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BEFORE

**JOINT ELECTRICITY REGULATORY COMMISSION**  
**FOR THE STATE OF GOA AND UNION TERRITORIES**  
**GURUGRAM**

PETITION  
FOR  
APPROVAL OF

**TRUE-UP FOR FY 2016-17, ANNUAL PERFORMANCE REVIEW OF FY 2020-21, AND  
REVISION OF AGGREGATE REVENUE REQUIREMENT & TARIFF DETERMINATION PROPOSAL  
FOR FY 2021-22**

BY



**ELECTRICITY DEPARTMENT**  
*Government of GOA*

**NOVEMBER 2020**

**BEFORE THE JOINT ELECTRICITY REGULATORY COMMISSION FOR THE STATE OF GOA, & UNION  
TERRITORIES, GURUGRAM**

Filing No.....

Case No.....

IN THE MATTER OF:      Petition for approval of True-up of FY 2016-17 APR for FY 2020-21,  
Revision of ARR and Tariff Determination Proposal for FY 2021-22.

AND

IN THE MATTER OF:      Electricity Department, Government of Goa,  
  
Vidyut Bhavan, Panaji, Goa

.....Petitioner

Electricity Department, Government of Goa (hereinafter referred to as "EDG"), files petition for approval of True-up of FY 2016-17, APR for FY 2020-21, Revision of ARR and Tariff Determination Proposal for FY 2021-22 for the Electricity Department of Goa under section 45, 46, 61, 62, 64 and 86 of the Electricity Act, 2003 (EA 2003).

**BEFORE THE JOINT ELECTRICITY REGULATORY COMMISSION FOR THE STATE OF GOA, & UNION  
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IN THE MATTER OF: Electricity Department, Government of Goa

Vidyut Bhavan, Panaji, Goa

.....Petitioner

**AFFIDAVIT VERIFYING THE PETITION**

I, Shri. **Rajiv R Samant**, son of Shri. **Ramdas L Samant** aged **52** years, the deponent named above do hereby solemnly affirm and state on oath as under:

1. That I am Chief Electrical Engineer and Head of Electricity Department, Government of Goa and am authorised to sign and submit the said petition and am acquainted with the facts deposed to below.
2. I say that on behalf of EDG, I am now filing this Petition under The Electricity Act, 2003, Petition for approval of True-up of FY 2016-17, APR for FY 2020-21, Revision of ARR and Tariff Determination Proposal for FY 2021-22.
3. I further say that the statements made, and financial data presented in the aforesaid Petition are as per records of the Department and believe that to be true to the best of my knowledge.

4. Further, to my knowledge and belief, no material information has been concealed in the aforesaid Petition.

**The Electricity Department,  
Government of Goa**

**DEPONENT**

**Place: Panaji, Goa**

**Dated: 30<sup>th</sup> November 2020**

**VERIFICATION**

I, Shri \_\_\_\_\_ Advocate and Notary having office at Panaji-Goa, do hereby declare that the person making this affidavit is known to me through the perusal of records and I am satisfied that he is the same person alleging to be deponent himself.

**Advocate**

Solemnly affirmed before me on this **30<sup>th</sup> day of November 2020** by the deponent who has been identified by the aforesaid Advocate. I have satisfied myself by examining the deponent that he understood the contents of the affidavit which has been read over and explained to him. He has also been explained about section 193 of Indian Penal Code that whoever intentionally gives false evidence in any of the proceedings of the Commission or fabricates evidence for purpose of being used in any of the proceedings shall be liable for punishment as per law.

**BEFORE THE JOINT ELECTRICITY REGULATORY COMMISSION FOR THE STATE OF GOA, & UNION TERRITORIES, GURUGRAM**

Filing No.....

Case No.....

IN THE MATTER OF: Petition for approval of True-up of FY 2016-17, APR for FY 2020-21, Revision of ARR and Tariff Determination Proposal for FY 2021-22.

