery	Annual Fixed Charges	Annual Variable charges	Other charges	Total	Avg. Rate (@ State Periphery)
	MU	INR Cr	INR Cr	INR Cr	INR Cr	INR Cr
NTPC						
RSTPS Stage I & II	512.03	41.45	129.35	-2.64	168.16	3.04
RSTPS Stage -III	113.44	9.84	27.71	0.00	37.55	3.02
Talcher Stage- II	483.47	33.65	97.22	0.00	130.87	3.69
Simhadri Stage- II	73.65	20.31	22.31	0.00	42.62	1.73
Subtotal - NTPC	**1182.59**	**105.25**	**276.59**	**-2.64**	**379.21**	**3.12**
NLC						
NLC TPS II Stage I	343.30	33.83	91.94	21.18	146.94	2.34
NLC TPS II Stage II	94.78	11.12	24.72	5.07	40.91	2.32
NLC TPS I (Expn)	91.92	10.94	28.94	2.71	42.58	2.16
NLC TPS II (Expn)	65.74	11.25	17.05	1.36	29.66	2.22
NTPL	109.96	34.04	31.13	2.54	67.71	1.62
Subtotal- NLC	**705.70**	**101.18**	**193.78**	**32.85**	**327.81**	**2.15**
NPCIL						
Madras Atomic Power Station	29.32	0.00	7.79	0.00	7.79	3.76
Kaiga Stage I & II	295.86	0.00	103.72	0.00	103.72	2.85
Kundakulum Unit I & II	313.21	0.00	112.47	11.78	124.25	2.52
Subtotal- NPCIL	**638.40**	**0.00**	**223.98**	**11.78**	**235.76**	2.71
Others						
New NLC TS-I NNTPS Neyveli New Thermal Power Station	75.72	30.06	19.91	1.36	51.33	1.48
NTECL-Vallur Thermal Project	115.24	31.38	31.80	12.66	75.84	1.52
Subtotal- Others	**190.96**	**61.44**	**51.72**	**14.02**	**127.17**	1.50
State Generation						
PPCL	220.62	33.17	57.87	0.00	91.04	2.42
Subtotal- State Generation	220.62	**33.17**	**57.87**	**0.00**	**91.04**	2.42
Renewable Power/RPO						
Solar Rooftop - Net Metering			0.00		0.00	0.00
Subtotal- Renewable Power/RPO			**0.00**		**0.00**	0.00

Secretary, JERC
(For Goa & UTs)

Details of the stations	PP at periphery	Annual Fixed Charges	Annual Variable charges	Other charges	Total	Avg. Rate (@ State Periphery)
	MU	INR Cr	INR Cr	INR Cr	INR Cr	INR Cr
PP from Open Market /(Sale of Surplus Power)	6.92		1.85		1.85	
Total	**2945.19**	**301.04**	**805.71**	**56.01**	**1162.84**	**2.53**
Transmission Charges						
PGCIL Charges		64.91	0.00		64.91	
Subtotal		**64.91**	**0.00**	**0.00**	**64.91**	
Total Power Purchase Cost	**2945.19**	**367.81**	**803.93**	**56.01**	**1227.75**	**2.39**

The Commission approves the revised quantum of power purchase as 2945.19 MU at State/ UT Periphery with total cost of INR 1227.75 Cr in the APR of FY 2020-21. This includes other charges and supplementary charges which include expenses such as past arrears, water charges, taxes etc.

4.8. Renewable Purchase Obligations (RPOs)

Petitioner's Submission:

Although the Petitioner has proposed that the standalone obligation for FY 2020-21 shall be met by purchase of RECs and Solar power, the estimated cost towards RPO compliance is considered as NIL.

Commission's analysis:

As per Regulation 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 22nd August 2016 and approved the revised RPO targets, as per which the Petitioner has to purchase 14.10% of its total consumption (including 6.00% from Solar) from renewable sources for the FY 2020-21.

In accordance with the JERC for the State of Goa and UTs (Procurement of Renewable Energy) Regulations, 2010 and the Petitioner's Submission, the table below provides the Renewable Purchase Obligation for the FY 2020-21 as determined by the Commission based on the revised estimate of energy sales:

Table 55: Summary of Renewable Purchase Obligation (RPO) (MU)

Sl. No.	Description	Unit	FY 2020-21	
			Physical	REC
1	Sales Within State	MUs	2599.21	
2	RPO Obligation	%	**14.10%**	
	- Solar	%	6.10%	
	- Non Solar	%	8.00%	
3	RPO Obligation for FY 2020-21	MUs	**366.49**	
	- Solar	MUs	158.55	
	- Non Solar	MUs	207.94	
4	RPO Purchase in FY 2020-21	MUs	**0.00**	**0.00**
	- Solar	MUs	0.00	0.00
	- Non Solar	MUs	0.00	0.00
5	Backlog upto FY 2019-20	MUs	**0.00**	**649.35**
	- Solar	MUs	0.00	312.48
	- Non Solar	MUs	0.00	336.87
6	Total Compliance for FY 2020-21	MUs	**0.00**	**0.00**
	- Solar	MUs	0.00	0.00
	- Non Solar	MUs	0.00	0.00
7	Unit Cost	INR/kWh	**3.00**	**1.00**
	- Solar	INR/kWh	2.56	1.00
	- Non Solar	INR/kWh	2.88	1.00
8	Total Cost for FY 2020-21	INR	**0.00**	**0.00**
	- Solar	INR	0.00	0.00
	- Non Solar	INR	0.00	0.00
9	Net shortfall in RPO compliance	MUs		**1015.83**
	- Solar	MUs		471.03
	- Non Solar	MUs		544.81

The Commission approves NIL cost towards RPO compliance for FY 2020-21 as no cost has been sought by the Petitioner. The same shall be taken up at the time of true-up.

4.9. Energy Balance

Petitioner's Submission

The Petitioner has submitted the energy balance as shown in the table below:

Table 56: Energy Balance (MU) submitted by Petitioner

Sr. No.	Item	April-March FY 2020-21
A)	Energy Requirement	2586.73
1	Metered Sales	
2	Unmetered Sales	
3	Total Sales within the UT	2,586.73
4	Energy Drawal by TANGEDGO	8.63
5	Sales to Electricity Traders / Power Exchange	-
6	Sale to Open access Consumers	-
7	Total Sales	2,595.36

Sr. No.	Item	April-March
		FY 2020-21
8	T&D Losses	
a	Loss(%)	11.75%
b	Loss (MU)	344.32
9	Total Energy Requirement	2,939.68
B)	**Energy Availability**	
1	Net Power Purchase (ex Bus)	2,828.21
2	Own Generation (PPCL+Renewable)	231.39
3	Power purchase from Common Pool / UI-overdrawal / Traders / Exchange / Others	40.24
4	UI Underdrawal	100.33
5	Open Access Power Purchase at periphery	
6	**Net Power Purchased (1+2+3-4+5)**	**2,999.52**
7	Transmission Losses	59.84
	Transmission Losses (%)	2.12%
8	**Total Energy Availability (4-5-6)**	**2,939.68**
9	**Deficit/(Surplus)**	0.00

Commission's analysis

The Commission has determined the Energy Balance based on the revised estimates of energy sales. The following table provides the Energy Balance as approved by the Commission in the Tariff Order of FY 2020-21, the Petitioner's Submission and the Energy Balance now approved by the Commission.

Table 57: Energy Balance (MU) approved by Commission

Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
Energy Requirement for Discom			
Energy sales within the State/UT	2806.29	2586.73	2599.21
Energy Drawal by TANGEDCO	-	8.63	0.00
Total Sales within the State/UT	**2806.29**	**2595.36**	**2599.21**
Distribution losses (%)	11.75%	11.75%	11.75%
Distribution Loss MU	373.64	344.32	345.98
Energy required at State/UT Periphery by Discom	3179.94	2939.68	2945.19
Energy Transactions at Periphery			
Total energy scheduled at State Periphery from Tied-up Sources (MU)	**3132.86**	**2999.52**	**2945.19**
Inter-State Transmission Loss	83.16	59.84	50.04
Energy Available at State/UT periphery from firm sources	**3132.86**	**2939.68**	**2938.27**
Deficit/(Surplus)	**47.08**	0.00	**6.92**

In the APR of FY 2020-21, the Commission has estimated a deficit quantum of 6.92 MU. The cost of this purchase of deficit power has been discussed and considered in the Total Power Purchase Cost approved for FY 2020-21 in the previous section.

4.10. 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 nth Year 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 (WPI inflation)

EMPn = (EMPn-1) x (1+Gn) x (CPI inflation)

A&Gn = (A&Gn-1) x (CPI inflation)

'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;

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

WPI inflation – 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;

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 nth Year. 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."

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

4.10.1. Employee Expenses

Petitioner's Submission

The Petitioner has submitted employee expenses of INR 116.27 Cr against the approved expenses of INR 112.91 Cr in the Tariff Order.

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 considered the base year figures for the FY 2019-20 as decided in the true-up of this order. The Base Year expenses have been escalated by Growth Rate determined based on the manpower plan as submitted by the Petitioner and the average CPI Inflation of the last three years to arrive upon the employee expenses of FY 2020-21.

Table 58: CPI Inflation Index

FY	Average of (Apr-Mar)	Increase in CPI Index	Average increase in CPI indices over 3 years
2017-18	284.42	3.08%	5.35%
2018-19	299.92	5.45%	
2019-20	322.50	7.53%	

Table 59: Computation of employee expenses

S. No	Particulars	(Base Year)	Now Approved
		FY 2019-20	FY 2020-21
1	Gn (Growth factor as per Petitioner Submission)		-4.50%
2	CPI (%) (3 previous years' avg.)		5.35%
3	Expenses with inflation and growth	**89.68**	**90.23**
4	Impact of 7th Pay Commission with inflation and growth	**22.57**	**22.71**
5	**Total Employee Expenses**	**112.25**	**112.94**

Table 60: Employee Expenses approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Employee Expenses	92.62	116.27[3]	90.23
2	Impact of 7th Pay Commission	20.29		22.71
3	**Total Employee Expenses**	**112.91**	**116.27**	**112.94**

The Commission now approves employee expenses of INR 112.94 Cr in the APR of the FY 2020-21.

4.10.2. Administrative and General (A&G) Expenses

Petitioner's Submission

The Petitioner has submitted a revised estimate of A&G expenses at INR 18.02 Cr, calculated in accordance with the MYT Regulations and the methodology prescribed by the Commission in the Tariff Order.

Commission's analysis

The Commission has considered the base year figures for the FY 2019-20 as decided in the true-up of this order. The Base Year expenses have been escalated by Growth Rate determined based on the average CPI Inflation of the last three years to arrive upon the A&G Expenses of FY 2020-21.

Table 61: A&G Expenses computation (In INR Cr)

S. No	Particulars	(Base Year)	Now Approved
		FY 2019-20	FY 2020-21
1	CPI (%) (3 previous years' avg.)		5.35%
2	A&G Expenses	12.80	13.48
3	**Total A&G Expenses**	**12.80**	**13.48**

[3] Breakup of employee expenses into Impact of 7th Pay Commission is not available in the petition.

Table 62: A&G Expenses approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Administration & General Expenses (A&G)	12.93	18.02	13.48
	Total A&G Expenses	**12.93**	**18.02**	**13.48**

The Commission now approves the Administrative & General (A&G) expenses of INR 13.48 Cr in the APR of the FY 2020-21.

4.10.3. Repair & Maintenance Expenses (R&M)

Petitioner's Submission

The Petitioner has submitted a revised estimate of R&M expenses of INR 5.98 Cr in accordance with the MYT Regulations and the methodology prescribed by the Commission in the Tariff Order.

Commission's analysis

The 'K' factor of 1.18% has been considered as approved in the Tariff Order dated 18th May 2020.

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

The WPI Inflation has been computed as follows:

Table 63: Computation of WPI Inflation (%)

FY	Increase in WPI Index	Average increase in WPI index over 3 years
2017-18	2.92%	**2.96%**
2018-19	4.32%	
2019-20	1.63%	

The R&M expenses approved by the Commission for FY 2020-21 have been provided in the following table:

Table 64: R&M Expenses approved by Commission (In INR Cr)

S. No	Particulars	FY 2020-21
1	Opening GFA (GFA_{n-1})	864.29
2	K factor approved (K) (%)(approved in Tariff Order dated 18th May 2020)	1.18%
3	Avg. WPI Inflation (%)	2.96%
4	**R&M Expenses = $K \times (GFA_{n-1}) \times (1+WPI_{inflation})$**	**10.50**

Table 65: R&M Expenses approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	**Repair & Maintenance Expenses (R&M)**	**10.70**	**5.98**	**10.50**

The Commission approves the Repair & Maintenance (R&M) expenses of INR 10.50 Cr in the APR of FY 2020-21.

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

The following table provides the O&M expenses approved in the ARR of FY 2020-21, Petitioner's Submission and now approved by the Commission.

Table 66: O&M Expenses approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Employee Expenses	112.91	116.27	112.94
2	Administrative & General Expenses (A&G)	12.93	18.02	13.48
3	Repair & Maintenance Expenses	10.70	5.98	10.50
	Total Operation & Maintenance Expenses	**136.54**	**140.27**	**136.92**

The Commission approves the Operation & Maintenance (O&M) Expenses of INR 136.92 Cr in the APR of FY 2020-21.

4.11. Capital Expenditure & Capitalisation

Petitioner's Submission

The Petitioner has submitted capital expenditure of INR 242.70 Cr and capitalization of INR 104.56 Cr during the year. The Commission approved capital expenditure of INR 242.70 Cr and capitalization of INR 104.56 Cr in the Tariff Order.

Commission's analysis:

The Commission with regard to the capital expenditure and capitalisation proposed to be undertaken during the year, directed the Petitioner to submit the details of the schemes to be undertaken during the year along with the supporting documents. The following table provides the details of capital expenditure and capitalisation during FY 2020-21.

In accordance with the submission of the Petitioner and the Capital Expenditure and Capitalisation approved in Tariff Order, the Commission approves the capital expenditure and capitalisation for the year as shown in the following table:

Table 67: Capital Expenditure and Capitalisation approved by the Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Capital Expenditure	242.70	242.70	242.70
1	Capitalisation	104.56	104.56	104.56

The Commission approves capital expenditure of INR 242.70 Cr and capitalisation of INR 104.56 Cr in the APR of FY 2020-21. The same will be taken up at the time of True-up.

4.12. Capital Structure

Petitioner's Submission

The Petitioner submitted that the majority of capital assets shall be created out of equity contribution from Government of Puducherry and the actual borrowing of loan is only to the extent of implementing of the R-APDRP, DDUGJY and IPDS schemes.

Commission's analysis

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-capitalization 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-capitalization 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 the MYT Regulations, 2018, the Commission has determined the Capital Structure for FY 2020-21 as follows:

Table 68: GFA addition approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Opening Gross Fixed Assets	882.77	864.29	864.29
2	Addition During the FY	104.56	104.56	104.56
3	Adjustment/Retirement During the FY	0.00	0.00	0.00
4	Closing Gross Fixed Assets	987.33	968.85	968.85

Table 69: Normative Loan addition approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Opening Normative Loan	151.11	138.50	138.50
2	Add: Normative Loan During the year	73.19	73.19	73.19
3	Less: Normative Repayment equivalent to Depreciation	34.32	33.666	33.64*
4	Closing Normative Loan	189.98	178.03	178.05

**Depreciation calculated in next section*

Table 70: Normative Equity addition approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Opening Equity	264.83	259.29	259.29
2	Additions on account of new capitalisation	31.37	31.37	31.37
3	Closing Equity	296.20	290.65	290.65

4.13. Depreciation

Petitioner’s Submission

For computation of Depreciation, the Petitioner has followed JERC MYT Regulations 2018, the depreciation rates as specified by CERC have been adopted for calculation of depreciation on different asset categories.

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: In the ARR Order, the Commission approved the following asset wise depreciation rate as per the CERC Tariff Regulations, 2014:

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 prescribed in MYT Regulations, 2018, provided in the following table:

Table 71: Depreciation Rate (%)

Description	Rate
Land & Land Rights	0.00%
Buildings	1.80%
Plant & Machinery	3.60%
Transformer	3.60%
Lines & Cables (HT & LT)	3.60%
Vehicles	18.00%
Furniture & Fixtures	6.00%

Description	Rate
Office Equipment	6.00%
IT Equipment	6.00%
Testing & Measuring Equipment	6.00%
SCADA P&M	6.00%
SCADA Building	1.80%

The following table provides the calculation of depreciation for the FY 2020-21.

Table 72: Depreciation approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Opening Gross Fixed Assets	882.77	864.29	864.29
2	Addition During the FY	104.56	104.56	104.56
3	Less: Government Grant	0.00	0.00	0.00
4	Closing Gross Fixed Assets	987.33	968.85	968.85
5	Average Gross Fixed Assets	935.05	916.57	916.57
6	Weighted Average Depreciation rate (%)	3.67%	3.67%	3.67%
	Depreciation	**34.32**	**33.66**	**33.64**

The Commission now approves depreciation of INR 33.64 Cr in the APR of the FY 2020-21.

4.14. Interest and Finance Charges

Petitioner's Submission

The petitioner has estimated the Interest and Finance charges as per the JERC MYT Regulations, 2018 for the year FY 2020-21. The Petitioner has submitted that the majority of capital assets are created out of the equity contribution from Government of Puducherry and the actual borrowing of loan is only to the extent of the R-APDRP schemes. The rate of interest considered is prevailing Prime Lending Rate of the State Bank of India as on 1stApril of that relevant year.

Commission's analysis:

Regulation 28 of the MYT Regulations, 2018 stipulates 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-capitalization 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 capitalization 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 rate of interest to be considered while determining the ARR shall be the weighted average interest rate of the actual loan portfolio. However, in absence of detailed data with respect to the actual loan portfolio, the Commission has considered the SBI 1 Year MCLR rate plus 100 basis points as Rate of Interest, in accordance with the MYT Regulations, 2018.

As per the MYT Regulations, 2018, if the equity deployed is more than 30% of the capital cost, then equity in excess of 30% is considered as normative loan. The Interest on Loan has been has considered as the SBI 1 Year MCLR rate 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 73: Interest and Finance Charges approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Opening Normative Loan	151.11	138.50	138.50
2	Add: Normative Loan During the year	73.19	73.19	73.19
3	Less: Normative Repayment equivalent to Depreciation	34.32	33.66	33.64
4	Closing Normative Loan	189.98	178.03	178.05
5	Average Normative Loan	170.54	158.26	158.27
6	Rate of Interest (%)	8.85%	8.85%	8.75%
7	Interest on Loan	**15.09**	**14.01**	**13.85**
8	Finance Charges	0.00	0.00	0.00
	Interest and Finance Charges	**15.09**	**14.01**	**13.85**

The Commission approves Interest and Finance Charges of INR 13.85 Cr in the APR of the FY 2020-21.

4.15. Return on Equity (RoE)

Petitioner's Submission

Return on Equity (RoE) is computed in accordance with the MYT Regulations 2018, RoE is computed on 30% of the capital base. Opening equity is considered equivalent to closing equity for FY 2018-19 and additional equity to the tune of 30% is proposed to be capitalized during the year. Accordingly, RoE is computed at 16% post-tax.

Commission's analysis:

RoE has been calculated on normative basis on the average of opening and closing of equity during the year at the rate of 16% (on post-tax basis) with an opening equity considered equivalent to the closing equity of FY 2019-20as approved in the True-up. Income Tax payable shall be considered taken on actual basis at the time of True-up. The following table provides the RoE approved in the Tariff Order, the Petitioner's Submission and RoE now approved by the Commission.