AND

IN THE MATTER OF: Electricity Department, Government of Goa

Vidyut Bhavan, Panaji, Goa

.....Petitioner

PETITIONER, UNDER SECTIONS 45, 46, 61, 62 AND 64 OF THE ELECTRICITY ACT, 2003 FILES FOR INITIATION OF PROCEEDINGS BY THE HON'BLE COMMISSION FOR DECIDING ON THE MATTERS CONCERNING THE PETITION FOR APPROVAL OF TRUE-UP OF FY 2016-17, APR FOR FY 2020-21, REVISION OF ARR AND TARIFF DETERMINATION PROPOSAL FOR FY 2021-22.

**The Petitioner respectfully submits as under: -**

1. The Petitioner, The Electricity Department – Goa (EDG) is deemed Distribution Licensee for the State of Goa.
2. Pursuant to the enactment of the Electricity Act, 2003, EDG is required to submit its Annual Revenue Requirement and Tariff Petition as per the procedures outlined in section 61, 62 & 64 of EA 2003, and Regulation 9 of JERC (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2018 (MYT Regulations, 2018)
3. EDG hereby submits the present Petition for approval of True-up of FY 2016-17 based on the principles outlined in the JERC MYT Tariff Regulations 2014, APR for FY 2020-21 and revision of ARR & Tariff Determination Proposal for FY 2021-22 based on the principles outlined in the JERC MYT Regulations 2018, notified by the Hon'ble Commission.
4. EDG hereby submits that the documents of Budgetary Support assurance from the Government of Goa for FY 2016-17, FY 2020-21 and FY 2021-22 shall be submitted after issuance of the same by Government of Goa.

5. EDG prays to the Hon'ble Commission to admit the attached petition for True-up of FY 2016-17, APR for FY 2020-21, Revision of ARR and Tariff Determination Proposal for FY 2021-22.

**Prayers to the Hon'ble Commission:**

- A. The petition provides, inter-alia, EDG's approach for formulating the present petition, the broad basis for projections used, performance of EDG in the recent past, and certain issues impacting the performance of EDG in the Licensed Area.
- B. Formulating True Up exercise for FY 2016-17 based on the principles specified in JERC (Multi Year Distribution Tariff) Regulations, 2014 and parameters approved in Tariff MYT Order dated 18<sup>th</sup> April 2016.
- C. Broadly, in formulating the APR for FY 2020-21, the principles specified by the Joint Electricity Regulatory Commission in JERC (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2018 has been considered as the basis.
- D. Formulating Aggregate Revenue Requirement for FY 2021-22 based on the principles specified in JERC (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2018 and as per MYT Order for the Control Period FY 2019-20 to FY 2021-22 approved dated 20<sup>th</sup> May 2019.
- E. In order to align the thoughts and principles behind the ARR and Tariff Petition, EDG respectfully seeks an opportunity to present its case prior to the finalization of the Tariff Order. EDG believes that such an approach would go a long way towards providing a fair treatment to all the stakeholders and may eliminate the need for a review or clarification.

**The petitioner respectfully prays that the Hon'ble Commission may:**

- a) Accept and admit the petition for True-up of FY 2016-17 as per MYT Tariff Regulations 2014, APR for FY 2020-21 and revision of Aggregate Revenue Requirement & Tariff Determination for FY 2021-22 which is in line with the principles laid by the Hon'ble Commission contained in MYT Tariff Regulations 2018;
- b) Approve the total recovery and revenue gap for Final True up of ARR of FY 2016-17, Annual Performance Review for FY 2020-21 and ARR & Tariff for FY 2021-22 and other claims as proposed by EDG;
- c) Approve the Revenue Gap for FY 2016-17 amounting to Rs. 208.58 Cr. as per True up, Revenue gap for FY 2020-21 of Rs. 218.22 Cr. as per APR and standalone Revenue Gap considering revenue from existing tariff amounting to Rs. 301.40 Cr. for FY 2021-22 on

provisional basis and the revenue gap as may be approved by the Hon'ble Commission during the process of finalising tariff petition;

- d) To consider the Tariff Design Philosophy and grant approval for proposed changes in Tariff Schedule (rationalisation of tariff categories & changes in applicability clauses), charges for services, miscellaneous charges and general terms & condition of the tariff order for FY 2021-22;
- e) Approve the revenue at revised tariff for FY 2021-22 and the gap of Rs. 301.40 Cr. till FY 2021-22. The revenue gap of Rs. 301.40 Cr. is proposed to be met partially through tariff rationalization and from the budgetary support by the Government of Goa. The letter for Budgetary Support shall be submitted after issuance of the same by Government of Goa;
- f) Pass suitable orders with respect to True-up of FY 2016-17, APR for FY 2020-21 and Revision of ARR & Tariff Determination Proposal for 2021-22 for the expenses to be incurred by EDG for serving its consumers;
- g) Grant approval for Power Sale Agreement and adoption of tariff for procurement of 50 MW Wind Power (Tranche VI) from SECI;
- h) Grant any other relief as the Hon'ble Commission may consider appropriate;
- i) The petitioner craves leave of the Hon'ble Commission to allow further submission, addition and alteration to this petition as may be necessary from time to time;
- j) Condone any inadvertent omissions/errors/shortcomings and permit EDG to add/change/ modify/ alter this filing and make further submissions as may be required at a future date;
- k) To pass any other Order as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.

Electricity Department,  
Government of Goa

**Petitioner**

Place: Panaji

Dated: 30<sup>th</sup> November 2020

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### LIST OF ABBREVIATIONS

S. No.	Abbreviations	Descriptions
1.	A&G	Administrative and General
2.	AAD	Advance against Depreciation
3.	APPCL	Arunachal Pradesh Power Corporation Limited
4.	APR	Annual Performance review
5.	ARR	Aggregate Revenue Requirement
6.	APTEL	Appellate Tribunal for Electricity
7.	CAG	Comptroller and Auditor General
8.	CAGR	Compound Annual Growth Rate
9.	CAPEX	Capital Expenditure
10.	CEA	Central Electricity Authority
11.	CERC	Central Electricity Regulatory Commission
12.	CGS	Central Generating Station
13.	CPI	Consumer Price Index
14.	CWIP	Capital work in progress
15.	Discom	Distribution Companies
16.	DSM	Demand Side Management
17.	EA Act	The Electricity Act 2003
18.	ED	Electricity Duty
19.	EDG	Electricity Department, Government of Goa
20.	EHT	Extra High Tension
21.	EHV	Extra High Voltage
22.	FPPCA	Fuel and power purchase cost adjustment
23.	FY	Financial Year
24.	GFA	Gross Fixed Assets
25.	GoI	Government of India
26.	GST	Goods and Services Tax
27.	HP	Horse Power
28.	HRA	House Rent Allowance
29.	HT	High Tension
30.	HV	High Voltage
31.	HVDC	High Voltage Direct Current
32.	IEX	Indian Energy Exchange Limited
33.	IPDS	Integrated Power Development Scheme
34.	IPP	Independent Power Producer
35.	JERC	Joint Electricity Regulatory Commission
36.	KV	Kilo Volt
37.	kVA	Kilo Volt Ampere
38.	kVAh	Kilo Volt Ampere Hour
39.	kW	Kilo Watt
40.	kWh	Kilo Watt Hour