Table 74: RoE approved by Commission (In INR Cr)

S. No	Particulars		Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Opening Equity Amount	A	264.83	259.29	259.29
2	Equity Addition during year	B	31.37	31.37	31.37
3	Closing Equity Amount	C	296.20	290.65	290.65
4	Average Equity Amount	D = (A+B)/2	280.51	274.97	274.97
5	Average Equity-Wires Business	E = D*90%	252.46	247.47	247.47
6	Average Equity (Retail Supply Business)	F=D*10%	28.05	27.50	27.50
7	Return on Equity for Wires Business (%)	G	15.50%	15.50%	15.50%
8	Return on Equity for Retail Supply Business (%)	H	16.00%	16.00%	16.00%
9	Return on Equity for Wires Business	I=G*E	39.13	38.36	38.36
10	Return on Equity for Retail Supply Business	J=H*F	4.49	4.40	4.40
11	**Total Return on Equity**	**K=I+J**	**43.62**	**42.76**	**42.76**

The Commission approves the Return on Equity of INR 42.76 Cr in the APR of the FY 2020-21.

4.16. Interest on Security Deposits

Petitioner's Submission

Interest on consumer security has been calculated on normative basis however the Petitioner has requested to allow only INR 5.11 Cr as same shall be paid to the consumers in FY 2020-21. The Petitioner has proposed that the balance amount shall be disbursed in the subsequent years.

Commission's analysis:

Interest on Security Deposits has been calculated in accordance with the MYT Regulations, 2018 based on the average of opening and closing consumer security deposits during the year. The opening security deposit has been derived based on the closing security deposit as approved in the True-up of FY 2019-20. The addition during the year has been considered the same as submitted by the Petitioner. The same shall be considered as per actuals during the True- up of FY 2020-21. The rate of interest has been considered equivalent to the prevailing RBI Bank rate. The table below provides the calculation of interest on consumer security deposits for the year.

Table 75: Interest on Security Deposits approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Opening Security Deposit	215.20	210.82	210.82
2	Add: Deposits During the year	22.83	18.23	18.23
4	Closing Security Deposit	238.03	229.05	229.05
5	Average Security Deposit	226.61	219.94	219.94
6	Rate of Interest (%)	5.40%	5.40%	4.65%
	Interest on Security Deposit (IoSD)	**12.24**	**11.88**	**10.23**
	IoSD to be paid to consumers	**12.24**	**5.11**	**10.23**

The Commission approves Interest on Security Deposit as INR 10.23 Cr in the APR of the FY 2020-21.

4.17. Interest on Working Capital

Petitioner's Submission

Interest on Working Capital has been calculated based on the normative principles outlined in the JERC MYT Regulations, 2018.

The Petitioner has computed the Interest on Working Capital at rate of 10.55%.

Commission's analysis:

The Commission has considered the receivables as proportionate ARR for 2 months, O&M expenses as determined above and the Maintenance spares at 40% of R&M expenses for one month for computing the Working Capital Requirement for the year.

The Commission has considered the SBI 1 year MCLR as on 1st April 2020 plus 2% for calculation of interest, as stipulated in the MYT Regulations, 2018.

Accordingly, the Interest on Working Capital has been calculated, as shown in the table below:

Table 76: Interest on Working Capital approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	O&M Expense for 1 month	11.38	11.69	11.41
2	Maintenance spares at 40% of R&M expenses for one (1) month;	0.36	0.20	0.35
3	Receivables equivalent to two (2) months of the expected revenue from charges for use of distribution wires at the prevailing tariff	275.53	256.00	257.78
4	Less: Amount held as security deposits	226.61	219.94	219.94
5	**Net Working Capital**	**60.66**	**47.95**	**49.61**
6	Rate of Interest (%)	10.55%	10.55%	9.75%
7	**Interest on Working Capital**	**6.40**	**5.06**	**4.84**

The Commission approves the Interest on Working Capital as INR 4.84 Cr in the APR of the FY 2020-21.

4.18. Provision for Bad & Doubtful Debts

Petitioner's Submission

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

Commission's analysis

The Commission also has not considered any provision towards Bad & Doubtful Debts. The same shall be accounted for as per actuals in the True-up of FY 2020-21.

4.19. Non-Tariff Income

Petitioner's Submission

The Petitioner submitted that the Non-Tariff Income comprises metering, late payment charges, interest on staff loans, income from trading, reconnection fee, UI sales/ Sales to Exchanges and miscellaneous income among others. The Non-Tariff Income for FY 2019-20 was estimated considering the non-tariff income for FY 2019-20 and is considered to remain same for FY 2020-21.

Commission's analysis:

The Petitioner has submitted that NTI for FY 2020-21 shall remain same as FY 2019-20. Hence, the Commission approves the NTI for FY 2020-21 as approved in the True-up for FY 2019-20. The NTI now approved is shown in the table below:

Table 77: Non-Tariff Income approved by Commission (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
	Total	**8.96**	**5.19**	**5.19**

The Commission approves Non-Tariff Income of INR 5.19 Cr in the APR of the FY 2020-21. The same shall be considered at actuals at the time of True-up.

4.20. 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 1535.99 Cr after adjusting the Non -Tariff Income for FY 2020-21.

Commission's analysis

On the basis of the detailed analysis of the cost parameters of the ARR, the Commission has considered and approved the revenue requirement in the APR of the FY 2020-21 as provided in the table below:

Table 78: Aggregate Revenue Requirement approved by the Commission for FY 2020-21 (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission	Reference
1	Power Purchase Cost	1,413.96	1,300.32	1.227.75	Table 54
2	O&M Expenses	136.54	140.27	136.92	Table 66
3	Depreciation	34.32	33.66	33.64	Table 72
4	Interest and Finance charges	15.09	14.01	13.85	Table 73
5	Return on Equity	43.62	42.76	42.76	Table 74
6	Interest on Security Deposit	12.24	5.11	10.23	Table 75
7	Interest on Working Capital	6.40	5.06	4.84	Table 76
8	Provision for Bad Debt	0.00	-	-	
9	Income Tax	0.00	-	-	

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission	Reference
10	**Total Revenue Requirement**	**1,662.16**	**1,541.18**	**1,469.98**	
11	Less: Non-Tariff Income	8.96	5.19	5.19	Table 77
12	**Net Revenue Requirement**	**1,653.21**	**1,535.99**	**1,464.79**	

The Commission now approves the net ARR of INR 1,464.79 Cr in the APR of FY 2020-21.

4.21. Revenue at existing Retail Tariff

Petitioner's Submission

The Petitioner has submitted the revenue from the sale of power at existing tariff as INR 1525.07 Cr determined on the basis of energy sales in the territory for FY 2020-21. The estimated revenue for FY 2020-21 is based on the six month actual revenue at the existing tariff. The following table provides the category wise revenue determined by the Petitioner for FY 2020-21.

Table 79: Revenue at existing tariff submitted by Petitioner (In INR Cr)

Srl. No.	Category of Consumers	Energy Sales FY 20-21 (MUs)	Demand Charges	Energy Charges	Total Billing	Surcharge (4%)	Total
1	**Domestic & Cottage**						
A	0-100	346.490	6.84	51.97	58.81	2.35	61.17
B	101-200	206.820	5.73	52.74	58.47	2.34	60.81
C	201-300	109.240	3.06	49.16	52.22	2.09	54.31
D	> 300	163.050	3.11	96.20	99.31	3.97	103.29
E	OHOB	10.92	0.00	1.09	1.09	0.04	1.14
F	**Total**	**836.52**	**18.75**	**250.07**	**269.91**	**10.80**	**280.71**
2	**Commercial**						
A	0-100	49.34	3.73	27.63	31.36	1.25	32.61
B	101-250	42.13	1.52	28.02	29.54	1.18	30.72
C	> 250	95.69	3.92	70.81	74.73	2.99	77.72
D	**Total**	**187.16**	**9.17**	**126.46**	**135.63**	**5.43**	**141.05**
3	**Agriculture**						
A	Small Farmers	8.47	0.08		0.08	0.00	0.09
B	Other Farmers	62.67	3.23		3.23	0.13	3.35
C	**Total**	**71.14**	**3.31**		**3.31**	0.13	**3.44**
4	**Public Lighting**	21.95	6.75	14.93	21.68	0.87	22.55
5	**LT industrial**						
A	LT industrial	139.41	1.04	82.95	83.98	3.36	87.34
B					0.00		0.00
C	Water Tank	35.40	0.03	24.25	24.28	0.97	25.25
D	**Total**	**174.81**	**1.06**	**107.20**	**108.26**	**4.33**	**112.59**

Srl. No.	Category of Consumers	Energy Sales FY 20-21 (MUs)	Demand Charges	Energy Charges	Total Billing	Surcharge (4%)	Total
6	Temporary Supply-LT & HT	5.08		4.95	4.95	0.20	5.15
7	**Total LT**	**1296.66**	**39.04**	**503.60**	**543.74**	**21.75**	**565.49**
8	HT 1 industrial	771.22	120.27	424.17	544.44	21.78	566.22
	HT 1 Commercial	80.08	15.38	45.24	60.63	2.43	63.05
9	HT 2 - Others	63.17	14.56	41.69	56.25	2.25	58.50
10	HT 3- EHT	375.60	41.39	195.31	236.70	9.47	246.17
11	**Total HT**	**1290.07**	**191.61**	**706.42**	**898.03**	**35.92**	**933.95**
12	**Total**	**2586.73**	**230.65**	**1210.02**	**1441.77**	**57.67**	**1499.44**
13	Penal charges						**47.00**
14	Less Incentives						**-23.50**
15	Export to Other Region						**2.13**
	Total						**1525.07**

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 2020-21. The revenue from demand charges and the energy charges have been projected for each category/ sub-category and slab. The Commission has not projected any revenue from Power factor incentive etc. and the same shall be considered as per actuals while truing up of the FY 2020-21. The below revenue does not include Regulatory Surcharge, which has been considered separately. The same has been considered while approving the revenue gap/ surplus for FY 2020-21. The total revenue based on existing tariff as computed by the Commission for FY 2020-21 has been shown in the following table:

Table 80: Revenue at existing tariff computed by Commission (In INR Cr)

S. No.	Category	Sales (MUs)	Revenue from Energy Charges (INR Cr.)	Revenue from Fixed charges (INR Cr.)	Total (INR Cr.)	ABR (INR/ unit)
1	**DOMESTIC**	**842.43**	**239.09**	**18.34**	**257.43**	**3.06**
	0-100 units	387.41	58.11	6.69	64.80	1.67
	101-200 units	213.97	54.56	5.61	60.17	2.81
	201-300 units	112.88	50.80	3.00	53.79	4.77
	Above 300 units	128.17	75.62	3.05	78.66	6.14
2	**HUT SERVICES/ OHOB**	**5.62**	**0.00**	**0.37**	**0.37**	**0.66**
3	**COMMERCIAL**	**189.33**	**130.28**	**9.03**	**139.31**	**7.36**
	0-100 units	36.80	20.61	3.67	24.28	6.60
	101-250 units	42.63	28.35	1.50	29.85	7.00
	Above 250 units	109.90	81.33	3.86	85.18	7.75
4	**AGRICULTURE SERVICES & COTTAGE INDUSTRIES**	**68.57**	**0.00**	**2.77**	**2.77**	**0.40**
(i)	Agriculture	68.57	0.00	2.77	2.77	0.40

S. No.	Category	Sales (MUs)	Revenue from Energy Charges (INR Cr.)	Revenue from Fixed charges (INR Cr.)	Total (INR Cr.)	ABR (INR/ unit)
	Small Farmers	9.56	0.00	0.07	0.07	0.07
	Other farmers	59.00	0.00	2.70	2.70	0.46
(ii)	Cottage Industries	*No sale*	-	0.00	0.00	0.00
5	**PUBLIC LIGHTING**	**23.23**	**15.80**	**6.74**	**22.54**	**9.70**
6	**LT INDUSTRIAL & WATER WORKS**	**164.94**	**101.36**	**1.05**	**102.41**	**6.21**
(i)	LT Industrial	129.15	76.84	1.03	77.87	6.03
(ii)	Water Tanks	35.79	24.51	0.03	24.54	6.86
7	**HIGH TENSION-I**	**857.52**	**472.73**	**159.78**	**632.51**	**7.38**
(i)	*HT 1 (a) For contract demand up to 5000 kVA/Industrial*	784.52	431.49	145.47	576.95	7.35
(ii)	*HT 1 (b) For contract demand up to 5000 kVA/Commercial*	73.00	41.25	14.31	55.56	7.61
8	**HIGH TENSION-II**	**64.41**	**42.51**	**18.97**	**61.48**	**9.55**
9	**HIGH TENSION-III**	**378.21**	**196.67**	**66.88**	**263.55**	**6.97**
10	**HOARDINGS/SIGNBOARDS**	***No sale***	-	-	-	-
11	**TEMPORARY**	**4.96**	**4.84**	-	**4.84**	**9.75**
	TOTAL	**2,599.21**	**1,203.28**	**283.94**	**1,487.21**	**5.72**

The Commission has determined revenue from the sale of power at existing tariff (excluding Revenue from Regulatory Surcharge) as INR 1,487.21 Cr in the APR of FY 2020-21.

4.22. Revenue from Open Access Charges

Petitioner's Submission

The Petitioner has not submitted any revenue from Open Access sales.

Commission's analysis

The Commission considers the Petitioner's Submission in this regard and approves NIL revenue from Open Access Sales.

The Commission approves Revenue from Open Access as NIL in the APR of FY 2020-21.

4.23. Standalone Revenue Gap/Surplus

Petitioner's Submission

Based on the ARR and the revenue from Retail tariff and Open Access sales, the standalone revenue gap of INR 10.92 Cr is arrived at in FY 2020-21.

Commission's analysis

The Commission based on the approved ARR and retail tariff has approved the Revenue Gap/Surplus including regulatory surcharge as follows:

Table 81: Standalone Revenue Gap/ Surplus at existing tariff including regulatory surcharge (In INR Cr)

S. No	Particulars	Approved in Tariff Order	Petitioner's Submission	Now Approved by Commission
1	Net Revenue Requirement	1,653.21	1,535.99	1,464.79
2	Revenue from Retail Sales at Existing Tariff	1,591.27	1,467.40	1,487.21
3	**Gap / (Surplus) without Regulatory Surcharge**	**61.93**	**68.59**	**(22.42)**
4	Regulatory Surcharge (@4%)	63.65	57.67	59.49
5	Total Revenue (2+4)	1,654.92	1,525.07	1,546.70
6	**Net Gap /(Surplus) (1-5)**	**(1.72)**	**10.92**	**(81.91)**

The standalone surplus at existing retail tariff (including surcharge) is INR 81.91 Cr in the APR of FY 2020-21.

5. Chapter 5: Determination of Aggregate Revenue Requirement for the FY 2021-22

5.1. Background

In this Chapter, the Commission has determined the Aggregate Revenue Requirement (ARR) for the FY 2021-22. The determination of Aggregate Revenue Requirement has been done in accordance with the MYT Regulations, 2018.

5.2. Approach for determination of ARR for the FY 2021-22

The Commission has computed the individual elements constituting the Aggregate Revenue Requirement for each year based on figures approved in the Business Plan Order dated 31st October 2018, the actual available information of various parameters for the FY 2017-18, FY 2018-19 and FY 2019-20 as per provisional information available for the FY 2020-21.

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

Petitioner's Submission

The Petitioner has considered the following number of consumers, connected load and energy sales:

Table 82: Number of consumers, Connected Load, and Energy Sales submitted by the Petitioner for the FY 2021-22

Category of Consumer	Consumers [Nos]	Connected load [HP / kVA]	Sales [MUs]
Domestic	371,829	606,966	819.74
OHOB	8,808	2,843	10.92
Commercial	59,980	149,522	202.56
Agriculture	7,029	44,654	71.14
Public lighting	51,224	6,304	21.95
Industrial	6,672	132,812	139.41
Water tanks	155		35.40
Temporary supply	-		10.00
Total LT	**505,697**	**943,101**	**1,311.12**
HT 1-Industrial	333	378,964	899.92
HT 1- Commercial	102		80.08
HT-2	66	40,601	69.07
HT-3 Industrial EHT	7	139,931	412.14
Total HT	**508**	**559,496**	**1,461.21**
Total	**506,205**	**1,502,597**	**2,772.33**

Secretary, JERC
(For Goa & UTs)

Commission's analysis

For projecting the number of consumers and energy sales for each category, the historical trends in the past 5 years (FY 2015-16 to FY 2019-20) have been considered. For projecting the connected load, the latest available data for FY 2017-18, FY 2018-19 and FY 2019-20 has been considered. The Compound Annual Growth Rate (CAGR) and the Year on Year (y-o-y) increase for each category has been calculated and using the appropriate growth rate the category wise consumers, connected load and energy sales are projected. The tables below provide the trends observed in the growth in the number of consumers, connected load and energy sales for the Petitioner.

Table 83: Growth in No. of Consumers

	Y-o-Y growth rate					CAGR				
	FY15/FY14	FY16/FY15	FY17/FY16	FY18/FY17	FY19/FY18	5 year	4 year	3 year	2 year	1 year
Domestic	6.94%	2.28%	3.98%	3.13%	3.63%	03.98%	03.25%	03.58%	03.38%	03.63%
OHOB	-	-	-	-	-	-	-	-	-	-
Commercial	10.09%	0.80%	3.60%	2.19%	2.93%	03.87%	02.37%	02.91%	02.56%	02.93%
Agriculture & Cottage Industries	0.07%	0.67%	0.58%	0.48%	0.80%	00.52%	00.63%	00.62%	00.64%	00.80%
Public Lighting	0.32%	0.39%	0.37%	0.46%	0.53%	00.41%	00.44%	00.45%	00.50%	00.53%
LT Industrial	1.66%	0.62%	-0.08%	1.67%	-1.21%	00.52%	00.24%	00.12%	00.22%	-01.21%
Water Works	32.94%	17.70%	3.76%	0.72%	0.58%	10.46%	05.46%	01.68%	00.65%	00.58%
HT-1	5.10%	1.39%	-0.46%	-2.97%	1.42%	00.86%	-00.17%	-00.69%	-00.80%	01.42%
HT-2	0.00%	13.21%	-28.33%	48.84%	6.25%	05.11%	06.43%	04.26%	25.75%	06.25%
HT-3	0.00%	0.00%	-28.57%	40.00%	0.00%	00.00%	00.00%	00.00%	18.32%	00.00%
Hoardings/Signboards	-	-	-	-	-	-	-	-	-	-
Temporary	-	-	-	-	-	-	-	-	-	-

Table 84: Growth in Connected Load

	Y-o-Y growth rate					CAGR				
	FY15/FY14	FY16/FY15	FY17/FY16	FY18/FY17	FY19/FY18	5 year	4 year	3 year	2 year	1 year
Domestic	-	-	-	4.61%	4.61%	-	-	-	04.61%	04.61%
OHOB	-	-	-	0.00%	0.00%	-	-	-	00.00%	00.00%
Commercial	-	-	-	7.88%	7.88%	-	-	-	07.88%	07.88%
Agriculture & Cottage Industries	-25.00%	33.33%	-25.00%	0.00%	0.00%	-05.59%	00.00%	-09.14%	00.00%	00.00%
Public Lighting	-	-	-	1.00%	1.00%	-	-	-	01.00%	01.00%
LT Industrial	-	-	-	1.98%	1.98%	-	-	-	01.98%	01.98%
Water Works	-	-	-	-	-	-	-	-	-	-
HT-1	2.87%	2.16%	27.96%	3.27%	3.27%	07.48%	08.66%	10.92%	03.27%	03.27%
HT-2	2.00%	7.81%	44.58%	10.00%	10.00%	13.98%	17.19%	20.49%	10.00%	10.00%
HT-3	2.00%	-2.26%	44.46%	4.94%	4.99%	09.67%	11.68%	16.75%	04.96%	04.99%
Hoardings/Signboards	-	-	-	-		-	-	-	-	-
Temporary	-	-	-	-		-	-	-	-	-

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(For Goa & UTs)

Table 85: Growth in Energy Sales

	Y-o-Y growth rate					CAGR				
	FY15/FY14	FY16/FY15	FY17/FY16	FY18/FY17	FY19/FY18	5 year	4 year	3 year	2 year	1 year
Domestic	6.26%	3.68%	3.35%	-1.62%	8.36%	03.95%	03.38%	03.28%	03.25%	08.36%
OHOB	0.00%	2.10%	0.29%	0.01%	-96.86%	-49.72%	-57.66%	-68.42%	-82.28%	-96.86%
Commercial	8.66%	6.53%	2.60%	-1.65%	-4.83%	02.14%	00.57%	-01.34%	-03.25%	-04.83%
Agriculture & Cottage Industries	0.00%	0.49%	0.58%	3.91%	2.21%	01.43%	01.79%	02.22%	03.05%	02.21%
Public Lighting	0.00%	-6.78%	1.01%	12.66%	-10.84%	-01.11%	-01.38%	00.48%	00.22%	-10.84%
LT Industrial	3.07%	-9.38%	-3.40%	-15.83%	-4.25%	-06.17%	-08.35%	-08.01%	-10.23%	-04.25%
Water Works	3.07%	4.24%	0.40%	-6.89%	10.77%	02.16%	01.93%	01.17%	01.56%	10.77%
HT-1	1.91%	5.85%	-1.14%	4.15%	0.87%	02.30%	02.39%	01.27%	02.49%	00.87%
HT-2	7.22%	3.38%	1.80%	4.62%	4.55%	04.30%	03.58%	03.65%	04.59%	04.55%
HT-3	-16.15%	-3.37%	26.23%	27.42%	-1.06%	05.22%	11.36%	16.75%	12.28%	-01.06%
Hoardings/Signboards	-	-	-	-		-	-	-	-	-
Temporary	14.38%	14.29%	-4.25%	6.01%	-41.44%	-04.92%	-09.22%	-15.92%	-21.21%	-41.44%

Table 86: Number of consumers approved by the Commission for the FY 2021-22

S. No.	Particulars	Approved in MYT Order	Petitioner's Submission	As approved for FY 2020-21	Growth rate		Now Approved by Commission
1	Domestic	368,596	371,829	362,104	5 year	3.98%	376,518
2	OHOB	35,537	8,808	8,808	Subjective Rate	0.00%	8,808
3	Commercial	58,847	59,980	58,958	5 year	3.87%	61,242
4	Agriculture	7,071	7,029	7,066	5 year	0.52%	7,102
5	Public Lighting	51,368	51,224	51,167	3 year	0.45%	51,399
6	LT Industrial	6,898	6,672	6,540	5 year	0.52%	6,575
7	Water works		155	141	2 year	0.65%	142
8	HT I	496	435	434	Subjective Rate	1.00%	439
9	HT II	76	66	86	2 year	25.75%	108
10	HT III	7	7	7	Subjective Rate	0.00%	7
	Total	**528,896**		**495,310**			**512,338**

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(For Goa & UTs)

Table 87: Connected load approved by the Commission for the FY 2021-22 (kW/kVA/HP)

S. No.	Particulars	UOM	Approved in MYT Order	Petitioner's Submission	As computed for FY 2020-21	Growth Rate		Now Approved by Commission
1	Domestic	kW	634,947	606,966	606,967	1 year	4.61%	634,949
2	OHOB	kW	2,843	2,843	2,843	1 year	0.00%	2,843
3	Commercial	kW	161,304	149,522	149,522	1 year	7.88%	161,304
4	Agriculture	HP	44,654	44,654	44,654	1 year	0.00%	44,654
5	Public lighting	kW	6,367	6,304	6,305	1 year	1.00%	6,368
6	LT Industrial & water tank	kW	135,451	132,812	132,820	1 year	1.98%	135,449
7	HT I	kVA	391,356	378,964	378,965	1 year	3.27%	391,357
8	HT II	kVA	44,661	40,601	40,601	Subjective Rate	10.00%	44,661
9	HT III	kVA	146,913	139,931	139,930	1 year	4.99%	146,912
	Total		**1,568,496**	**1,502,597**	**1,502,606**			**1,568,497**

The actual energy sales for FY 2019-20 has been escalated twice at the CAGR, since the FY 2020-21 has been an extraordinary year due to the COVID-19 pandemic.

Table 88: Energy sales approved by the Commission for the FY 2021-22 (MU)

S. No.	Particulars	Approved in MYT Order	Petitioner's Submission	Actuals for FY 2019-20	Growth rate		Now Approved by Commission
1	Domestic	830.30	819.74	771.04	5 year	3.95%	833.17
2	OHOB	10.74	10.92	0.32	Subjective Rate	0.00%	0.32
3	Commercial	258.57	202.56	202.56	5 year	2.14%	211.33
4	Agriculture	58.23	71.14	61.18	5 year	1.43%	62.94
5	Public Lighting	24.48	21.95	24.59	3 year	0.48%	24.83
6	LT Industrial + Water Works	185.61	139.41	119.29	Subjective Rate	2.00%	124.11
			35.40	38.77			40.34
7	Temporary	12.44	10.00	4.75	Subjective Rate	0.00%	4.75
8	HT I	908.16	980.00	980.55	3 year	1.27%	1005.59
9	HT II	144.08	69.07	69.07	4 year	3.58%	74.10
10	HT III	327.16	412.14	412.14	Subjective Rate	1.27%	422.66
	Total	**2,759.77**	**2,772.33**	**2,684.26**			**2,804.14**

The Commission approves the number of consumers at 512,338, connected load as 1,568,497 kW/kVA/HP (as applicable) and energy sales as 2,804.14 MU for the FY 2021-22.

5.4. Inter-State transmission loss

Petitioner's Submission

The Petitioner has submitted Inter-State Transmission Losses of 2.13% in its petition for FY 2021-22.

Commission's analysis

The Commission in the ARR of FY 2020-21 considers the transmission loss levels in line with those approved in the APR of FY 2019-20. The following table provides the Inter-State Transmission Losses approved by the Commission for the FY 2020-21.

Table 89: Inter-State transmission loss (%)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Inter-State Transmission Losses	2.92%	2.13%	2.13%

The Commission approves an Inter-State Transmission Loss of 2.13% for the FY 2021-22.

5.5. Intra-State Distribution Loss

Petitioner's Submission

The Petitioner has proposed the loss trajectory at 11.00% for the FY 2021-22 as per Intra-State Distribution Loss approved for the 2nd MYT Control Period in the MYT Order dated 20th May 2019

Commission's analysis

The Commission, in the Business Plan Order, had set the loss trajectory for the 2nd Control Period (FY 2019-20 to FY 2021-22) considering the actual loss of 13.75% in FY 2017-18, as the Petitioner had already been penalized in the 1st Control Period (FY 2016-17 to FY 2018-19) for failing to meet the loss targets. However, the Commission decided to set a steeper loss trajectory than the proposed one, as the proposed trajectory was not commensurate with the capital expenditure plan and capitalization plan approved by the Commission. Detailed reasoning has been provided in the Commission's Business Plan Order for the 2nd Control Period.

The following provides the Intra-State Distribution Loss approved for the FY 2021-22.

Table 90: Intra-State Distribution Loss (%)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Intra-State Distribution Loss	11.00%	11.00%	11.00%

The Commission approves the Intra-State Distribution Loss of 11.00% for the FY 2021-22.

5.6. Power Purchase Quantum & Cost

Petitioners Submission

1. **Power Purchase Quantum**

The Petitioner has considered the power purchase quantum at 3177.52 MU.

2. Power Purchase Cost

The Petitioner has estimated the Power Purchase Cost for the FY 2021-22 based on the station wise provisional power purchase cost for the first six months of the FY 2020-21. For new power plants and renewable sources, the Petitioner has considered fixed and variable charges based on the currently observed price trends.

The assumptions considered for projection of power purchase cost from various generating stations are detailed as follows:

- The petitioner has considered the actual transmission charges to be paid by the Petitioner for FY 2019-20 as submitted in this True-up Petition and has accordingly considered the same transmission charges for revised estimates for FY 2021-22, subject to true-up
- Renewable power purchase has been considered at the prices as agreed with agencies as detailed below:

S. No.	Agency	RE Category	Purchase Capacity (MW)	Name of the Developer	Price (INR/kWh)
1	SECI	Solar	50	M/s ACME Solar Holdings Ltd.	2.51
2	SECI	Solar	100	M/s Sitac Kabini Renewable Ltd.	2.84
3	SECI	Wind	140.64	M/s CLP India (P) Ltd.	2.91
4	NTPC	Wind	100	Proposed at Phalodi, Jaisalmer district, Rajasthan	2.67

The projected power purchase quantum and cost are as illustrated in the following table:

Table 91: Power Purchase quantum (MU) and Cost (In INR Cr) submitted by Petitioner for the FY 2021-22

Sr. No.	Source	Purchase (MU)	Fixed Charges	Variable Charges	Others	Total
A	**Central Sector Power Stations**					
I	**NTPC**	**1,175.62**	**101.25**	**271.01**	**(8.25)**	**364.01**
	RSTPS I & II	513.03	41.10	128.29	(5.27)	164.12
	RSTPS III	100.34	8.38	24.29	(1.49)	31.19
	Talcher Stage-II	497.47	34.56	98.99		133.54
	Simhadri Stage-II	64.78	17.20	19.45	(1.49)	35.16
2	**NLC**	**669.92**	**98.94**	**186.84**	**64.33**	**350.11**
	NLC TPS -II Stage-I	303.81	30.23	80.62	42.35	153.20
	NLC TPS-II Stage-II	105.31	6.81	27.29	10.14	44.23
	NLC TPS-I (Expn)	81.62	10.87	25.48	7.11	43.46
	NLC TPS II (Expn)	48.21	16.55	12.38	4.73	33.66
	NTPL	130.96	34.49	41.07		75.56
3	**NPCIL**	**703.93**	**-**	**247.86**	**24.87**	**272.73**
	MAPS	29.21	-	10.72		*10.72*
	KAPS	315.64	-	109.47		*109.47*
	KKNPP I	188.21	-	67.10	9.92	77.02
	KKNPP II	170.87	-	60.57	14.95	75.52
4	**OTHERS**	**85.12**	**42.49**	**16.47**	**-**	**58.96**
	NTECL-Vallur	60.38	31.79	11.72	-	*43.51*

Sr. No.	Source	Purchase (MU)	Fixed Charges	Variable Charges	Others	Total
	New NLC TS-I	24.74	10.70	4.75		*15.45*
5	**Within State Generation**					
	PPCL	240.23	34.83	63.98		*98.81*
C	**RPO Obligation**	***302.71***	**-**	***83.45***		***83.45***
						-
	Non-Solar	*184.45*		*53.14*		53.14
	Solar	118.26		*30.31*		30.31
D	**OTHER CHARGES**	**-**	**-**	**98.75**	**-**	**98.75**
	PGCIL Transmission Charges, Wheeling, Open Access & Trading Margin & Other Charges	-		*98.75*		98.75
E	**Total**	**3,177.52**	**277.51**	**968.37**	**80.95**	**1,326.83**

Commission's analysis

5.6.1. Power Purchase Quantum

The information regarding share of allocation as submitted by the Petitioner has been considered. The Commission has further considered actual energy availability for the FY 2017-18, FY 2018-19 and FY 2019-20, provisional energy availability for first six months (H1) of the FY 2020-21, actual Plant availability factor (PAF) and Plant Load Factor (PLF) for last 2-5 years for each station to arrive at the final projections of power purchase quantum for the FY 2021-22.

5.6.2. Power Purchase Cost

Variable Charges:

The Variable Cost for existing plants has been computed based upon the average variable cost for the first six months of the FY 2020-21 (Apr'20 to Sep'20). The Commission has considered an escalation of 5% for FY 2021-22 from the estimated variable costs of the FY 2020-21.

For the new NLC TS-I station, variable cost has been considered as at INR 2.34/unit, no escalation has been considered owing to the fact that it is a new plant.

Fixed Charges:

The Fixed Cost for existing plants has been computed based on the latest Tariff Orders issued by the CERC for respective Central Generating Stations. The fixed cost has been apportioned as per PED's share in each station and annual plant availability factor. The plant availability factor has been limited to 85% for plants having higher availability, in line with the norms specified by CERC. The Commission has considered an escalation of 2% for the FY 2021-22 from the estimated fixed costs of the FY 2020-21.

Other Charges:

Other charges have not been considered for the FY 2021-22. The same shall be considered as per actuals during the true-up of the respective year.

RPO Charges:

Renewable power (Solar and Non-solar) purchase has been considered at rates as submitted by the Petitioner. The same shall be considered as per actuals at the time of true-up of the respective year. The quantum of REC purchase considered is explained in the subsequent section on Renewable Purchase Obligation (RPO).

Purchase from open market:

The Commission has considered a rate of INR 2.68/unit, based on Average IEX rate for Southern zone in FY 2020 - 2021.

5.6.3. Transmission Charges

The Commission has projected the transmission charges payable to PGCIL based on the total capacity allocation of the Petitioner of the transmission network.

The transmission charges for FY 2021-22 have been projected by escalating the approved transmission charges for FY 2020-21 by 2% as done in the case of fixed charges for power procurement.

5.6.4. Total power purchase quantum and cost

The energy availability and the power purchase cost approved by the Commission for FY 2021-22 have been shown in the following tables:

Table 92: Power Purchase Quantum (MU) and cost (INR Cr) approved for the FY 2021-22

Details of the stations	Ex-Bus Power Purchase (MU)	Power Purchase at State Periphery (MU)	Annual Fixed charges	Variable Charges (Rs/kWh)	Annual Variable Charges	Total	Avg. Rate (@ Exbus)
NTPC							
RSTPS Stage I & II	549.76	538.13	42.62	2.79	150.26	192.89	3.51
RSTPS Stage -III	141.83	138.83	11.52	2.75	38.20	49.72	3.51
Talcher Stage- II	445.76	436.33	33.41	2.11	91.97	125.38	2.81
Simhadri Stage- II	94.78	92.78	23.89	3.39	31.44	55.34	5.84
Sub Total-NTPC	**1232.13**	**1206.06**	**111.45**	**2.59**	**311.88**	**423.32**	3.44
NLC							
NLC TPS II Stage I	434.33	425.14	38.45	2.77	117.96	156.42	3.60
NLC TPS II Stage II	154.78	151.51	16.46	2.78	42.05	58.50	3.78
NLC TPS I (Expn)	106.73	104.47	12.03	2.54	26.54	38.57	3.61
NLC TPS II (Expn)	64.73	63.36	6.97	2.61	16.51	23.48	3.63
NTPL	114.70	112.27	31.38	3.37	37.83	69.21	6.03
Sub Total-NLC	**875.27**	**856.75**	**105.29**	**2.81**	**240.89**	**346.18**	3.96
NPCIL							
Madras Atomic Power Station	29.21	28.59	0.00	2.76	7.88	7.88	2.70
Kaiga Stage I & II	289.85	283.71	0.00	3.69	104.55	104.55	3.61
Kundakulum Unit I & II	276.93	271.07	0.00	3.87	104.89	104.89	3.79

Details of the stations	Ex-Bus Power Purchase (MU)	Power Purchase at State Periphery (MU)	Annual Fixed charges	Variable Charges (Rs/kWh)	Annual Variable Charges	Total	Avg. Rate (@ Exbus)
Sub Total-NPCIL	**595.99**	**583.38**	**0.00**	**3.73**	**217.33**	**217.33**	3.65
Others							
TNEB (Pondy)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TNEB (Karaikal)	0.00	0.00	0.00		0.00	0.00	0.00
Vallur	119.45	116.92	32.18	4.07	47.60	79.78	6.68
New NLC TS-I NNTPS Neyveli New Thermal Power Station	84.85	83.05	10.70	2.34	19.47	30.17	3.56
Sub Total-Others	**204.30**	**199.97**	**42.88**	**3.35**	**67.07**	**109.95**	5.38
State Generation							
PPCL	231.39	231.39	34.64	3.23	74.71	109.34	4.73
Sub Total-State Generation	**231.39**	**231.39**	**34.64**	**3.23**	**74.71**	**109.34**	4.73
Open Market	**73.16**	**73.16**		**2.68**	**19.60**	**19.60**	**2.68**
RPO							
Solar	0	0			35.04	35.04	
Non-Solar	0	0			39.86	39.86	
Total	**0**	**0**			**74.90**	**74.90**	
Total	**3212.25**	**3150.72**	**294.25**	**3.19**	**1006.37**	**1300.63**	4.05
Transmission Charges			**66.21**			**66.21**	
Total Cost	**3212.25**	**3150.72**	**360.46**	**3.19**	**1006.37**	**1366.83**	**4.26**

The Commission approves the quantum of power purchase as 3,212.25 MU at the Generator Periphery with a total cost of INR 1,366.83 Cr for the FY 2021-22.

The Average Power Purchase Cost (APPC) for the FY 2021-22 has been determined as provided in the table below. The APPC has been computed at the UT Periphery excluding the transmission charges and cost of purchase of renewable energy. The Petitioner shall use the same for the purpose of compensation/ payment of surplus power at the end of each settlement period in case of Solar Net-metering consumers.

Table 93: Average Power Purchase Cost (APPC) for the FY 2021-22

Particulars		Amount
Total Power Purchase Cost (INR Cr)	A	1,366.83
Less: Transmission charges and Power Purchase cost from renewable energy sources (INR Cr)	B	141.11
Net Power Purchase Cost (INR Cr)	C=A-B	1,225.73
Quantum of Ex-bus Power Purchase (MU)	D	3,212.25
Quantum of energy at UT Periphery excluding from renewable energy sources (MU)	E	3,150.72

Particulars		Amount
APPC (INR /kWh)	**F=C/E*10**	**3.89**

The Commission approves the Average Power Purchase Cost (APPC) as INR 3.89/ kWh for the FY 2021-22 for the purpose of compensation/payment for excess generation for prosumers.

5.7. Renewable Purchase Obligation (RPO)

Petitioner's Submission:

The detailed plan submitted by the Petitioner is shown in the following table:

Table 94: RPO Compliance Plan submitted by the Petitioner for the FY 2021-22

S. No.	Description	Unit	FY 2021-22	
			Physical	REC
1	Sales Within State	MUs	2,772.33	
2	RPO Obligation	%	**17.00%**	
	- Solar	%	8.00%	
	- Non Solar	%	9.00%	
3	RPO Obligation	**MUs**		**471.30**
	- Solar	MUs		221.79
	- Non Solar	MUs		249.51
4	RPO Purchase	**MUs**		**-**
	- Solar	MUs	-	
	- Non Solar	MUs	-	
5	Cumulative RPO Obligation		**1,479.89**	
	- Solar	MUs	683.98	
	- Non Solar	MUs	795.91	
6	Floor Price of REC Certificates /MWH			
	- Solar	INR/MWH		1800
	- Non Solar	INR/MWH		1000
7	Amount for RPO Compliance			
	- Solar	INR Cr	30.31	
	- Non Solar	INR Cr	53.14	
8	**Total (INR Cr)**	INR Cr	**83.45**	**0.00**
9	**Excess RPO claimed in ARR**	INR Cr		
10	**Net RPO Cost to be claimed**	INR Cr	**83.45**	

Commission's analysis:

As per Regulation 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 22nd August 2016 and approved the revised RPO targets. 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 2021-22.

Table 95: Summary of Renewable Purchase Obligation (RPO) (MU)

Sr. No.	Particulars	UoM	Physical	REC
1	Sales Within State	MUs	2804.14	
2	RPO Obligation	%	**17.00%**	
	- Solar	%	8.00%	
	- Non-Solar	%	9.00%	
3	RPO Obligation	MUs	**476.70**	
	- Solar	MUs	224.33	
	- Non-Solar	MUs	252.37	
4	RPO Purchase	MUs	**0.00**	**0.00**
	- Solar	MUs	0.00	0.00
	- Non-Solar	MUs	0.00	0.00
5	Backlog	MUs	**0.00**	**1021.31**
	- Solar	MUs	0.00	476.51
	- Non-Solar	MUs	0.00	544.81
6	Proposed Compliance in FY 2021-22	MUs	**0.00**	**749.01**
	- Solar	MUs	0.00	350.42
	- Non-Solar	MUs	0.00	398.59
7	Unit Cost	INR/kWh	**3.00**	**1.00**
	- Solar	INR/kWh	2.56	1.00
	- Non-Solar	INR /kWh	2.88	1.00
8	Total Cost	INR	**0.00**	**74.90**
	- Solar	INR	0.00	35.04
	- Non-Solar	INR	0.00	39.86
9	Net shortfall in RPO compliance	MUs		**749.01**
	- Solar	MUs		350.42
	- Non-Solar	MUs		398.59

The Commission while approving the power purchase cost for FY 2021-22, has disallowed the renewable power procurement as the Petitioner has failed to get the PPA's approved from the Commission. The Petitioner is directed to submit the PPA's signed is respect of proposed renewable power purchase for the approval of the Commission. Accordingly, the Commission will revisit and assess the status of physical purchase at the time of APR of FY 2021-22.