S. No.	Abbreviations	Descriptions
41.	LC	Letter of Credit
42.	LGBR	Load Generation Balance Report
43.	LT	Low Tension
44.	MCLR	Marginal Cost of funds based Lending Rate
45.	MDI	Maximum Demand Indicator
46.	MU	Million Units (Million kWh)
47.	MVA	Mega Volt Ampere
48.	MW	Mega Watt
49.	MYT	Multi Year Tariff
50.	NFA	Net Fixed Assets
51.	NPCIL	Nuclear Power Corporation of India Limited
52.	NTPC	National Thermal Power Corporation
53.	NVVNL	NTPC Vidyut Vyapar Nigam Limited
54.	O&M	Operation & Maintenance
55.	PGCIL	Power Grid Corporation of India
56.	PLF	Plant Load Factor
57.	PLR	Prime Lending Rate
58.	POC	Point of Connection
59.	PPA	Power Purchase Agreement
60.	R&M	Repair and Maintenance
61.	R-APDRP	Restructured Accelerated Power Development and Reforms Programme
62.	RBI	Reserve Bank of India
63.	REC	Renewable Energy Certificate
64.	RPO	Renewable Purchase Obligation
65.	SBI	State Bank of India
66.	SECI	Solar Energy Corporation of India
67.	SEM	Special Energy Meter
68.	SLDC	State Load Dispatch Centre
69.	SPS	Single Point of Supply
70.	SR	Southern Region
71.	SRPC	Southern Regional Power Committee
72.	STOA	Short Term Open Access
73.	T&D	Transmission and Distribution
74.	TOD	Time of Day
75.	UI	Unscheduled Interchange Charges
76.	UT	Union Territory
77.	VCoS	Voltage Wise Cost of Supply
78.	WR	Western Region
79.	WRPC	Western Regional Power Committee
80.	WPI	Wholesale Price Index

## CHAPTER 1. INTRODUCTION

### 1.1 Preamble

1.1.1 The Hon'ble Commission had notified JERC (Multi Year Distribution Tariff) Regulations, 2014 and JERC (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2018. In line with the same, EDG submits this petition for Truing up for FY 2016-17 as per the provisions of the MYT Tariff Regulations, 2014 and APR for FY 2020-21, revision of ARR and tariff determination Proposal for FY 2021-22 as per the provisions of MYT Tariff Regulations, 2018

### 1.2 Background: Electricity Department of Goa

1.2.1 The Electricity Department was formed in January 1963 under the Government of Goa, Daman & Diu. It is the only licensee operating in the State of Goa for transmission and distribution of Electrical Energy. The Electricity Department of Goa does not have its own generation. Most of the power requirement for the State of Goa is met through its share from Central Sector Power Stations of NTPC Ltd as allocated by the Central Government.

1.2.2 ED-Goa came into regulatory regime w.e.f. FY 2011-12 i.e. the first tariff filing year. The Electricity Department is a deemed Distribution Licensee within the meaning of Section 2 (17) of Electricity Act 2003 and pursuant to the Section 14 of the Electricity Act. Further, Section 42 and 43 of the Electricity Act 2003 prescribes the following duties of the deemed Distribution Licensee:

- To develop and maintain an efficient, co-ordinated and economical 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.

1.2.3 The Main purpose is to undertake the transmission, distribution and retail supply of electricity in its license area and for this purpose to plan, acquire, establish, construct, erect, lay, operate, run, manage, maintain, enlarge, alter, renovate, modernize, automate, work and use a power system network in all its aspects and also to carry on the business of purchasing, selling, importing of electrical energy, including formulation of tariff, billing and collection thereof and then to study, investigate, collect information and data, review operations, plan, research, design and prepare project reports, diagnose operational difficulties and weaknesses and advise on the remedial measures to improve and modernize existing sub-transmission and supply lines and sub-stations.