Further, the total RPO obligation for the Petitioner for FY 2021-22 including the past years pending compliance is 1498.02 MU. Considering the total RPO obligation and the proposed physical purchase, the Commission is approving 50% of the total required RPO obligation through purchase of Renewable Energy Certificates. The Commission has considered the rate of purchase of REC as INR 1.00/kWh (Capping Price). Accordingly, the cost of compliance of RPO has been approved at INR 74.90 Cr. The cost has already been considered in the total power purchase cost approved by the Commission in the previous section. Any variation in the actual cost towards the compliance shall be taken up at the time of True-up for FY 2021-22.

Further, the Commission directs the petitioner to fulfill the RPO obligation in future years by either purchasing power from Renewable energy sources or by purchasing RECs. The compliance and cost status towards RPO for the FY 2021-22 as approved by the Commission is provided in the following table:

Table 96: Cost towards compliance of Renewable Purchase Obligation for the FY 2021-22

S. No	Description	RECs		Total Cost (INR Cr)
		Quantum (MU)*	Cost (INR Cr)	
1	Solar	350.42	35.04	35.04
2	Non-solar	398.59	39.86	39.86
	Total	**749.01**	**74.90**	**74.90**

** As elaborated above, the cost of 50% of the total required RPO obligation has been considered by the Commission.*

The Commission approves INR 74.90 Cr towards compliance of RPO for the FY 2021-22

5.8. Energy Balance

Petitioner's Submission

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

Table 97: Energy Balance submitted by the Petitioner (MU)

S. No.	Particulars	FY 2021-22
A	ENERGY REQUIREMENT	
1	Sales within UT (MUs)	2,772.33
2	Sales to Electricity Traders / Power Exchange (MUs)	-
3	Loss (%)	11.00%
4	Loss(MUs)	342.65
5	Sales to common pool consumer/UI(MUs)	-
6	Energy requirement at periphery(MUs)	3,114.98
B	ENERGY AVAILABILITY	
1	Gross Energy Purchase(MUs)	3,177.52
2	External Loss (MUs)	62.54
	Loss (%)	2.13%
3	Net Energy Availability(MUs)	3,114.98

Commission's analysis

Based on the Energy sales, Power Procurement and Inter & Intra-State Loss as approved above the Energy Balance for FY 2021-22 has been shown in following table:

Table 98: Energy Balance approved by Commission (MU)

Particulars		Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
ENERGY REQUIREMENT				
Energy sales within the UT	A	2,759.77	2,772.33	2,804.14
Distribution losses				
Distribution losses %	B	11.00%	11.00%	11.00%
Distribution losses MU	C=D-A	341	342.65	346.58
Energy required at the UT Periphery	D=A/(1-B)	3,436.97	3,114.98	3150.72
Energy Availability at the UT Periphery				

Particulars		Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
Availability from firm sources (PP cost at State Periphery less Open Market purchase) (3150.72-73.16)	E	3,436.97	3,114.98	3,077.56
Deficit/ (Surplus)	(F=E-D)	-	-	**73.16**

The Commission approves the Total Energy Requirement at the UT Periphery for FY 2021-22 as 3,077.56 MU. The Commission has estimated a deficit of 73.16 MU for FY 2021-22 to be purchased from Open Market.

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 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 considered the employee expenses for FY 2021-22 as approved vide MYT Order dated 20th May 2019 which are INR 117.49 Cr

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 considered the base year figures for the FY 2020-21 as decided in the APR chapter of this order. The Base Year expenses have been escalated by Growth Rate determined based on the manpower plan as submitted by the Petitioner and the average CPI Inflation of the last three years to arrive upon the employee expenses of FY 2021-22. The CPI Inflation has been computed as follows:

Table 99: Computation of CPI Inflation (%)

FY	Average of (Apr-Mar)	Increase in CPI Index	Average increase in CPI indices over 3 years
2017-18	284.42	3.08%	5.35%
2018-19	299.92	5.45%	
2019-20	322.50	7.53%	

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

Table 100: Employee Expenses computation (In INR Cr)

S. No	Particulars	(Base Year)	Now Approved
		FY 2020-21	FY 2021-22
1	Gn (Growth factor as per Petitioner Submission)		-2.25%
2	CPI (%) (3 previous years' avg.)		5.35%
3	Expenses with inflation and growth	**90.23**	**92.92**
4	Impact of 7th Pay Commission with inflation and growth	**22.71**	**23.39**
5	**Total Employee Expenses**	**112.94**	**116.31**

Table 101 Employee Expenses approved by Commission (In INR Cr)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Employee Expenses	117.49	117.49	116.31

The Commission approves Employee Expenses of INR 116.31 Cr for FY 2021-22.

5.9.2. Administrative and General (A&G) Expenses

Petitioner's Submission

The Petitioner has considered the A&G for FY 2021-22 as approved vide MYT Order dated 20th May 2019 which are INR 13.95 Cr

Commission's analysis

The Commission has considered the base year figures for the FY 2020-21 as decided in the APR chapter of this order. The Base Year expenses have been escalated by Growth Rate determined based on the average CPI Inflation of the last three years to arrive upon the A&G Expenses of FY 2021-22.

The A&G expenses approved by the Commission in the FY 2021-22 have been provided in the following table:

Table 102: A&G Expenses computation (In INR Cr)

S. No	Particulars	(Base Year)	Now Approved
		FY 2020-21	FY 2021-22
1	CPI (%) (3 previous years' avg.)		5.35%
2	A&G Expenses	13.48	14.20
3	**Total A&G Expenses**	**13.48**	**14.20**

Table 103: Administrative & General (A&G) expenses approved by Commission (In INR Cr)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	A&G expenses	13.95	13.95	14.20

The Commission approves the Administrative & General (A&G) expenses of INR 14.20 Cr for FY 2021-22.

5.9.3. Repair & Maintenance Expenses (R&M)

Petitioner's Submission

The Petitioner has considered the R&M for FY 2021-22 as approved vide MYT Order dated 20th May 2019 which are INR 14.15 Cr

Commission's analysis

The 'K' factor of 1.18% has been considered as approved in the Tariff Order dated 18th May 2020.

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

The WPI Inflation has been computed as follows:

Table 104: Computation of WPI Inflation (%)

FY	Increase in WPI Index	Average increase in WPI index over 3 years
2017-18	2.92%	**2.96%**
2018-19	4.32%	
2019-20	1.63%	

Table 105: Computation of R&M Expenses for FY 2021-22 (In INR Cr)

S. No	Particulars	FY 2021-22
1	Opening GFA (GFA_{n-1})	968.85
2	K factor approved (K) (%)	1.18%
3	Avg. WPI Inflation (%)	2.96%
4	**R&M Expenses =** **$K \times (GFA_{n-1}) \times (1+WPI_{inflation})$**	**11.77**

Table 106: Repair & Maintenance (R&M) expenses approved by Commission (In INR Cr)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	R&M Expenses	14.15	14.15	11.77

The Commission approves the Repair & Maintenance (R&M) expenses of INR 11.77 Cr for the FY 2021-22.

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 FY 2020-21:

Table 107: O&M Expenses approved by Commission (In INR Cr)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Employee Expenses	117.49	117.49	116.31
2	Administrative & General Expenses	13.95	13.95	14.20
3	Repair & Maintenance Expenses	14.15	14.15	11.77
4	**Total Operation & Maintenance Expenses**	**145.58**	**145.59**	**142.28**

The Commission approves Operation & Maintenance (O&M) expenses of INR 142.28 Cr in FY 2021-22.

5.10. Gross Fixed Assets (GFA) and Capitalization

Petitioner's Submission

The Petitioner has submitted that as per the MYT Regulations,2018 it has arrived at fixed assets balance after reduction of accumulated depreciation as on 1st April 2019. The same block is carried forward for existing assets and depreciation is charged as per new depreciation rate specified in the MYT regulations 2018. Further, the assets which are newly commissioned or capitalised, for which depreciation is calculated at new rate mentioned in the Regulations. The Petitioner has proposed capital expenditure of INR 217.18 Cr and Capitalization of INR 100 Cr for the FY 2021-22.

Commission's analysis:

The Commission has considered the same Capital Expenditure and Capitalisation proposed by the Petitioner. Further, the actual capital expenditure and capitalisation for the FY 2021-22 shall be considered during the True-up of the FY 2021-22. The following table provides the summary of capital expenditure and capitalization now approved by the Commission vis-à-vis the capital expenditure and capitalisation approved by the Commission in the MYT Order:

Table 108: Capital Expenditure and Capitalization now approved by the Commission (In INR Cr)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Capital Expenditure	217.18	217.18	217.18
2	Capitalization	315.66	100.00	100.00

The Commission approves the capital expenditure of INR 217.18 Cr and capitalization of INR 100.00 Cr for the FY 2021-22.

5.11. Capital Structure

Petitioner's Submission

The Petitioner has proposed that the capital structure based on the funding plan approved by the Commission in the Business Plan Order.

Commission's analysis

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-capitalization 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-capitalization 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."

The Commission has determined the capital structure for the FY 2021-22 based on closing capital structure as approved in the True-up for FY 2019-20 and the APR of FY 2020-21.

Therefore, in accordance with the MYT Regulations, 2018, the Commission has determined the Capital Structure for the FY 2021-22 as follows:

Table 109: GFA addition approved by the Commission (In INR Cr)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Opening Gross Fixed Assets	982.78	968.85	968.85
2	Addition During the FY	315.66	100.00	100.00
3	Adjustment/Retirement During the FY	0.00	0.00	0.00
4	Closing Gross Fixed Assets	1,298.44	1,068.85	1,068.85

Table 110: Loan addition approved by the Commission (In INR Cr)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Opening Loan	209.03	178.03	178.05
2	Additions during the year	311.16	70.00	70.00
3	Less: Normative Repayment equivalent to Depreciation	41.65	37.41	37.39
4	Closing Loan	478.54	210.61	210.66

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

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Opening Equity	258.42	290.65	290.65
2	Additions during the year	4.50	30.00	30.00
3	Closing Equity	262.92	320.65	320.65

5.12. Depreciation

Petitioner's Submission

Total depreciation is calculated asset block wise on the total GFA. However, since depreciation on assets created through grants, electricity duty fund or subsidies are not allowed as per regulations. Hence Depreciation for the GFA excluding grant and electricity duty fund arrived in the proportion of total GFA and GFA excluding grant and electricity duty fund. The Depreciation rates have been considered as per the depreciation schedule specified in the MYT Regulations, 2018.

Table 112: Depreciation submitted by the Petitioner

S. No.	Particulars	FY 2021-22
1	Opening Value of Assets	968.85
2	Additions during the year	100.00
3	Assets disposed/sold off	0.00
4	GFA at the end of the year	1,068.85
5	**Net Depreciation**	**33.08**

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 prescribed in MYT Regulations, 2018, provided in the following table:

Table 113: Depreciation Rate (%)

Description	Rate
Land & Land Rights	0.00%
Buildings	1.80%
Plant & Machinery	3.60%
Transformer	3.60%
Lines & Cables (HT & LT)	3.60%
Vehicles	18.00%
Furniture & Fixtures	6.00%
Office Equipment	6.00%
IT Equipment	6.00%
Testing & Measuring Equipment	6.00%
SCADA P&M	6.00%
SCADA Building	1.80%

The closing GFA of the FY 2020-21 as approved in the APR chapter has been considered as opening GFA of the FY 2021-22. Further, depreciation for the year has been computed on average Gross Fixed Assets (GFA) after considering the net addition proposed. Accordingly, the Commission shall consider the same during the True-up of the respective year.

The following table provides the calculation of depreciation during the FY 2021-22.

Table 114: Depreciation approved by the Commission (In INR Cr)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Opening GFA	976.24	968.85	968.85
2	Addition During the FY	315.66	100.00	100.00
3	Less: Grant Provided by GoI	0.00	0.00	0.00
4	Closing GFA	1291.90	1068.85	1068.85
5	Average GFA	1134.07	1018.85	1018.85
6	Weighted Average Rate of Depreciation (%)	3.67%	3.25%	3.67%
7	**Depreciation**	**41.65**	**33.08**	**37.39**

The Commission approves a depreciation of INR 37.39 Cr for the FY 2021-22.

5.13. Interest on Loan

Petitioner's Submission

The Petitioner has considered the actual proportion of loan from GFA additions to arrive at the loan addition for FY 2021-22. Repayment of the loan has been considered equivalent to the depreciation for the year in line with the MYT Regulations, 2018. The interest rate has been considered as SBI 1 Year MCLR as on 10.1.2021 (7.00%) + 1%.

The following table provides the Interest on Loan projected for the FY 2021-22.

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

Sr. No.	Particulars	FY 2021-22
1	Opening Normative Loan	178.03
2	Add: Normative Loan during the Year	70.00
3	Less: Normative Repayment	37.41
4	**Closing Normative Loan**	**210.61**
4	Average Normative Loan	194.32
5	Rate of Interest (@SBAR rate)	8%
6	**Interest on Normative Loan**	**15.55**
7	Other Finance Charges	0.00
8	**Total Interest & Finance Charges**	**15.55**

Commission's analysis:

Regulation 28 of the MYT Regulations, 2018 stipulates 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-capitalization 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 capitalization 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."

Hence, the rate of interest to be considered while determining the ARR shall be the weighted average interest rate of the actual loan portfolio. However, in absence of detailed data with respect to the actual loan portfolio, the Commission has considered the SBI 1 Year MCLR rate[4] plus 100 basis points as Rate of Interest, in accordance with the MYT Regulations, 2018.

As per the MYT Regulations, 2018, if the equity deployed is more than 30% of the capital cost, then equity in excess of 30% is considered as normative loan. The Interest on Loan has been calculated on the average loan during the year with the opening loan considered equivalent to the closing loan approved in the APR for the FY 2019-20.

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

[4] SBI 1 Year MCLR rate as on 10th Jan 2021

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

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Opening Normative Loan	209.03	178.03	178.05
2	Add: Normative Loan During the year	311.16	70.00	70.00
3	Less: Normative Repayment equal to Depreciation	41.65	37.41	37.39
4	Closing Normative Loan	478.54	210.61	210.66
5	Average Normative Loan	343.78	194.32	194.35
6	Rate of Interest (%)	9.55%	8.00%	8.00%
	Interest on Loan	**32.83**	**15.55**	**15.55**

The Commission approves Interest on Loan as INR 15.55 Cr for the FY 2021-22.

5.14. Return on Equity (RoE)

Petitioner's Submission

The Return on Equity (RoE) is computed in accordance with the MYT Regulations, 2018, wherein RoE is computed on 30% of the capital base if the actual equity deployed is more than 30% and the actual equity base if the equity deployed is less than 30%. Accordingly, the Petitioner has computed the Return on Equity at 16% on post-tax basis. The following table summarizes Petitioner's Submission:

Table 117: RoE submitted by the Petitioner (In INR Cr)

S. No.	Particulars	FY 2021-22
1	Opening Equity Amount	290.65
2	Equity Addition during year (30% of Capitalization)	30.00
3	Closing Equity Amount	320.65
4	Average Equity Amount	305.65
5	Average Equity-Wires Business	275.09
6	Average Equity (Retail Supply Business)	30.57
7	Return on Equity for Wires Business	15.50%
8	Return on Equity for Retail Supply Business	16.00%
9	**Return on Equity for Wires Business**	**42.64**
10	**Return on Equity for Retail Supply Business**	**4.89**
11	**Total Return on Equity**	**47.53**

Commission's analysis:

Regulations 27.2 and 27.3 of the MYT Regulations, 2018 stipulate 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 post-tax rate of 15.50% for the Distribution Wires Business (as per the prevalent CERC Regulations) and a post-tax rate of 16% for the Retail Supply Business. The equity component has been determined in accordance with the capital structure as discussed in the section on capital structure. The rate of return on equity for the Distribution Wires Business shall be trued up based on the prevalent CERC Regulations during the True-up. The following table provides the total return on equity approved for FY 2021-22.

Table 118: RoE approved by Commission (In INR Cr)

S. No	Particulars		Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Opening Equity	A	258.42	290.65	290.65
2	Additions on account of new capitalisation	B	4.50	30.00	30.00
3	Closing Equity	C	262.92	320.65	320.65
4	Average Equity	D = (A+B)/2	260.67	305.65	305.65
5	Average Equity (Wires Business)	E = D*90%	234.61	275.09	275.09
6	Average Equity (Retail Supply Business) Business)	F=D*10%	26.07	30.57	30.57
7	Return on Equity for Wires Business (%)	G	15.50%	15.50%	15.50%
8	Return on Equity for Retail Supply Business (%)	H	16.00%	16.00%	16.00%
9	Return on Equity for Wires Business	I=G*E	36.36	42.64	42.64
10	Return on Equity for Retail Supply Business	J=H*F	4.17	4.89	4.89
11	**Total Return on Equity**	**K=I+J**	**40.53**	**47.53**	**47.53**

The Commission approves Return on Equity of INR 47.53 Cr for the FY 2021-22.

5.15. Interest on Security Deposits

Petitioner's Submission

The Petitioner has considered the provisional actual addition of consumers' security deposit for the FY 2020-21 and has escalated it by 5% to arrive at the projected addition of security deposit for the FY 2021-22. The following table provides the calculation of interest on consumer security deposits proposed for FY 2021-22.

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

Particular	FY 2021-22
Opening Consumer Security Deposit	229.05
Net Addition During the year	19.14
Closing Consumer Security Deposit	248.19
Average Security Deposit	238.62
Bank Rate (%)	4.65%
Interest on Consumer Security Deposit	**11.10**
Interest on Consumer Security Deposit to be Paid	**5.11**

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 rate of interest has been considered equivalent to the prevailing RBI Bank rate. Net addition during the year has been considered same as considered by the Petitioner, subject to true-up.

The following table provides the calculation of interest on consumer security deposits approved for FY 2021-22.

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

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	Opening Security Deposit	231.74	229.05	229.05
2	Net addition during the year	25.11	19.14	19.14
3	Closing Security Deposit	256.86	248.19	248.19
4	Average Security Deposit	244.30	238.62	238.62
5	Rate of Interest (%)[5]	6.25%	4.65%	4.65%
6	**Interest on Security Deposit**	**15.27**	**11.10**	**11.10**

The Commission approves Interest on Security Deposit as INR 11.10 Cr for the FY 2021-22.

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 of two months of billing
- 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 interest on working capital considered is the MCLR plus 200 basis points for SBI on the 1st November 2018. The following table provides the Interest on working Capital proposed for FY 2021-22.

[5] Bank Rate as on 1st April 2020

Table 121: Interest on Working Capital submitted by the Petitioner (In INR Cr)

S. No.	Particulars	FY 2021-22
1	Two Months Receivable	260.48
2	O&M Expense - 1 month	12.13
3	Maintenance Spare @ 40% of R&M Exp - one month	0.47
4	Less : Amount held as Security Deposit	238.62
5	Total	**34.45**
6	Interest Rate	10.55%
7	**Interest on Working Capital**	**3.63**

Commission's analysis:

Regulation 52 of the MYT Regulations, 2018 stipulates the following:

"52. Norms of Working Capital for Distribution Wires Business

52.1 The Distribution Licensee shall be allowed interest on the estimated level of working capital for the Distribution Wires 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.

The Commission has computed the Interest on Working Capital for FY 2021-22 in accordance with the MYT Regulations, 2018. The interest rate has been considered as 9.00% (1 year MCLR applicable as on 1st April 2020 i.e. 7.75% + 200 basis points). The computation of interest on working capital is shown in the following table:

Table 122: Interest on Working Capital approved by Commission (In INR Cr)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
1	O&M Expense for 1 month	12.13	12.13	11.86
2	Maintenance spares at 40% of R&M expenses for one (1) month	0.47	0.47	0.39
3	Receivables equivalent to two (2) months of the expected revenue from charges for use of distribution wires at the prevailing tariff	269.51	260.48	285.68
4	Less: Amount held as security deposits	244.30	238.62	238.62
5	Net Working Capital	37.81	34.45	59.30
6	Rate of Interest (%)	10.15%	10.55%	9.75%
7	**Interest on Working Capital**	**3.84**	**3.63**	**5.78**

The Commission approves the Interest on Working Capital as INR 5.78 Cr for the FY 2021-22.

5.17. Income Tax

Petitioner's Submission

The Petitioner has not made any 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 the Petitioner has paid no Income tax in the previous years, no income tax liability is computed for the FY 2020-21 and the same shall be Trued-up based on the actual income tax paid by the Petitioner.

Table 123: Income Tax approved by Commission (In INR Cr)

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

5.18. Provision for Bad & Doubtful Debts

Petitioner's Submission

The Petitioner has not proposed any provision for bad and doubtful debts during the FY 2021-22.

Commission's analysis

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 FY 2021-22. The same shall be accounted for as per actuals during the True-up of respective years.

5.19. Non-Tariff Income

Petitioner's Submission

The Petitioner has estimated the non-tariff income for FY 2021-22 as shown in the following table:

Table 124: Non-Tariff Income submitted by the Petitioner (In INR Cr)

Particular	FY 2021-22
Non-Tariff Income	5.19

Commission's analysis:

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 Petitioner has submitted the similar NTI for FY 2019-20, FY 2020-21 and FY 2021-22. The Commission considers the same NTI as approved in the True-up for FY 2019-20 and APR for FY 2020-21. The same shall be Trued-up on actual basis.

The NTI approved for the FY 2021-22 has been shown in the following table:

Table 125: Non -tariff Income approved by Commission (In INR Cr)

Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission
Non- Tariff Income	4.51	5.19	5.19

The Commission approves Non-Tariff Income of INR 5.19 Cr for the FY 2021-22.

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 (In INR Cr)

S. No.	Particulars	FY 2021-22
1	Cost of power purchase	1313.22
2	Employee costs	117.49
3	R&M expenses	13.95
4	Administration and General expenses	14.15
5	Depreciation	37.41
6	Interest charges	15.55
7	Interest on working capital	3.63
8	Return on NFA /Equity	47.53
9	Provision for Bad Debt	0.00
10	Interest on Consumer Security Deposit	5.11
11	**Total Revenue Requirement**	**1,568.04**
12	Less: Non tariff Income	5.19
13	**Net Revenue Requirement (12-13)**	**1,562.85**

Commission's analysis

On the basis of the detailed analysis of the cost parameters of the ARR the net revenue requirement for FY 2021-22is approved as provided in the following table:

Table 127: Aggregate Revenue Requirement approved by Commission (In INR Cr)

S. No	Particulars	Approved in MYT Order	Petitioner's Submission	Now Approved by Commission	Reference
1	Power Purchase Cost	1,341.87	1313.22	1366.83	Table 93
2	O&M Expenses	145.58	145.59	142.28	Table 108
3	Depreciation	41.65	37.41	37.39	Table 115
4	Interest on loan	32.83	15.55	15.55	Table 117
5	Return on Equity	40.53	47.53	47.53	Table 119
6	Interest on Security Deposit	15.27	5.11	11.10	Table 121
7	Interest on Working Capital	3.84	3.63	5.78	Table 123
8	Income Tax	0.00	0.00	0.00	
9	Provision for Bad Debt	0.00	0.00	0.00	
10	**Total Revenue Requirement**	**1,621.57**	**1,568.04**	**1,626.46**	
11	Less: Non-Tariff Income	4.51	5.19	5.19	Table 126
12	**Net Revenue Requirement**	**1,617.06**	**1,562.85**	**1,621.27**	

The Commission approves net ARR of INR 1,621.27 Cr for the FY 2021-22.

5.21. Revenue at existing Retail Tariff

Petitioner's Submission

The Petitioner has estimated revenue from sale of power at existing tariff as INR 1,617.70 Cr (including Regulatory surcharge) for the FY 2021-22 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 applicable tariff rates. The revenue from demand charges and the energy charges have been projected for each category/ sub-category and slab. The Commission has not considered the revenue from Regulatory Surcharge along with revenue from Retail Tariff due to its diverse nature. The same has been considered while approving the revenue gap/ surplus for the FY 2021-22. The Commission has considered suitable assumptions wherever necessary. The total revenue from existing tariff as computed by the Commission for the FY 2021-22 has been shown in the following table:

Table 128: Revenue at existing tariff computed by the Commission for the FY 2021-22 (In INR Cr)

S. No.	Consumer Category	Sales (MU)	Energy Charges	Fixed charges	Gross Total (INR Cr.)	PF Incentive	PF Penalty	Net Total	ABR (Rs./unit)
1	**DOMESTIC**	**833.17**	**236.46**	**19.07**	**255.54**			**255.54**	**3.07**
	0-100 units	383.15	57.47	6.96	64.43			64.43	1.68
	101-200 units	211.62	53.96	5.83	59.80			59.80	2.83
	201-300 units	111.64	50.24	3.12	53.36			53.36	4.78
	Above 300 units	126.76	74.79	3.17	77.95			77.95	6.15
2	**HUT SERVICES/ OHOB**	**0.32**	-	0.37	**0.37**			**0.37**	**11.51**
3	**COMMERCIAL**	**211.33**	**145.42**	**9.38**	**154.80**			**154.80**	**7.32**
	0-100 units	41.07	23.00	3.81	26.81			26.81	6.53
	101-250 units	47.58	31.64	1.56	33.20			33.20	6.98
	Above 250 units	122.67	90.78	4.01	94.78			94.78	7.73
4	**AGRICULTURE SERVICES**	**62.94**	-	**2.49**	**2.49**			**2.49**	**0.40**
(i)	Agriculture	62.94	-	2.49	2.49			2.49	0.40
	Small Farmers	8.78	-	0.05	0.05			0.05	0.06
	Other farmers	54.16	-	2.43	2.43			2.43	0.45
(ii)	Cottage Industries	No sale	-						
5	**PUBLIC LIGHTING**	**24.83**	**16.88**	**6.77**	**23.65**			**23.65**	**9.53**
6	**LT INDUSTRIAL & WATER WORKS**	**164.45**	**101.48**	**1.05**	**102.52**			**102.52**	**6.23**
(i)	LT Industrial	**124.11**	**73.85**	1.02	74.87			74.87	6.03
(ii)	Water Tanks	40.34	27.63	0.03	27.66			27.66	6.86
7	**HIGH TENSION-I**	**1,005.59**	**554.36**	**165.00**	**719.36**	**18.37**	**1.55**	**702.54**	**6.99**
(i)	*HT 1 (a) For contract demand up to 5000 kVA/Industrial*	919.99	505.99	150.29	656.29	17.09	1.39	640.59	**6.96**

S. No.	Consumer Category	Sales (MU)	Energy Charges	Fixed charges	Gross Total (INR Cr.)	PF Incentive	PF Penalty	Net Total	ABR (Rs./unit)
(ii)	*HT 1 (b) For contract demand up to 5000 kVA/Commercial*	85.61	48.37	14.71	63.08	1.28	0.16	61.95	**7.24**
8	**HIGH TENSION-II**	**74.10**	**48.91**	**20.87**	**69.78**	0.96	0.76	**69.58**	**9.39**
9	**HIGH TENSION-III**	**422.66**	**219.79**	**70.22**	**290.00**	9.63	0.00	**280.38**	**6.63**
10	**HOARDINGS/SIGNBOARDS**	*No sale*							
11	**TEMPORARY**	**4.75**	**4.64**		**4.64**			**4.64**	**9.75**
	TOTAL	**2,804.14**	**1,327.93**	**295.22**	**1,623.15**	**28.96**	**2.31**	**1,596.50**	**5.69**

Fixed Charges are computed per annum based on the connected load, consumers, and horsepower as applicable.

The Commission has determined revenue from sale of power at existing tariff as INR 1,596.50 Cr in the FY 2021-22.

5.22. Standalone Revenue Gap/ Surplus for FY 2021-22

Petitioner's Submission

Based on the ARR and the revenue from retail tariff projected by the Petitioner, the Petitioner has submitted a standalone revenue surplus of INR 54.85 Cr (including revenue from Regulatory Surcharge) for the FY 2021-22.

Commission's analysis

The Commission based on the approved ARR and existing retail tariff (including Regulatory Surcharge) has derived the following Revenue Gap/Surplus:

Table 129: Standalone Revenue Gap/ Surplus approved at existing tariff (including Regulatory Surcharge) for the FY 2021-22 (In INR Cr)

S. No	Particulars		Petitioner's submission	Now Approved
1	Annual Revenue Requirement	A	1,562.85	1,621.27
2	Revenue from sale of power	B	1,555.48	1,596.50
3	**Standalone Revenue Gap/ (Surplus)**	**C=A-B**	**7.37**	**24.77**
4	Revenue from Regulatory Surcharge	D	62.22	63.86
5	**Standalone Revenue Gap/ (Surplus) (including regulatory surcharge)**	**E=C-D**	**(54.85)**	**(39.09)**

The Commission approves the standalone surplus at existing retail tariff as INR 39.09 Cr for FY 2021-22. This estimated surplus is considered while determining the retail tariff for FY 2021-22, 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 2020-21 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 PED's submissions as well as the public response in these proceedings.

The provision of supply of electricity to all the people is an essential driver for development, and also influences social and economic change. Since the majority of the energy sales within PED's jurisdiction is of industrial nature, the Commission has attempted to ensure that, while industries and commerce are promoted, it is not at the cost of other segments of society.

The Commission has made every effort to rationalize the tariff so that they gradually reflect the true cost to service a category of consumer in accordance with the provisions of the Act.

6.2. Applicable Regulations

Regulation 67 of the MYT Regulations, 2018 states the following:

"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."

Secretary, JERC
(For Goa & UTs)

6.3. Standalone and Consolidated Revenue Gap/ Surplus at existing tariff

Petitioner's Submission

The Petitioner has proposed a standalone revenue surplus of INR 54.85 Cr for FY 2021-22 and a consolidated revenue gap of INR 387.99 Cr till FY 2021-22. The standalone and consolidated revenue gap as submitted by the Petitioner has been tabulated below:

Table 130: Standalone and Consolidated Revenue Gap/ Surplus submitted by Petitioner (In INR Cr)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Sales for the year	2,684.27	2,586.73	2,772.33
Net ARR	1,727.48	1,535.99	1,562.85
Less: Revenue at Existing Tariffs excluding Surcharge	1,446.24	1,467.40	1,555.48
Less: Revenue from Open Access			
Revenue Gap for the year (excluding surcharge)	**281.24**	**68.59**	**7.37**
Revenue Gap for the year (including surcharge)	**224.63**	**10.92**	**(54.85)**
Opening Balance of Gap (previous years)	**146.96**	**396.35**	**442.84**
Add: Gap During the year	224.63	10.92	(54.85)
Less: Additional Revenue due to Regulatory Surcharge	*56.61*	*57.67*	*62.22*
Closing Gap	**371.59**	**407.28**	**387.99**
Average Gap	259.28	401.81	415.41
Carrying Cost (%)	9.55%	8.85%	
Carrying Cost (INR)	24.76	35.56	0.00
Total Cumulative Gap	**396.35**	**442.84**	**387.99**

As per Petitioner's submission in Form 25B of the petition.

Commission's analysis

The Commission notices that the Petitioner has not taken any long-term loan or working capital loan. 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.

The Commission, in the Tariff Order dated 18th May 2020 had approved a revenue gap of INR 146.96 Cr till 31st March 2019. Taking into account the previous gap, the Commission determines the standalone and consolidated revenue gap/ surplus at the end of FY 2021-22 as shown below:

Table 131: Standalone Revenue Gap/ Surplus determined by Commission (In INR Cr)

Particulars		FY 2019-20	FY 2020-21	FY 2021-22
Net Revenue Requirement	A	1,713.70	1,464.79	1,621.27
Revenue from Retail Sales at Existing Tariff (excluding surcharge)	B	1,445.74	1,487.21	1,596.50
Standalone Gap /(Surplus) for the year	C=A-B	**267.96**	**(22.42)**	**24.77**

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Particulars		FY 2019-20	FY 2020-21	FY 2021-22
Regulatory Surcharge (4%)	D	57.11	59.49	63.86
Revenue from Retail Sales at Existing Tariff inclusive of Regulatory Surcharge	E	1,502.85	1,546.70	1,660.36
Standalone Gap /(Surplus) for the year (including surcharge)	**E=A-E**	**210.86**	**(81.91)**	**(39.09)**
Reference		Table 48	Table 82	Table 131

The Commission for the purpose of calculation of the cumulative gap has considered the carrying cost at SBI 1 year MCLR + 1% from FY 2019-20 and onwards which is the opportunity cost for the Petitioner. The Petitioner has included Prior Period Power Purchase expenses of INR 96 Cr and other prior period expenses of INR 30 Cr in the Power Purchase Cost for FY 2019-20. The Commission observes that since the department does not recover FPPCA charges the prior period expenses are not eligible for carrying cost. Hence, the prior period expenses of INR 126.32 Cr have not been considered in the Standalone Gap /(Surplus) for the year for the year 2019-20. The detailed computation of carrying cost is as under:

Table 132: Computation of carrying cost (excluding the prior period expenses in FY 2019-20)

Carrying cost	FY 2019-20	FY 2020-21	FY 2021-22
Opening Gap/(Surplus)	146.96	249.57	185.91
Addition Gap/(Surplus) (Standalone Gap)	84.54*	(22.42)	24.77
Regulatory Surcharge rate	4%	4%	4%
Regulatory Surcharge	included above	59.49	63.86
Closing Gap/(Surplus)	231.50	167.66	146.82
Average Gap/(Surplus)	189.23	208.61	166.37
Rate of Interest	9.55%	8.75%	8.00%
Carrying cost	**18.07**	**18.25**	**13.31**
Final Closing Gap/ (Surplus)	249.57	185.91	160.13

*Prior period expenses of INR 126.32 Cr have been adjusted in the Standalone Gap /(Surplus) for the year (including surcharge).

Table 133: Consolidated Revenue Gap/ Surplus determined by Commission at existing tariff (In INR Cr)

Carrying cost	FY 2019-20	FY 2020-21	FY 2021-22 (4% surcharge)
Opening Gap/(Surplus)	146.96	375.88	312.23
Addition Gap/(Surplus) (Standalone Gap w/o surcharge)	210.86	(22.42)	24.77
Regulatory Surcharge	included above	59.49	63.86
Closing Gap/(Surplus)	357.81	293.97	273.14
Average Gap/(Surplus)	252.38	334.93	292.68
Rate of Interest	9.55%	8.75%	8.00%
Carrying cost (as calculated at table 134)	18.07	18.25	13.31
Final Closing Gap/ (Surplus)	**375.88**	**312.23**	**286.45**

The Commission determines a consolidated revenue gap of INR 286.45 Cr till FY 2021-22 at existing tariff considering Regulatory Surcharge of 4%.

6.4. *Treatment of the consolidated Gap/ Surplus and Tariff Design*

As derived from above, the resultant consolidated revenue gap till the end of FY 2021-22 signifies that the revenue from existing tariff is not commensurate with the costs incurred by the Petitioner. In this present situation, in order to cover this revenue deficit and to be financially sustainable, the retail consumer tariffs demand a tariff increase. However, the revenue gap being substantial, recovering this entirely from increase in consumer tariffs may lead to a tariff shock. Hence, the Commission decided to recover a certain proportion of this gap by enhancing the Regulatory Surcharge from 4% to 5% and the remaining through a marginal increase in Retail Tariff. The individual approach adopted and the applicability of the same has been discussed in the following sections.

6.4.1. *Tariff Proposal*

Petitioner's Submission

In order to bridge the gap of INR 387.99 Cr, the Petitioner has not proposed any increase in tariff. Further, the Petitioner has requested to continue the Regulatory surcharge at 4% in FY 2021-22 as well. The revenue from Regulatory Surcharge will help in earning an additional revenue of INR 62.22 Cr. The Petitioner has requested to allow the balance revenue gap to be considered as Regulatory Asset and be allowed to be recovered through Regulatory Surcharge.

Although, the Petitioner has proposed KVah based tariff for HT Industries and kW based fixed charges for LT Commercial and LT Industrial category from FY 2021-22 for which the Petitioner has submitted requisite data in reply to Commission's specific query.

Commission's analysis

The Commission has determined a consolidated gap of INR 286.45 Cr against the Petitioners submission of INR 387.99 Cr. The Commission has determined the retail tariff for the FY 2021-22 in accordance with the principles stated in the Electricity Act, 2003 Tariff Policy, 2016, and the MYT Regulations, 2018.

Tariff design in general is guided by the following principles:

1. Cost reflective: The tariff determined should efficiently reflect the cost of supply for each consumer category. The Commission has made every effort to rationalize the tariffs so that they gradually reflect the true cost to service a category of consumer in accordance with the provisions of the Act. Accordingly, the Commission has approved relatively higher percentage increase in tariff for the cross-subsidized categories than the cross-subsidizing categories.

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 subsidize 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.

The restructured tariff and its applicability to consumers have been shown in the Section 10.1 and Section 10.2 respectively, of this Tariff Order.

6.4.2. Approved Final Tariff Schedule

As described in earlier section, the current tariff is not covering the entire cost of the Petitioner for FY 2021-22. The adoption of KVAh and kW based billings for respective categories is being considered while designing the tariff schedule. The existing retail tariff and tariff now approved by the Commission for each consumer category has been shown in the table below:

Table 134: Existing and approved tariff

S. No	Consumer Category	Existing Tariff		Approved Tariff	
		Fixed Charge	Energy Charge	Fixed Charge	Energy Charge
1	**LIFLINE SERVICES**				
a.	0-50 units per month	-	1.00	-	1.00
2	**DOMESTIC AND COTTAGE**				
b.	0-100 units per month	INR 40/connection / month	1.50 INR/kWh	INR 40/connection/ month	1.55 INR/kWh
c.	101-200 units per month	INR 45/connection / month	2.55 INR/kWh	INR 45/connection/ month	2.60 INR/kWh
d.	201-300 units per month	INR 45/connection / month	4.50 INR/kWh	INR 45/connection/ month	4.65 INR/kWh
e.	Above 300 units per month	INR 45/connection / month	5.90 INR/kWh	INR 45/connection/ month	6.05 INR/kWh
3	**HUT SERVICES (OHOB)***				
a.	Hut Services*	*Discontinued from 2020-21**			
4	**COMMERCIAL**				
I	**LT Commercial**				
a.	0-100 units per month	130 INR/connection/ month	5.60 INR/kWh	75.00 INR/kW/Month	5.70 INR/kWh
b.	101-250 units per month		6.65 INR/kWh		6.75 INR/kWh
c.	Above 250 units per month		7.40 INR/kWh		7.50 INR/kWh

S. No	Consumer Category	Existing Tariff		Approved Tariff	
		Fixed Charge	Energy Charge	Fixed Charge	Energy Charge
II	**HT Commercial (For contract demand up to 5000 kVA)**	INR 420 per kVA per month	5.65 INR/kWh	INR 420 per kVA per month	5.45 INR/KVAh
5	**AGRICULTURE SERVICES**				
I	**Agriculture**				
a.	Small Farmers	INR 11/HP/month	-	INR 11/HP/month	-
b.	Other Farmers	INR 50/HP/month	-	INR 50/HP/month	-
6	**PUBLIC LIGHTING**				
a.	Public Lighting	INR 110/pole/ month	6.80 INR/kWh	INR 110/pole/ month	6.80 INR/kWh
7	**INDUSTRIES**				
a.	LT Industries	INR 130 /connection/ month	5.95 INR/kWh	50.00 INR/kW/Month	6.05 INR/kWh
b.	HT Industries (For Supply at 11 kV, 22 kV or 33 kV)	INR 420 per kVA per month	5.50 INR/kWh	INR 420 per kVA per month	5.30 INR/KVAh
c.	EHT Industries (For Supply at 110 kV or 132 kV)	INR 480 per kVA per month	5.20 INR/kWh	INR 480 per kVA per month	5.10 INR/KVAh
8	**LT WATER WORKS**	INR 150/connection/ month	6.85 INR/kWh	INR 150/connection/ month	6.90 INR/kWh
9	**HT OTHERS**	INR 480 per kVA per month	6.60 INR/ kWh	INR 480 per kVA per month	6.35 INR/KVAh
10	**ELECTRIC VEHICLE CHARGING STATION**	-	4.50 INR/kWh	-	4.50 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.		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.	
12	**HOARDINGS/SIGNBOARDS**				
a.	Hoardings/signboards	INR 140 per kVA per month or part thereof	8.00 INR/kWh	INR 140 per kVA per month or part thereof	8.00 INR/kWh

*OHOB connections were converted into metered connections from 1st April 2020. Since then they are being charged as per metered tariff upto 50 units at INR 1.00/ kWh and No Fixed Charges. If the consumption exceeds 50 units then Domestic tariff is applicable.