1.2.4 The Electricity Department of Goa caters 6.51 Lakh consumers (as on 30<sup>th</sup> September 2020) with an annual energy consumption of approx. 3839 MU for FY 2019-20. The Consumers of the Electricity Department of Goa are classified as under:



- Domestic (31.5% of consumption)
- Commercial (14.7% of consumption)
- Industrial (51.7% of consumption)
- Agriculture (0.8% of consumption)
- Street Lighting/ Hoarding/ Temporary (0.9% of consumption)
- Defence Establishments (0.7% of consumption)

1.2.5 The peak demand of Goa for FY 2019-20 was around 625 MW during December 2019. The Energy Deficit and the peak deficit as per CEA LGBR report, for FY 2019-20 for the State of Goa were 0.0% (NIL). The total firm allocation of power from central sector is approx. 507 MW. In addition, the department also purchases power from Co-generation stations within the state and short-term power procurement from the market, Traders, DEEP portal, etc.

### **1.3 Filing in the current Petition**

1.3.1 EDG hereby submits that the audit of the accounts for FY 2016-17 is completed and certificate from CAG is awaited and it is expected that the CAG certificate for the same will be submitted prior to the date of Public Hearing. Also accounts preparation for FY 2017-18 and FY 2018-19 are under progress and audit will be initiated once account preparation gets completed. True-up petition for FY 2017-18 and FY 2018-19 will be submitted along with the subsequent tariff petitions once the accounts for those financial years are audited.

1.3.2 The financial statement of 2019-20 are yet to be prepared and therefore EDG submits that in the current petition, the figures (if any) used for the FY 2017-18, FY 2018-19 and FY 2019-20 are as per the approved figures by the Commission for the respective years.

1.3.3 EDG also submits that for APR of the year 2020-21, the provisional actual figures for H1 and projected figures of sales, power purchase and other ARR components for H2 have been considered. EDG also submits that the Revenue for FY 2020-21 has been calculated as per the existing Tariff approved by the Hon'ble Commission.

1.3.4 EDG further submits that for FY 2021-22 the ARR has been projected considering the number of Consumers and Connected Load figures as approved by the Hon'ble Commission vide its order dated 20<sup>th</sup> May 2019. Energy Sales for FY 2021-22 has been projected based on the historical trends and current realistic scenario.

## CHAPTER 2. OVERALL APPROACH FOR PRESENT FILING

The Hon'ble Commission had notified JERC (Multi Year Distribution Tariff) Regulations, 2014 and subsequent amendments from time to time. Also, the Hon'ble Commission has notified the JERC (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2018 on 10<sup>th</sup> August 2018.

In line with the same, EDG has been filing the True-up and ARR petitions for consideration of the Hon'ble Commission in the formats laid down for providing information relating to past, present and future performance.

### 2.1 Truing up of ARR for FY 2016-17

2.1.1 As specified in the JERC MYT Regulations 2014, the Hon'ble Commission shall undertake the truing-up exercise for the previous year based on audited accounts. EDG submits that audit of the accounts for FY 2016-17 has been completed, however, the issuance of CAG certificate is in process and yet to be issued and the same will be submitted prior to the date of public hearing. Accordingly, EDG is submitting the true-up petition for the FY 2016-17. The said accounts are enclosed as **Annexure 2** of this Petition.

### 2.2 Truing up of ARR for FY 2017-18, FY 2018-19 and FY 2019-20

2.2.1 EDG submits that the preparation of accounts of FY 2017-18 & FY 2018-19 are under progress and accounts for FY 2019-20 are yet to be prepared. EDG further submits that the same shall be submitted for CAG audit once account preparation gets completed. EDG shall approach the Hon'ble Commission for truing-up for these year later when audited accounts are available. However, in the current petition, the figures (if any) used for the FY 2017-18, FY 2018-19 and FY 2019-20 are as per the figures approved by the Hon'ble Commission for the respective years.

### 2.3 Annual Performance Review for FY 2020-21

2.3.1 EDG is filing this Annual Performance Review petition for the year FY 2020-21 based on the provisional actual performance during the 1<sup>st</sup> half of the year and revised estimated for the 2<sup>nd</sup> half of the year taking into considering the approved figures by the Hon'ble Commission vide its MYT Tariff Order dated 20<sup>th</sup> May, 2019 and Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020

### 2.4 Determination of Revised ARR and Tariff for FY 2021-22

2.4.1 The Hon'ble Commission has issued Business Plan order of EDG on 16<sup>th</sup> November 2018 for the MYT control period FY 2019-20 to FY 2021-22. Further, the Hon'ble Commission has issued the ARR for the MYT control period FY 2019-20 to FY 2021-22 vide order dated 20<sup>th</sup> May 2019. In the said Tariff Order; Capex, capitalisation, power purchase requirement and sales have been approved by the Hon'ble Commission for the base year FY 2018-19 and MYT period FY 2019-20 to FY 2021-22. Considering the same as well as revised projections based on the realistic scenario, EDG is submitting its ARR and tariff proposal for FY 2021-22 and accordingly the effective revenue gap is determined and submitted.

## **2.5 Applicable Provision of Law**

- 2.5.1 The relevant clause of JERC MYT Regulations, 2014 to carry out the true-up of FY 2016-17 is reproduced as under:

### ***“8. Annual Review of Performance and True-up***

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

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

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

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

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

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

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

## **2.6 Petition Structure**

- 2.6.1 The Petition includes the following Chapters:
- a) Chapter 1 contains Introduction and background
  - b) Chapter 2 contains overall approach to filing of the Petition
  - c) Chapter 3 contains True-up of ARR for FY 2016-17

- d) Chapter 4 contains True-up of ARR for FY 2017-18, FY 2018-19 and FY 2019-20
- e) Chapter 5 contains Annual Performance Review of FY 2020-21
- f) Chapter 6 contains Aggregate Revenue Requirement for FY 2021-22
- g) Chapter 7 contains Proposal to meet ARR and Revenue Gap for FY 2021-22
- h) Chapter 8 contains Tariff Philosophy
- i) Chapter 9 contains Tariff Proposal for FY 2021-22
- j) Chapter 10 contains Segregation of Wheeling and Supply Business
- k) Chapter 11 contains Determination of charges related to Open Access
- l) Chapter 12 contains EDG's compliance to Commission's Directives
- m) Chapter 13 contains EDG's prayers to the Hon'ble Commission

## CHAPTER 3. TRUING UP OF ARR OF FY 2016-17

### 3.1 Preamble

- 3.1.1 This Chapter outlines the performance of Goa Electricity Department (EDG) for FY 2016-17. EDG submits that the Hon'ble Commission vide its order dated 23<sup>rd</sup> May 2017 has not undertaken the review for FY 2016-17. In the Order issued by the Hon'ble Commission for determination of ARR and Tariff for FY 2020-21 dated 19<sup>th</sup> May 2020, the Hon'ble Commission has directed that the true up till FY 2018-19 should be done. However, it is submitted that due to unavoidable circumstances, EDG is submitting True-up of FY 2016-17 only and therefore request the Hon'ble Commission to condone the delay of submission of True up till FY 2018-19. Submission of true up for FY 2017-18 and FY 2018-19 shall be done once accounts are prepared and audited.
- 3.1.2 Accordingly, the final truing up of FY 2016-17 is being submitted by comparing actual audited figures for the financial year with those approved by the Hon'ble Commission for FY 2016-17 vide ARR order dated 18<sup>th</sup> April 2016. The balance sheet for FY 2016-17 is enclosed as **Annexure 2** of this petition. The certificate from CAG is awaited and it is expected that the CAG certificate for the same will be submitted prior to the date of Public Hearing.
- 3.1.3 This chapter summarizes each of the components of ARR for FY 2016-17 thereby working out the revenue gap for FY 2016-17.

### 3.2 Energy Sales

- 3.2.1 The total actual sales of EDG for FY 2016-17 are 3,091.98 MU's. The category wise actual and approved sales for FY 2016-17 are shown in the table below.