6.4.3. Revenue from Approved Retail Tariff for FY 2021-22

Based on the retail tariff approved above, the revenue from energy charges based on the approved tariff is shown in the table below:

Table 135: Revenue from Energy Charges from approved retail tariff determined by Commission (In INR Cr)

Category	Sales (MUs)	Fixed Charges	Energy Charges	Revenue from Energy Charges (INR Cr.)
DOMESTIC	**833.17**			**243.01**
0-100 units	383.15	40.00 INR/Con/Month	1.55 INR/kWh	59.39
101-200 units	211.62	45.00 INR/Con/Month	2.60 INR/kWh	55.02
201-300 units	111.64	45.00 INR/Con/Month	4.65 INR/kWh	51.91
Above 300 units	126.76	45.00 INR/Con/Month	6.05 INR/kWh	76.69
HUT SERVICES/ OHOB	**0.32**	**35.00 INR/Con/Month**	**0.00 INR/kWh**	**0.00**
COMMERCIAL	**211.33**			**147.53**
0-100 units	41.07	75.00 INR/kW/Month	5.70 INR/kWh	23.41
101-250 units	47.58	75.00 INR/kW/Month	6.75 INR/kWh	32.12
Above 250 units	122.67	75.00 INR/kW/Month	7.50 INR/kWh	92.00
AGRICULTURE SERVICES	**62.94**			**0.00**
Agriculture	62.94			0.00
Small Farmers	8.78	11.00 INR/HP/Month		0.00
Other farmers	54.16	50.00 INR/HP/Month		0.00
PUBLIC LIGHTING	**24.83**	**110.00 INR/Con/Month**	**6.80 INR/kWh**	**16.88**
LT INDUSTRIAL & WATER WORKS	**164.45**			**102.92**
LT Industrial	**124.11**	50.00 INR/kW/Month	6.05 INR/kWh	**75.09**
Water Tanks	40.34	150.00 INR/Con/Month	6.90 INR/kWh	27.83
HIGH TENSION-I	**1005.59**			**554.29***
HT 1 (a) For contract demand up to 5000 kVA/Industrial	919.99	420.00 INR/kVA/month	5.30 INR/KVAh	505.88*
HT 1 (b) For contract demand up to 5000 kVA/Commercial	85.61	420.00 INR/kVA/month	5.45 INR/KVAh	48.41*
HIGH TENSION-II	**74.10**	**480.00 INR/kVA/month**	**6.35 INR/KVAh**	**48.84***
HIGH TENSION-III	**422.66**	**480.00 INR/kVA/month**	**5.10 INR/KVAh**	**217.84***
HOARDINGS/SIGNBOARDS	**0.00**	**140.00 INR/kVA/month**	**8.00 INR/kWh**	**0.00**
TEMPORARY	**4.75**		**9.75 INR/kWh**	**4.64**
TOTAL	**2804.14**			**1335.95**

*Revenue from energy charges for HT-I, HT-II, and HT-III categories have been computed by dividing the Sales (MUs) by the average Power Factor and multiplying by the rate of Energy Charge as submitted by the Petitioner. Power Factor for HT-I and HT-II is 0.96 and for HT-III is 0.99.

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Based on the retail tariff approved above, the total revenue from sales based on the approved tariff is shown in the table below:

Table 136: Revenue from approved retail tariff determined by Commission (In INR Cr)

Category	Sales (MUs)	Revenue from Energy Charges	Revenue from Fixed charges	Gross Total
DOMESTIC & COTTAGE INDUSTRIES	**833.17**	**243.01**	**19.07**	**262.09**
0-100 units	383.15	59.39	6.96	66.35
101-200 units	211.62	55.02	5.83	60.85
201-300 units	111.64	51.91	3.12	55.03
Above 300 units	126.76	76.69	3.17	79.86
HUT SERVICES/ OHOB	**0.32**	**0.00**	0.37	**0.37**
COMMERCIAL	**211.33**	**147.53**	**9.17**	**156.71**
0-100 units	41.07	23.41	2.42	25.83
101-250 units	47.58	32.12	2.06	34.18
Above 250 units	122.67	92.00	4.69	96.69
AGRICULTURE SERVICES	**62.94**	**0.00**	**2.49**	**2.49**
Agriculture	62.94	0.00	2.49	2.49
Small Farmers	8.78	0.00	0.05	0.05
Other farmers	54.16	0.00	2.43	2.43
PUBLIC LIGHTING	**24.83**	**16.88**	**6.77**	**23.65**
LT INDUSTRIAL & WATER WORKS	**164.45**	**102.92**	**2.53**	**105.45**
LT Industrial	**124.11**	**75.09**	2.50	77.59
Water Tanks	40.34	27.83	0.03	27.86
HIGH TENSION-I	**1005.59**	**554.29**	**165.00**	**719.29**
HT 1 (a) For contract demand up to 5000 kVA/Industrial	919.99	505.88	150.29	656.17
HT 1 (b) For contract demand up to 5000 kVA/Commercial	85.61	48.41	14.71	63.12
HIGH TENSION-II	**74.10**	**48.84**	**20.87**	**69.72**
HIGH TENSION-III	**422.66**	**217.84**	**70.22**	**288.06**
HOARDINGS/SIGNBOARDS	**0.00**	**0.00**	**0.00**	**0.00**
TEMPORARY	**4.75**	**4.64**	**0.00**	**4.64**
TOTAL	**2804.14**	**1335.95**	**296.49**	**1632.45**

Fixed Charges are computed per annum based on the connected load, consumers, and horsepower as applicable.

The Commission approves revenue from approved Retail Tariff of INR 1632.45 Cr for the FY 2021-22.

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6.4.4. Average Cost of Supply (ACoS) and Average Billing Rate (ABR)

The Commission based on the approved ARR and approved retail tariff (excluding Regulatory Surcharge) has derived the ACoS:

Table 137: ACoS at approved tariff (excluding Regulatory Surcharge) for the FY 2021-22 (In INR Cr)

S. No	Particulars		Now Approved
1	Annual Revenue Requirement	A	1,621.27
2	Sales (MUs)	B	2,804.14
3	**ACoS (INR/kWh)**	C=A/B*10	5.78

The average increase in the retail tariff now approved by the Commission vis-à-vis prevailing tariff is 2.25%. The table below provides the category wise Average Cost of Supply (ACoS), Existing Average Billing Rate (ABR), Approved ABR and the existing and approved recovery vis-à-vis the (ACoS).

Table 138: Tariff increase approved by Commission

Category	ACoS (INR/kwh)	ABR at Existing Tariff (INR/kwh)	ABR at Approved Tariff (INR/kwh)	Increase (%) *
Domestic	5.78	3.07	3.15	2.56%
OHOB	5.78	11.51	11.51	0.00%
Commercial	5.78	7.30	7.40	1.42%
Agriculture	5.78	0.40	0.40	0.00%
Public Lighting	5.78	9.53	9.53	0.00%
Industries	5.78	6.79	6.97	2.61%
LT Water Works	5.78	6.86	6.91	0.73%
HT Others	5.78	9.39	9.41	0.20%
Temporary Supply	5.78	9.75	9.75	0.00%
Total	**5.78**	**5.69**	**5.82**	**2.25%**

** Results may vary due to rounding-off.*

6.4.5. Regulatory Surcharge

As is evident from the above, with an average tariff increase of 2.25%, the revenue from Approved Retail Tariff recovers the standalone Net Revenue Requirement of FY 2021-22 and some of the cumulative gap upto FY 2020-21. The Commission has tried to limit the tariff increase in each category in order to safeguard the interests of consumers by avoiding abnormal increase in tariffs. However, the cumulative revenue gap till the end of FY 2020-21 resulting from the True-up of FY 2019-20 and APR of FY 2020-21 is yet to be recovered. The table below provides the cumulative revenue gap till FY 2021-22.

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Table 139: Cumulative Revenue Gap/ Surplus till FY 2021-22 at existing tariff exclusive of regulatory surcharge (In INR Cr)

Particulars		FY 2019-20	FY 2020-21	FY 2021-22
Net Revenue Requirement	(a)	1,713.70	1,464.79	1,621.27
Revenue from Retail Sales at Existing Tariff	(b)	1,502.85	1,487.21	1,596.50
Revenue from Open Access	(c)	0	0	0
Standalone Gap /(Surplus) for the year at existing tariff	(d=a-b-c)	210.86	(22.42)	24.77
Revenue from Retail Sales at Approved Tariff	(e)	-	-	1,632.45
Standalone Gap /(Surplus) for the year at approved tariff	(f=a-c-e)	-	-	(11.18)
Opening Gap /(Surplus)	(g)	146.96	375.89	371.72
Standalone Gap /(Surplus) addition for the year at Approved tariff	(f)	210.86	(22.42)	(11.18)
Closing Gap /(Surplus)	(h=g+f)	357.82	353.46	360.54
Average Gap/ (Surplus)	(i=(g+h)/2)	252.39	364.68	366.13
Carrying Cost calculated at Table 134	k	18.07	18.25	13.31
Final Closing Gap/ (Surplus)	**(h+k)**	**375.89**	**371.72**	**373.85**

It can be observed from the table above that the increase in tariff is not enough to recover the cumulative revenue gap. Therefore, the Commission, in order to recover revenue gap inclusive of the carrying cost, has decided to enhance the Regulatory Surcharge from 4% to 5%. The Surcharge shall be applicable on all consumers. The revenue from the Regulatory Surcharge and the resultant gap after factoring both the additional revenue from Regulatory Surcharge has been discussed subsequently. In order to moderate the tariff increase to consumers, the Commission has decided to recover this cumulative gap till FY 2021-22, till further Orders of the Commission.

Applicability and Conditions of the Regulatory Surcharge

- This Regulatory Surcharge shall be applicable to all consumer categories served by the Petitioner.
- The Surcharge shall also be applicable to consumers opting for open access.
- The Regulatory Surcharge shall be levied in the monthly/ bimonthly bill as a percentage of the total Energy and Demand charges payable by the consumer
- The Surcharge shall be applicable for all the bills raised on or after 1st April 2021 and shall continue till further Orders of the Commission.

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6.4.6. Revised Revenue Gap/ Surplus

The following table represents the Standalone Gap /(Surplus) for the year at existing tariff and without regulatory surcharge:

Table 140: Revenue Gap / (Surplus) at existing tariff without regulatory surcharge

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Net Revenue Requirement (a)	1,713.70	1,464.79	1,621.27
Revenue from Retail Sales at Existing Tariff (b)	1,502.85	1,487.21	1,596.50
Standalone Gap /(Surplus) for the year at existing tariff (d=a-b-c)	210.86	(22.42)	24.77
Reference	Table 48	Table 82	Table 131

The Commission for the purpose of calculation of the cumulative gap has considered the carrying cost at SBI 1 year MCLR + 1% from FY 2019-20 and onwards which is the opportunity cost for the Petitioner. The Petitioner has included Prior Period Power Purchase expenses of INR 96 Cr and other prior period expenses of INR 30 Cr in the Power Purchase Cost for FY 2019-20. The Commission observes that since the department does not recover FPPCA charges the prior period expenses are not eligible for carrying cost. Hence, the same has not been considered for computation of carrying cost. The detailed computation of carrying cost at approved tariff is as under:

Table 141: Computation of carrying cost at approved tariff (excluding prior period expenses for FY 2019-20)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Opening Gap/(Surplus)	146.96	249.57	185.91
Addition Gap/(Surplus) (Standalone Gap)	84.54*	(22.42)	(11.18)#
Regulatory Surcharge rate		4%	5%
Regulatory Surcharge	included above	59.49	81.62
Closing Gap/(Surplus)	231.50	167.66	93.11
Average Gap/(Surplus)	189.23	208.61	139.51
Rate of Interest	9.55%	8.75%	8.00%
Carrying cost	**18.07**	**18.25**	**11.16**
Final Closing Gap/ (Surplus)	249.57	185.91	104.27

*Prior period expenses of INR 126.32 Cr have been adjusted in the Standalone Gap /(Surplus) for the year.

#Standalone Gap /(Surplus) for the year 2021-22 at approved tariff

Considering the additional revenue from tariff increase and Regulatory Surcharge, the resultant Revenue Gap/Surplus has been shown in the table below:

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Table 142: Revised Revenue Gap/ Surplus with Regulatory Surcharge approved by Commission (In INR Cr)

Particulars		FY 2019-20	FY 2020-21	FY 2021-22
Opening Gap /(Surplus)	(a)	146.96	375.88	312.23
Add: Gap/(Surplus)	(b)	210.86	(22.42)	24.77
Less: Additional Revenue on account of tariff increase	(c)	-	-	35.95
Less: Regulatory Surcharge @ 4%	(d)	Included above	59.49	-
Less: Regulatory Surcharge @ 5%	(e)	-	-	81.62
Closing Gap /(Surplus)	(f=a+b-c-d-e)	357.81	293.97	219.43
Average Gap/ (Surplus)	(g=(a+f)/2)	252.38	334.93	265.83
Carrying Cost	h=Computed at table no. 143	18.07	18.25	11.16
Final Closing Gap/ (Surplus)	**(i=f+h)**	**375.88**	**312.23**	**230.59**

The Commission approves a cumulative revenue gap of INR 230.59 Cr till FY 2021-22.

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6.4.7. Highlights of the Tariff Structure

The highlights of the tariff structure approved by the Commission for FY 2021-22 are as follows:

1. The Commission has made every effort to rationalize the tariffs so that they gradually reflect the true cost to service a category of consumer in accordance with the provisions of the Act. Accordingly, the Commission has approved relatively higher percentage increase in tariff for the cross-subsidized categories than the cross-subsidizing categories.
2. The Commission has approved an average tariff hike of 2.25% while approving a regulatory surcharge of 5% for the FY 2021-22.
3. The Commission has approved the average revenue for FY 2021-22 as INR 5.82/kWh as against the approved Average Cost of Supply of INR 5.78/kWh.
4. The Commission has approved the kVAh based tariff for the HT/EHT, Industrial and Commercial categories.

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7. Chapter 7: Open Access Charges for the FY 2021-22

7.1. Wheeling Charges

7.1.1. Allocation Matrix - Allocation of ARR into Wheeling and Retail Supply of Electricity

Petitioner's Submission:

As per Regulation 33 of MYT Regulations, the distribution licensee needs to maintain separate books of accounts for wheeling and retail supply business. However, the distribution licensee has not segregated the accounts based on the wheeling and retail supply business as yet. The regulation also states that in the absence of such accounts, the ratio of the segregation may be decided by the Commission based on the data obtained from the distribution licensee. The present accounts of the licensee are maintained in a consolidated manner and the licensee does not have segregated accounts for each of the above businesses. Further, certain segments of business cannot be segregated into two business categories e.g. sub-station catering to both wires and supply business.

Accordingly, it has to rely on certain assumptions for segregation of total expenses into wires and supply business. However, in line with the Regulations, an endeavour has been made to analyse the expenses and incomes attributable to each business and based on assumptions, the ratio for segregation of the expenses under Retail Supply and Wires Business has been worked out and is tabulated below.

Table 143: Allocation matrix as submitted by Petitioner

Particulars	Allocation (%)		FY 2021-22		
	Wheeling	Supply	Wheeling (INR Cr)	Supply (INR Cr)	Total (INR Cr)
Cost of power purchase for full year	*0%*	*100%*	-	1,313.22	1,313.22
Employee costs	*40%*	*60%*	47.00	70.49	117.49
Repair and Maintenance Expenses	*90%*	*10%*	12.74	1.42	14.15
Administration and General Expenses	*50%*	*50%*	6.98	6.98	13.95
Depreciation	*90%*	*10%*	33.67	3.74	37.41
Interest and Finance charges	*90%*	*10%*	13.99	1.55	15.55
Interest on Working Capital	*10%*	*90%*	0.36	3.27	3.63
Return on Equity	*90%*	*10%*	42.78	4.75	47.53
Interest on consumer security deposit	*10%*	*90%*	0.51	4.60	5.11
Total Revenue Requirement			**158.02**	**1,410.02**	**1,568.04**
Less: Non-Tariff Income	*10%*	*90%*	0.52	4.67	5.19
Net Revenue Requirement			**157.50**	**1,405.35**	**1,562.85**

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PED submitted that the apportionment of wheeling charges has to account for losses and therefore in the absence of the voltage wise details, PED has considered the bifurcation of wheeling cost based on the sales and losses at each voltage level.

Accordingly, the computation of Wheeling charges as submitted by the Petition has been shown in the following table:

Table 144: Wheeling Charge calculation as submitted by Petitioner

Category	O&M (INR Cr)	Others (INR Cr)	Total (INR Cr)	Energy Sales (MU)	Wheeling Charges (INR/kWh)
Low Tension (LT) Level	66.64	45.40	112.03	1222.51	1.12
High Tension (HT) Level	0.07	36.32	36.39	1049.62	0.18
Extra High Tension (EHT) Level	0.00	9.08	9.08	412.14	0.03
Total	**66.71**	**90.80**	**157.50**	**2,684.27**	

Commission's analysis:

The allocation between wheeling and retail supply business for the FY 2021-22 as per the ARR approved in this Order is provided in the table below:

Table 145: Allocation matrix approved by Commission

Particulars	Allocation (%)		FY 2021-22		
	Wheeling	Supply	Wheeling (INR Cr)	Supply (INR Cr)	Total (INR Cr)
Cost of power purchase for full year	0%	100%	-	1,366.83	1,366.83
Employee costs	40%	60%	46.52	69.78	116.31
Repair and Maintenance Expenses	50%	50%	10.59	1.18	11.77
Administration and General Expenses	90%	10%	7.10	7.10	14.20
Depreciation	90%	10%	33.65	3.74	37.39
Interest and Finance charges	90%	10%	13.99	1.55	15.55
Return on NFA /Equity	10%	90%	42.63	4.90	47.53
Interest on consumer security deposit	10%	90%	1.11	9.99	11.10
Interest on Working Capital	90%	10%	0.58	5.20	5.78
Total Revenue Requirement			**156.19**	**1,470.27**	**1,626.46**
Less: Non-Tariff Income	10%	90%	0.52	4.67	5.19
Net Revenue Requirement			**155.67**	**1,465.60**	**1,621.27**

To determine the wheeling charges, the wheeling costs are allocated on the basis of voltage levels. The wheeling charges are levied for distribution network utilized by the Open Access consumers and primarily comprises of O&M Expenses and other costs as provided in the table above.

The methodology adopted for allocating the derived wheeling costs at respective voltage levels has been elaborated as follows:

- O&M Expenses consisting of Employee, A&G and R&M expenses are allocated to each voltage level on the basis of number of consumers.
- All expenses other than the O&M expenses are allocated to each voltage level on the basis of voltage wise asset allocation. The Petitioner in this regard was directed to submit the voltage wise asset allocation but has failed to submit the desired information and in the absence of such information, the Commission has assumed the voltage wise asset allocation shown in the table below.
- The resultant cost at EHT voltage level is divided among LT, HT and EHT voltage levels on the basis of input energy at respective voltage levels as the EHT network is used by consumers at all voltage levels. Similarly, allocated cost at HT voltage level is divided between HT and LT voltage levels. The cost at LT voltage level is allocated completely to LT voltage level

  The energy input has been determined assuming the loss level of EHT voltage as 1.50% and loss level at HT voltage as 4.00%, the same as approved in the MYT Order. The Petitioner in this regard has failed to submit the voltage wise losses. The resultant losses have been loaded to the LT voltage level in order to maintain the overall Intra-State T&D loss at 11.00% as approved in the MYT Order for FY 2021-22.

Table 146: Parameters assumed for voltage wise allocation of wheeling charges

Category	No. of Consumers	Asset Allocation (%)	Sales (MU)	Cumulative Voltage wise Losses (%)	Energy Input (MU)
Low Tension (LT) Level	511784	50.00%	1301.79	17.60%	1579.81
High Tension (HT) Level	547	40.00%	1079.69	4.00%	1141.81
Extra High Tension (EHT) Level	7	10.00%	422.66	1.50%	429.10
Total	**512338**	**100.00%**	**2804.14**	**11.00%**	**3150.72**

Accordingly, the Commission approves the Wheeling Charges as follows:

Table 147: Wheeling Charges approved by Commission

Category	O&M (INR Cr)	Others (INR Cr)	Total (INR Cr)	Energy Sales (MU)	Wheeling Charges (Rs/kWh)
	A	B	C=A+B	D	E=C/D*10
Low Tension (LT) Level	64.18	68.65	132.83	1301.79	1.02
High Tension (HT) Level	0.03	21.55	21.59	1079.69	0.20
Extra High Tension (EHT) Level	0.00	1.25	1.25	422.66	0.03
Total	**64.22**	**91.45**	**155.67**	**2804.14**	

The Commission approves wheeling charge of INR 1.02/ kWh at LT voltage level, INR 0.20/kWh at HT voltage level and INR 0.03/kWh at EHT voltage level

7.2. Additional Surcharge

Petitioner's Submission:

The Petitioner has proposed additional charges as follows:

Particulars	
Total Power Purchase Cost	1,313.12
Fixed cost component in Power Purchase Cost (excluding transmission charges)	277.48
Energy Sales (MU)	2,684.27
Additional Surcharge (Rs/kWh)	**1.03**

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:"

Regulation 4.5 (2) of the said Regulations stipulate:

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:

Table 148: Additional Surcharge approved by Commission

Particulars		
Total Power Purchase cost approved		**1,366.83**
Fixed Cost component in Power Purchase Cost (excluding Transmission Charges)	A	294.25
Energy Sales including Open Access Sales (MU)	B	2,804.14
Additional Surcharge (INR/kWh)	C=A/B*10	**1.05**

Earlier, 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 Open Access Regulations, 2017, a consumer now is only required to pay fixed charges on Admissible Drawal rather than on total contracted load.

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 1.05/kWh for the FY 2021-22.

The Commission directs the Petitioner to submit quarterly details of the 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 change the applicable Additional Surcharge, if required.

7.3. Cross-Subsidy Surcharge

Petitioner's Submission:

The Cross-Subsidy Surcharge submitted by the Petitioner is shown in the following table:

Table 149: Cross-Subsidy Surcharge as proposed by the Petitioner

Category	VCoS (INR /kWh)	ABR (INR /kWh)	Cross- Subsidy (INR /kWh)
Low Tension (LT) Level	6.93	4.45	(2.48)
High Tension (HT)	4.99	7.34	2.35
Extra High Tension(EHT) Level	4.79	6.49	1.70

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 T&D losses at 11.00%, as approved in the MYT Order for FY 2021-22. Voltage wise losses assumed at each level have been shown in the table below:

Table 150: Voltage Wise Losses considered by the Commission

Category	Voltage Level Loss (%)	Cumulative Losses upto that voltage level (%)
Low Tension (LT) Level	12.86%	17.60%
High Tension (HT) Level	4.00%	5.44%
Extra High Tension (EHT) Level	1.50%	1.50%
Total	**11.00%**	**11.00%**

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 151: Energy Input at each voltage level (MU)

Category	Energy Sales (MU)	Cumulative Losses (%)	Energy Input (MU)
Low Tension (LT) Level	1301.79	17.60%	1579.81
High Tension (HT) Level	1079.69	4.00%	1141.81
Extra High Tension (EHT) Level	422.66	1.50%	429.10
Total	**2804.14**	**11.00%**	**3150.72**

Now the overall ARR approved for FY 2021-22 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 EHT level is then further allocated to EHT, HT and LT levels on the basis of input energy, as the EHT network is utilized by all EHT, HT and LT network consumers. Similarly, the cost allocated to HT is distributed to both HT and LT voltage level.
- 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 152: Parameters used for allocation of fixed costs

Category	Energy Input (MU)	Voltage wise Asset Allocation (%)	No. of Consumers
Low Tension (LT) Level	1,579.81	50%	511,784
High Tension (HT) Level	1141.81	40%	547
Extra High Tension (EHT) Level	429.10	10%	7
Total	**3,150.72**	**100%**	**512,338**

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 153: 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 (Rs/kwh)
	A	**B**	**C=A+B**	**D**	**E=C/D*10**
Low Tension (LT) Level	407.14	504.61	911.75	1,301.79	7.00
High Tension (HT) Level	157.14	364.70	521.84	1,079.69	4.83
Extra High Tension (EHT) Level	50.62	137.06	187.68	422.66	4.44
Total	**614.90**	**1,006.37**	**1,621.27**	**2,804.14**	

The VCoS as determined is used to determine the Cross-Subsidy Surcharge.

Table 154: Cross-Subsidy Surcharge

Category	VCoS (Rs/kWh)	ABR (Rs/kWh)	Cross- Subsidy (Rs/kWh)
	A	B	C=A-B
Low Tension (LT) Level	7.00	4.27	(2.74)
High Tension (HT) Level	4.83	7.31	2.47
Extra High Tension (EHT) Level	4.44	6.82	2.37

The Cross-Subsidy Surcharge is coming out to be negative for LT voltage level, INR 2.47/kWh for HT and INR 2.37/kWh for EHT voltage levels.

Therefore, the Commission approves nil Cross-Subsidy Surcharge at LT Voltage level, INR 2.47/kWh at HT Voltage Level and INR 2.37/kWh at EHT Voltage levels, in FY 2021-22.

8. Chapter 8: Fuel and Power Purchase Adjustment Mechanism

The State of Goa and Union Territories of Andaman & Nicobar Islands, Lakshadweep Island, 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 Despatch Center (SLDC)/ Regional Load Despatch 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 the region (for IPP's, licensees own generation and other State generating sources). Charges for the Over-drawal/Under-drawal 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 FY 2016-17 will be undertaken by the Commission once the audited accounts of FY 2016-17 are available. If the audited accounts for FY 2016-17 are prepared timely, the impact of true-up of various cost and revenue items is allowed in the tariff of FY 2018-19, 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

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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 adjusting variations on account of Fuel and Power Purchase Cost in the end consumer tariff, which shall come into force w.e.f. 1st April 2020 (i.e. Power Purchased by the Licensee from 1st April 2020 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:

$$\boldsymbol{FPPCA}\left(\frac{\boldsymbol{INR}}{\boldsymbol{Unit}}\right) =.\left(\frac{(\boldsymbol{Pact} + \boldsymbol{Tact} + \boldsymbol{Oact} - \boldsymbol{ASact}) * \boldsymbol{10}}{\{[\boldsymbol{PPOact} * (\boldsymbol{1} - \boldsymbol{TLapp}) + \boldsymbol{PPIact} - \boldsymbol{PSOact}] * (\boldsymbol{1} - \boldsymbol{DLapp})\} - \boldsymbol{Zact}}\right) - \boldsymbol{Rapp}$$

Where:

- $Pact(in\ INR\ Cr.)$: 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
- $Tact\ (in\ INR\ Cr.)$: 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
- $Oact\ (in\ INR\ Cr.)$: 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
- $ASact\ (in\ INR\ Cr.)$: 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

$$Rapp\ (\frac{INR}{unit}) = \left(\frac{(Papp + Tapp) * 10}{\{[PPOapp * (1 - TLapp) + PPIapp - PSOapp] * (1 - DLapp)\} - Zapp}\right)$$

- $Papp\ (in\ INR\ Cr.)$: 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
- $Tapp\ (in\ INR\ Cr.)$: 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, the Commission suggests that 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 ±10% of the ABR for a 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

$$\frac{Approved\ Retail\ Tariff\ for\ a\ category\ or\ sub\ category\ (\frac{INR}{unit})}{Weighted\ Average\ Retail\ Tariff\ (WART)(\frac{INR}{unit})}$$

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

$$FPPCA\left(\frac{INR}{Unit}\right) = Average\ FPPCA * K\ for\ that\ consumer\ category\ or\ sub - category$$

5. The Petitioner shall compute the fuel and power procurement cost variations, and adjustments shall be made in the consumer bills based on the FPPCA formula as approved 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 4.99/kWh for the FY 2021-22.

Table 155: Rapproved determined by Commission for FY 2020-21

Particulars	Amount
Total Power Purchase Cost (INR Cr), P_{app}	1,300.63
Transmission Charges (INR Cr), T_{app}	66.21
Power Purchase Quantum from CGS Stations at Generator Periphery (NTPC, NPCIL, NLC, Vallur) (MU), PPO_{app}	2,907.69
Approved Inter-State Transmission Loss (%), TL_{app}	2.12%
Power Purchase Quantum from sources within State (PPCL) (MU), PPI_{app}	231.39
Quantum of Sale of Surplus Power (MU), PSO_{app}	73.16
Approved Intra-State T&D Loss (%), DL_{app}	11.00%
Energy Sales for Hut Services and Agriculture consumer category (MU), Z_{app} (MU)	63.26
R_{app} (Rs/kWh)	**4.99**

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 is not fully complying with many of 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 hereby directs that the Petitioner shall now compulsorily submit:

- The detailed action plan for compliance of all the directives within 1 month of the issuance of this Order.
- The quarterly progress report as per the detailed action plan for all the directives issued in the subsequent sections and also the quarterly status reports for metering & billing, RPO compliance, FPPCA, SOPs and Capex and Capitalisation within 10 days of the end of each quarter of the calendar year.

9.1. Previous 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. Energy Audit and T&D Losses

Originally Issued in Tariff Order dated 5th February 2010
Commission's Latest Directive in Tariff Order for the FY 2020-21 The Commission has taken a serious view of the fact that the Petitioner has been unable to submit the Energy Audit Report along with the Tariff Petition for FY 2020-21. Since most of the central schemes were planned to be capitalized by FY 2019-20 as per the approved capital expenditure plan, the Commission directs the Petitioner to complete the energy audit of all distribution transformers and submit the same within 3 months of the issuance of Tariff Order.
Petitioner's Response in Present Tariff Petition Out of existing 3083 DTs 1236 nos. had already been metered. As on date during FY 2020-21, 528 Nos. had already been metered and it is also proposed to provide metering arrangement for the balance DTRs including the replacement of defective DTR meters for which works under progress. Upon completion of DTR metering, the Energy Audit will be taken up and completed by March 2021.
Commission's Response The Commission has taken a serious view of the fact that the Petitioner has not submitted the Energy Audit Report along with the Tariff Petition for FY 2021-22. As per the timelines envisaged by the Petitioner the Energy Audit Report should be completed by March 2021 therefore the Commission directs the Petitioner to submit the same within 1 month of issue of this Order.

9.1.2. Proposal of the Energy Charges for the agriculture category

Originally Issued in Tariff Order dated 10th April 2013
Commission's Latest Directive in Tariff Order for the FY 2020-21 The Commission takes note of the efforts of the Petitioner in this regard and directs the Petitioner to provide 100% metering to all agricultural consumers as the Commission would be introducing energy charges with effect from FY 2021-22. Further, submit a quarterly progress report in this regard.
Petitioner's Response in Present Tariff Petition Already 721 Nos. of Agricultural services has been metered. During the first and second quarter 50 Nos. of Agricultural services are newly metered. Estimates has been prepared for 4508 services to provide metering and all the Agriculture service will be metered by March 2020-21. Energy charges shall be claimed for Agriculture services after completion of 100% metering.
Commission's Response The Commission takes note of the efforts of the Petitioner in this regard and directs the Petitioner to provide 100% metering to all agricultural consumers as proposed by the Petitioner. The Commission directs the Petitioner to submit a report on the same within 1 month of issue of this Order.

9.1.3. Determination of Voltage wise Wheeling charges and Category wise/ Voltage wise Cost of supply

Originally Issued in Tariff Order dated 24th May 2016
Commission's Latest Directive in Tariff Order for the FY 2020-21 The Commission has taken a serious view of the fact that the Petitioner has been unable to submit the Voltage wise Asset Register or the Energy Audit Report. In light of the same, the Commission in this Tariff Order has again determined the voltage wise wheeling charges based on certain assumptions. The Commission directs the Petitioner to submit all the requisite information for determination of voltage wise wheeling charges within 3 months of the issuance of this Order.
Petitioner's Response in Present Tariff Petition *Fixing up Energy meter in all the 110 KV, 22 KV , 11 KV feeders have already been completed and action is being taken to compute voltage wise cost of supply, will be worked out and furnished at 110 KV level while filing Tariff Petition for FY 2020-21.* *EHV loss have been worked at the sub-station level for all the four regions of Puducherry. By the end of FY 2020-21 all the DTRs will be metered and the voltage wise cost of supply will be worked out 22 KV &11 KV as well as for LT category.* *This Department is maintaining year wise Transmission and Distribution Asset Registers separately.* *However the 22 KV & 11 KV infrastructure assets will be segregated from the Distribution asset and the report will be submitted at the time of Tariff petition for FY 2021-22.*
Commission's Response The Commission has taken a serious view of the fact that the Petitioner has been unable to submit the Voltage wise Asset Register or the Energy Audit Report. In light of the same, the Commission in this Tariff Order has again determined the voltage wise wheeling charges based on certain assumptions. The Commission directs the Petitioner to submit all the requisite information for determination of voltage wise wheeling charges along with petition for determination of tariff for FY 2022-23.

9.1.4. New Bill Format

Originally Issued in Tariff Order dated 24th May 2016

Commission's Latest Directive in Tariff Order for the FY 2020-21

The Petitioner, in the current MYT petition, has submitted that all related works with respect to R-APDRP is expected to be completed in FY 2018-19 (instead of the FY 2019-20 as proposed in the Business Plan Petition) as per the directive given by the MoP. The Commission therefore directs the Petitioner to submit the compliance of the directive before 31st May 2019 and include all requirements of billing format as per the latest Supply Code Regulations notified by the JERC.

Petitioner's Response in Present Tariff Petition

The software for new bill format has been developed and it is under trail. The Trail operation will be completed by Dec'2020 and the new bill format will go live during Jan'2021.

Commission's Response

The Commission takes note of the efforts by the Petitioner in this regard. The Commission directs the Petitioner to submit a report on the progress of the same within 1 month of issue of this Order.

9.1.5. Time of Day (ToD) Tariff for HT/ EHT consumers

Originally Issued in Tariff Order dated 24th May 2016

Commission's Latest Directive in Tariff Order for the FY 2020-21

The Commission takes note of the efforts by the Petitioner in this regard. The Department directs the Petitioner to submit a report on the progress of the same within 1 month of issue of this Order.

Petitioner's Response in Present Tariff Petition

Out of existing 473 Nos. of HT/EHT consumers, 414 nos. of consumers have been provided with TOD enabled Energy meters. For balance 59 Nos. of consumer metering, action will be taken to provide TOD enabled meters by January 2021.

Commission's Response

The Commission takes note of the efforts by the Petitioner in this regard. The Department directs the Petitioner to submit a report on the progress of the same within 1 month of issue of this Order.

9.1.6. Compliance towards Renewable Purchase Obligation (RPO)

Originally Issued in Tariff Order dated March 28, 2018

Commission's Latest Directive in Tariff Order for the FY 2020-21

The Commission takes note of the Petitioner's Submission. The Petitioner is directed to fulfil the standalone RPO targets set by the Commission for the FY 2020-21, as the Commission has allowed expenses for the same as part of the power procurement cost approved for the FY 2020-21.

Petitioner's Response in Present Tariff Petition

In order to meet the RPO, the Electricity Department Puducherry has already signed a Power Sale Agreement (PSA) with M/s. SECI towards purchase of 240.64 (100+140.64)MW of wind power and 50 MW of Solar Power from ISTS connected RE power projects of MNRE. Based on the availability of Renewable Energy from these plants, the RPO will be met partially.

Commission's Response

The Commission takes note of the Petitioner's Submission. The Petitioner is directed to expedite the engagement of solar power suppliers to ensure compliance of the RPO obligations and a report thereof to be submitted along with the next tariff petition.

9.1.7. Utilising the provision of FPPCA formula

Originally Issued in Tariff Order dated May 20, 2019
Commission's Latest Directive in Tariff Order for the FY 2020-21 The Commission observed that the Petitioner has not implemented FPPCA mechanism. The Petitioner is not recovering/refunding any revenue pertaining to FPPCA from/to consumers. This may affect their cash flow. Therefore, the Commission directs the petitioner to make use of the FPPCA formula for any adjustments on account of fuel and power purchase cost variation on quarterly basis from FY 2019-20 onwards and submit the supporting bills/documents for the FPPCA calculations on quarterly basis to the Commission for evaluation and assessment.
Petitioner's Response in Present Tariff Petition The third and fourth quarter FPPCA for FY 2019-20 have also been worked out as 18 paise/unit and 63 paise/unit respectively and the same will be taken up during the True up petition for FY 2019-20. For FY 20-21 the calculation of FPPCA was delayed due to COVID -19 and the same has been included in the Revised ARR for FY 2020-21.
Commission's Response The Commission observed that the Petitioner has still not implemented FPPCA mechanism. The Petitioner is not recovering/refunding any revenue pertaining to FPPCA from/to consumers. This may affect their cash flow. Therefore, the Commission directs the petitioner to make use of the FPPCA formula for any adjustments on account of fuel and power purchase cost variation on quarterly basis from FY 2021-22 onwards and submit the supporting bills/documents for the FPPCA calculations on quarterly basis to the Commission for evaluation and assessment.

9.2. New directives in this Order

9.2.1. Category-wise per kW/kVA data

The Commission directs the Petitioner to ensure capturing the connected load / contracted demand data for all the categories and submit the same to the Commission along with the next tariff petition.

9.2.2. New billing software

The Commission observes that the implantation of the new billing software is pending since 2 years. The Commission directs the Petitioner to ensure quick implementation of the new software so that accurate and complete data is captured and made available for true-up and determination of tariff.

9.2.3. Fixed Assets Register (FAR)

The Commission directs the Petitioner to ensure preparation of FAR and submit the same to the Commission along with the next tariff petition.

9.2.4. Quarterly status reports

It has been observed that quarterly status reports for metering & billing, RPO compliance, FPPCA, SOPs, Capex and Capitalisation, and CGRF are not being submitted to the Commission in a regular and timely manner. The Commission directs the Petitioner to submit aforementioned reports regularly along with the supporting documents.

10. Chapter 10: Tariff Schedule

10.1. Tariff Schedule

Table 156: Tariff Schedule*

Category	Fixed Charges	Energy Charges
LIFELINE SERVICES #	-	1.00 INR /kWh
0-50 units per month	0-50 units per month	0-50 units per month
DOMESTIC & COTTAGE INDUSTIRES		
0-100 units	40.00 INR/Con/Month	1.55 INR/kWh
101-200 units	45.00 INR/Con/Month	2.60 INR/kWh
201-300 units	45.00 INR/Con/Month	4.65 INR/kWh
Above 300 units	45.00 INR/Con/Month	6.05 INR/kWh
COMMERCIAL		
LT COMMERCIAL		
0-100 units	75.00 INR/kW/Month	5.70 INR/kWh
101-250 units	75.00 INR/kW/Month	6.75 INR/kWh
Above 250 units	75.00 INR/kW/Month	7.50 INR/kWh
HT Commercial (For contract demand up to 5000 kVA)	420.00 INR/kVA/month	5.45 INR/KVAh
AGRICULTURE SERVICES		
Agriculture		
Small Farmers	11.00 INR/HP/Month	-
Other farmers	50.00 INR/HP/Month	-
PUBLIC LIGHTING	110.00 INR/pole/Month	6.80 INR/kWh
INDUSTRIES		
LT Industrial	50.00 INR/kW/Month	6.05 INR/kWh
HT Industries (For Supply at 11 kV, 22 kV or 33 kV)	420.00 INR/kVA/month	5.30 INR/KVAh
EHT Industries (For Supply at 110 kV or 132 kV)	480.00 INR/kVA/month	5.10 INR/KVAh
LT Water Tanks	150.00 INR/Con/Month	6.90 INR/kWh
HT Others	480.00 INR/kVA/month	6.35 INR/KVAh
ELECTRIC VEHICLE CHARGING STATION	-	4.50 INR /kWh
HOARDINGS/SIGNBOARDS	140.00 INR/kVA/month	8.00 INR/kWh
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.		
*A Regulatory Surcharge of 5.00% shall be applicable to all the consumer categories as a percentage of the total Energy and Demand charges payable by the consumer towards recovery of past accumulated deficit.		

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10.2. Applicability

Table 157: Applicability of Tariff Schedule

LIFELINE SERVICES
OHOB connections are being converted into metered connections hence they will be charged as per metered tariff upto 50 units at INR 1.00/ kWh and No Fixed Charges. If the consumption exceeds 50 units then Domestic tariff shall be applicable.
<u>LT Supply Limit for all LT categories</u> For single phase connection, the connected load shall be upto 5 kW, and for three phase connection, the connected load shall be upto 100 kVA
DOMESTIC PURPOSES
This tariff is applicable to services for lights, fans, Air-conditioning, Heating and other small domestic appliances etc. used for: a) Genuine domestic purposes including common services for staircase, lifts, water tanks in the purely domestic apartments. b) Supply to actual places of public worship such as temples, mosques, churches etc. c) Ashrams and Mutts, Non-commercial orphanage homes and old people homes run by religious and charitable institutions, social welfare and voluntary organizations. d) Government schools along with related facilities. e) Youth hostels, Harijan hostels, Rehabilitation Centres, Anganwadies and Balwadies run by Social Welfare Department. f) For own residences where one room is set apart for the purpose of consultation by doctors, lawyers, engineers, architects and auditors. g) To handloom in residence of handloom weavers (regardless of the fact whether outside labour is employed or not) and to handloom in sheds erected. h) To the residences where supply from a house is extended to tailoring shops, job typing, document writing, laundry pressing, and small caterers set up in the verandah of the house with small lighting load only (one tube light only).
HUT SERVICES (OHOB)
OHOB connections are being converted into metered connections hence they will be charged as per metered tariff upto 50 units at INR 1.00/ kWh and No Fixed Charges. If the consumption exceeds 50 units then Domestic tariff shall be applicable.
COMMERCIAL
LT Commercial
This tariff is for Lights and combined installation of lights and fans, mixed loads of lights and power, heating and air-conditioning applicable to: a) Non-domestic and non-industrial consumers, trade and commercial premises b) All educational institutions excluding Government Schools along with related facilities c) Hotels, Restaurants, Boarding and Lodging Homes d) Hospitals, Private clinics, Nursing Homes, Diagnostic Centres, X-ray Units etc. e) IT related development Centres and Service Centres f) Common services for Stair-case, lifts, water tanks etc. in the purely commercial/ combination of commercial and domestic.
HT Commercial
For Commercial Establishments including laboratories, hotels, marriage halls, cinema theatres, private educational institutions, private hospitals, shopping malls, telephone exchanges, broadcasting companies with contracted maximum demand upto 5000 kVA. New High Tension consumers who want to avail a contract demand above 5000 kVA or existing High Tension consumers who want to enhance their demand beyond total contract demand of 5000 kVA should avail power at 110 kV or 132 kV as the case may be.

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AGRICULTURE SERVICES
Agriculture
For supply to bonafide agricultural services with a connected load of not less than 3 HP per service **Note** 1. Electricity will be supplied under the tariff category "Small farmers" to those consumers whose families are solely dependent on the income derived from their agricultural land holding, which should not exceed two and half acres of wet land or five acres of dry land. A certificate to this effect from Revenue authority shall be produced. "Small farmer" means a person whose total holding, whether as owner, tenant or mortgaged with possession or partly in one capacity and partly in another, does not exceed two-and-a half acres of wetlands or five acres of dry land. In computing the extent of land held by a person who owns both wet and dry lands, two acres of dry land shall be taken as equivalent to one acre of wet land. 2. The above concession will be withdrawn if resale of energy or unauthorized load / extension or use for other purpose is detected by the Department. 3. Agricultural power loads below 3 H.P. will be charged under Tariff Category A1. A bonafide farmer may use his motor in the Agricultural Service for allied agricultural purposes such as sugarcane crushing, thrashing etc. 4. Power supply to Farmhouses shall be metered separately and charged under domestic tariff (A2). **Payment of Tariff Charges by Agriculture Consumers** 1. The Tariff shall be collected in three equal instalments payable in April August and December in each year. The instalments shall be payable before the 15th of the respective months. 2. For new service, the first instalment shall be proportionate to the number of whole months remaining till the month in which the first instalment is due. Fraction of a month shall be reckoned as a whole month.
PUBLIC LIGHTING
This tariff will apply to public lighting in markets, bus stands, traffic signals, high mast lights on public ways, public parks, public lighting in notified industrial estates
INDUSTRIES
LT Industries
Applicable to low tension industrial consumers including lighting in the industrial services.
HT Industries (For Supply at 11 kV, 22 kV or 33 kV)
The supply voltage for HT consumer's upto 5000 kVA will be 33 kV, 22 kV or 11 kV as the case may be. Applicable to industrial establishments, IT and ITES based Companies registered under Factories Act/ Companies Act with contracted maximum demand upto 5000 kVA. New High Tension consumers who want to avail a contract demand above 5000 kVA or existing High Tension consumers who want to enhance their demand beyond total contract demand of 5000 kVA should avail power at 110 kV or 132 kV as the case may be.
EHT Industries (For Supply at 110 kV or 132 kV)
Applicable to all types of industries supplied at 110 KV or 132 KV as the case may be.
LT WATERWORKS
Applicable to low tension consumers with Water Tanks including lighting in the premises maintained by State Government Departments/Undertakings and Local Bodies.
HT OTHERS
Applicable to State and Central Government establishments of non-industrial and non-commercial nature.
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 purposes shall be applicable for domestic charging.

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TEMPORARY SUPPLY
NOTE: 1. The rate for Special illumination shall apply to weddings, garden-parties and other Private/Government functions when the illumination is obtained through bulbs fastened in other surfaces of wall of buildings, on trees and poles inside the compound and in pandal etc., outside the main building. 2. In cases where such Special illumination is done in the existing regular services the energy utilized for such illumination shall be metered separately and the consumption will be charged under Special illumination charge as levied under temporary supply. 3. Wherever such Special illumination is done without authorization, a penal charge of INR 500 for service shall be levied in addition to the existing tariff of the installation. 4. Other conditions for connection of line and service connection charges, dismantling, security deposit etc. will be as per the latest Supply Code Regulations notified by JERC.
HOARDINGS/SIGNBOARDS
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 under commercial category.

10.3. General Terms and Conditions

The above mentioned LT/HT Tariffs are subjected to the following conditions, applicable to all category of consumers.

1) The tariff indicated in this tariff schedule is the tariff rate payable by the consumers of Union Territory of Puducherry.

2) A Regulatory Surcharge of 5.00% shall be applicable to all the consumer categories as a percentage of the total Energy and Demand charges payable by the consumer towards recovery of past accumulated deficit.

3) These tariffs are exclusive of electricity duty, tax on sale of electricity, taxes and other charges levied by the Government or other competent authorities from time to time.

4) Unless otherwise agreed to, these tariffs for power supply are applicable to single point of supply.

5) The power supplied to a consumer shall be utilized only for the purpose for which supply is taken and as provided for in the tariff. 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 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 and the Supply Code Regulations notified by JERC.

   Provided that

   (a) if a portion of the domestic premises limited to only one room is used for running small household business having connection under domestic category, such connection shall be billed under domestic category provided that the total monthly consumption of the consumer (including consumption for above mentioned small household business) does not exceed 150 kWh

   (b) if either more than one room or only one room having monthly consumption exceeding 150 kWh for consecutive three months is detected in the domestic premises being used for mixed purposes having domestic connection, such connection shall further be billed under commercial category until a separate connection of appropriate tariff is taken for that portion used for non-domestic purpose.

6) If the consumer fails to pay the energy bill presented to him by the due date, the Department shall have

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the right to disconnect the supply as per the Act & Supply Code Regulations notified by JERC.

7) 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.

8) 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 Regulations notified by JERC. 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.

9) Unless specifically stated to the contrary, the figures of energy charges relate to INR per unit (kWh) charge for energy consumed during the month.

10) **Late Payment Surcharge** shall be applicable to all categories of consumers. Late payment surcharge of 2% per month or part thereof shall be levied on all arrears of bills. In case the delay is less than a month, the surcharge will be levied at 2% per month on proportionate basis considering a month consists of 30 days. 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 next rupee. In case of permanent disconnection, late payment surcharge shall be charged only up to the month of permanent disconnection.

11) **Advance Payment Rebate:** If payment is made in advance well before commencement of consumption period for which bill is prepared, a rebate @ 1% per month shall be given on the amount (excluding Consumer Security Deposit) which remains with the licensee at the end of the month. Such a rebate, after adjusting any amount payable to the licensee, shall be credited to the account of the consumer.

12) **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.

   Provided that in case the payment is made by cheque, the prompt payment discount will be applicable only if the payment by cheque is made 3 days prior to date of availing the prompt payment discount i.e. before 10 days from the due date of payment.

13) **Time of Day (TOD) Tariff**

   (a) Under the Time of Day (ToD) Tariff, electricity consumption and maximum demand in respect of HT/EHT consumers for different periods of the day, i.e. normal period, peak load period and off-peak load period, shall be recorded by installing a ToD meter.

   (b) The maximum demand and consumption recorded in different periods shall be billed at the following rates on the tariff applicable to the consumer.

Table 158: Applicability of ToD 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

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Time of use	Demand Charges	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

(c) Applicability and Terms and Conditions of TOD tariff:

i. The Commission directs the Petitioner to introduce the TOD tariff as mentioned above urgently including installation of the Smart Meters to capture ToD consumption.

ii. The facility of aforesaid TOD tariff shall not be available to the HT/EHT consumers having captive power plants and/or availing supply from other sources through wheeling of power

iii. The HT/EHT industrial consumers who have installed standby generating plants shall also be eligible for the aforesaid TOD tariff

iv. In the event of applicability of the TOD tariff to a consumer, all other terms and conditions of the applicable tariff shall continue to apply.

14) The adjustment on account of Fuel and Power Purchase Cost variation shall be calculated in accordance with the FPPCA formula specified in Chapter 8 of this Tariff Order. Such charges shall be recovered / refunded/adjusted in accordance with the terms and conditions specified in the FPPCA mechanism.

15) 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.

16) Schedule of service charges and other charges would be as approved in this Tariff Order.

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10.4. Schedule of Other Charges

Table 159: Schedule of Other Charges

S. No.	Description	Charges (INR)
A	Charges for Service Connections	
A1	New LT overhead service lines	
1	One hut one Bulb	Nil
2	Other single phase Services	250
3	Three phase Services	500
4	L.T C.T operated Meter services	3,000
5	H.T Services	10,000
A2	New LT underground service lines	
1	Single Phase services	500
2	Three phase Services	1,000
A3	Rating / re-rating of services	
1	Single phase Services	125
2	Three phase Services	250
3	L.T C.T operated Meter service	1,500
4	H.T Service	2,500
Note: **The above charges under (A1) & (A2) will be applicable for addition or alteration or reduction of connected load and enhancement or reduction of CMD or alteration of internal Electrical installations.**		
B	Testing for Installation	
1	Domestic lighting / Commercial lighting / Agriculture Services	200
2	Other LT Services	900
3	HT/EHT Services	7,500
Note: **Testing for servicing a new installation (or of an extension or alteration) - For the first test No Charge. Subsequent testing warranted due to absence of contractor or his representative (or) due to defects in wiring of consumer's premises or at the request of the consumer or at occasions that warrant testing of installations for the second time for reasons attributable to the consumers**		
C	Testing for meters and metering arrangements	
1	Single phase direct meter	150
2	Three phase direct meter up to 50 A	200
3	L.T C.T coil test	800
4	H.T Tri-vector Meter (0.5 class accuracy or CT operated LT meters)	1,500
5	H.T Tri-vector Meter (0.2 class accuracy)	2,000
6	H.T Metering Cubicle	3,500
D	Testing of HT/EHT Consumer Protective Equipment	
1	Testing charges for protective relays (Earth fault, line fault etc.)	4,500
2	Testing charges for one set of current transformer	4,500
3	Testing charges for one set of potential transformer	4,500
4	Testing charges for one set of EHT current transformer	6,000
5	Testing charges for one set of EHT potential transformer/ CVT	6,000

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S. No.	Description	Charges (INR)
6	Testing charges for one set of HT circuit breaker	**4,500**
7	Testing charges for one set of EHT circuit breaker	**6,000**
8	Testing charges for measurement of earth resistance	**3,000**
9	Testing charges for Transformer oils	**500**
E	Disconnection/Re-connection Charges	
1	Disconnection of L.T service on request	**100**
2	Disconnection of HT service on request	**500**
3	Reconnection of L.T Service (on all occasions)	**100**
4	Reconnection of HT Service (on all occasions)	**1,000**
F	Title Transfer of Services	
1	Domestic	**250**
2	Commercial Lighting Installation	**500**
3	All other LT installation	**1,000**
4	HT/EHT Services	**2,000**
G	Furnishing of Certified Copies (To be issued to the consumer only)	
1	Issue of duplicate Monthly bills for a month	**10**
2	Contractor's completion-cum test report	**10**
3	Ledger Extract	**20/calendar year or part thereof**
4	Agreement	**50**
5	Estimate	**50**
H	**Charges for Replacement of Burnt Meters**	
1	LT Single Phase meters	**700**
2	LT Three Phase meters	**1,300**
3	Three Phase LT meters with CTs	**3,000**
4	HT Meter 0.5s class of accuracy	**6,500**
5	HT Meter 0.2s class of accuracy	**30,000**
6	HT Metering Cubicle (CT/PT Unit)	**70,000**
I	Fuse Renewal Charges	
1	Domestic	**NIL**
2	Commercial	**50**
3	L.T Industrial	**50**
4	High Tension/Extra High Tension Installation	**250**
J	Shifting of Meter Board at Consumer’s Request	
1	LT Single Phase Supply	**125**
2	**LT Three Phase Supply**	**250**

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Annexures

Annexure 1: List of Stakeholders

The following is the list of the participants in Public Hearings conducted on 27.1.2021 through video conferencing:

Table 160: List of participants in Public Hearing

S. No.	Identification of Stakeholder
1	Representative of Sumangala Steel (P) Ltd.
2	Representative of Chemfab Alkalies Limited
3	Representative of Indian Energy Exchange Limited

Annexure 2: Submission by Petitioner regarding implementation of KVAh billing

General write up on kVAh tariff

The Hon'ble JERC directs the Department to implement KVAh tariff to HT/EHT consumers beginning from FY 2021-22. The Department levies the electricity charges in two forms namely fixed charge and energy charge from consumers against power consumption. The fixed charges varies on consumer category and are being charged based on per connection, load and demand basis. However, energy charges are being imposed only in per unit (kWh) basis across all consumer categories. Hence, it is evident that only active power is being charged from consumers.

It is a well-known fact that the industrial load consists of majorly of inductive load which generates some amount of reactive power for them to function. This reactive power is compensated by the capacitor bank installed in parallel to the load. These equipment tends to draw the reactive power from the grid which the Department has to draw from the southern grid. These industrial units are required to maintain their equipment well and install the capacitors to maintain the power factor. However, not all industrial units do so. This leads to reduction in power factor and system inefficiency. If the tariff is only fixed for active energy measured (kWh basis), the supplier(PED) has to meet the loss in the supply system because of this additional current drawn due to the poor power factor of the load maintained by the consumers.

To eliminate the losses, regulatory measures have been initiated upon the consumers who does not maintain the power factor of the load at unity or at specified value. Imposing penalty to consumers who create this burden, by identifying them through special tasks, are not practical and feasible for the Department, which further leads to billing disputes. Therefore, consideration of apparent power (active as well as reactive) or also known as KVAh while billing the consumers is inevitable as reactive power being the integral part of the power supplied to consumers.

The kVArh power occupies the capacity of electricity network and reduce the useful capacity of system for generation and distribution of the active power. If only active power kWh is measured, the kVArh power would constitute a part of the technical losses in the system.

Advantages of maintaining Unity Power Factor :

1. At Unity Power Factor, kWH consumption is equal to kVAh Consumption.

2. Overloading of Distribution System is avoided resulting in better voltage profile.

3. Reduction in Line & Transformer losses.

4. Insulation Failures reduces.

5. Increase in Line Capacity

Demerits of Leading/Lagging Power Factor:

1. Increased line losses

2. Harmonic Resonance

3. Over Voltage

4.Switching spikes

5.Tripping of Protection Relays

6 . Effects on consumer installations like temperature rise of equipment, overvoltage & equipment insulation failure etc.

PARAMETER				
KW	200	200	2200	200
P.F (LAG/LEAD	11	0.90	00.80	0.70
KVAR(LAG/LEAD)	0	96.35	150	201.63
KVA	200	222	250	284
LOAD IN AMP	262	292	328	374
Requriredtrans.capacity in KVa	250	250	300	300

So, for same load of 200 Kw of consumer with 0.7 P.F.transformer capacity required is 300 KVA and with improved power factor of Unity, capacity required is 250 KVA only. Without any additional revenue, both the consumer/utility transformers are loaded and causing revenue loss to the department.

kWh Billing	KVAH BILLING
Consumers are billed as per kWh Consumption	Consumers are billed as per kVAh Consumption
Power factor is also monitored separately though Incentive & Penalty Mechanism	Inbuilt incentive/ penalty mechanism. No need for computation and monitoring of PF. Consumer drawing/injecting more reactive power will have to pay more and vice versa. Encourage consumer to minimize reactive power drawal/ injection kWh Billing Vs. kVAh Billing. Hence, kVAh billing

In view of low pf, the utility has to buy additional power which goes unaccounted and the utility is not reimbursed the cost of such reactive power. The table below depicts indicative calculations for increase in power purchase cost due to falling pf.

PF	Technical loss	ENERGY REQUIREMENT in MUs	POWER PURCHASE COST@ rs 5.00/KWHIN CRORES	INCREASE IN POWER PURCHASE COSTIN CRORES	
1	8%	3000	1500		
0.95	8.86	3025.8	1512.9	12.9	
0.9	9.87	3056.1	1528.0	28	
0.8	12.5	3083.33	1541.5	41.5	

Assuming 58 technical loss at unity power factor, the losses are increased with falling power factor by multiplying initial 8% loss level with 1/(pf^2)

The Prime Objective of the kVAh based billing is to encourage the consumers to maintain near unity Power factor to achieve loss reduction, improve system stability, power quality and improve voltage profile. Implementation of kVAh metering and kVAh tariff is seen as a commercial inducement on consumers to pay lesser electricity bill by ensuring that they do not draw reactive power It suggests that consumers must be billed as per the kVAh (apparent energy) drawl, and not as per the kWh (active energy). A change to a kVAh tariff is beneficial to non-defaulting consumer as the kVAh tariff is cheaper than the kWh tariff. The Distribution Licensee can benefit through the collection of more revenue from consumers having low power factor loads. Most importantly, the tariff is environmentally friendly due to improved efficiency. This will also prompt the consumers to take the initiative in correcting the power factor, using compensating capacitors at their end.

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