**Table 3-1: Energy Sales (MUs) for FY 2016-17**

Category of Consumer	FY 2016-17	
	Approved by Commission	Audited
<b>A. LOW TENSION SUPPLY</b>	<b>1,388.52</b>	<b>1,633.71</b>
(a) LTD/Domestic	866.96	1,038.36
(b) LTD/L.I.G.	1.10	2.86
(c) LTD Domestic Mixed	12.27	5.71
LTC/Commercial	295.17	382.00
(a) LTP/Motive Power	111.96	96.63
(b) LTP Mixed (Hotel Industries)	4.39	4.23
(c) LTP Ice Manufacturing	7.87	1.70
LTAG/Agriculture	23.86	26.52
(a) LTPL ( Public lighting )	36.95	30.27
LTPWW/Public Water works	5.56	8.26
LT Temporary	22.08	36.88
Hoardings/Signboards	0.35	0.29
<b>B. HIGH TENSION SUPPLY</b>	<b>1,963.65</b>	<b>1,458.27</b>
HT ( Mixed )	226.54	161.62
HTI (Industrial) Ferro Metallurgical/ Steel Melting/Power Intensive.	503.82	294.56
HTI Industrial	638.66	707.16
HTAG ( Agriculture)	6.08	8.79
EHTI ( Industrial )	179.45	159.85
HT P.W.W. & Sewage system	153.24	84.18
HT. M.E.'s Defence Estt.	26.89	25.19
HTI ( Steel Rolling )	57.37	10.90
HTI / IT High Tech	22.38	1.16
HTI/Ice Manufacturing	1.23	0.52
Sale to GSPL/GEPL/REL/MSEDCL	-	3.41
HTI Hotel Industry	147.99	-
(b) H.T. Temporary		0.93
<b>Total</b>	<b>3,352.17</b>	<b>3,091.98</b>

3.2.2 It is requested to the Hon'ble Commission to approve the actual sales of FY 2016-17 as stated in the table above.

### 3.3 Intra-state & Inter State Transmission & Distribution Loss

3.3.1 EDG submits that the actual Intra State T&D Loss and Inter State Loss are 20.38% and 3.82% respectively for FY 2016-17 compared to that approved by Hon'ble Commission at 11.25% and 4.14% respectively for the power procured through generating stations in western and southern regions of the country. It is requested to approve the actual T&D Loss level as mentioned in this para.

3.3.2 EDG while computing Energy balance for entire FY 2016-17 has considered actual of UI over-drawl/ under drawl, purchase of traders, sale to exchange etc.

**Table 3-2: Energy Balance for FY 2016-17**

Particulars (All values in MU)	Values
<b>Energy Input at Goa Periphery</b>	<b>3,705.70</b>
<b>Total Power Scheduled/ Purchased at Goa Periphery</b>	
Total Schedule Billed Drawal - CGS	3,467.51
Add: Overdrawal	211.41
Add: Power purchase from NRVN / Banking	(14.35)
Add: Power purchase from Traders/ Open Market	75.76
Add : Hydro Power	-
Less: Underdrawal	26.01
Add: Renewable Power	138.42
Less: Power diverted to Exchange	-
<b>Total</b>	<b>3,852.72</b>
<b>PGCIL Losses - MUs</b>	<b>147.03</b>
<b>PGCIL Losses - %</b>	<b>3.82%</b>
<b>Total Power Purchased within Goa State</b>	
Add: Co-generation	177.49
Add: Independent Power Producers (IPP)	-
<b>Total</b>	<b>177.49</b>
<b>Total Power Purchase availability after PGCIL Losses</b>	<b>3,883.19</b>
Sales to common pool consumers/Banking Return	
<b>Less: Retail Sales to Consumers</b>	<b>3,091.98</b>
<b>Distribution Losses - MUs</b>	<b>791.21</b>
<b>Distribution Losses - %</b>	<b>20.38%</b>

Note: EDG submits that in FY 2016-17, it had sold surplus power quantum of 97.66 MU in exchange. However, inadvertently the same has not been included in the audited annual account. Accordingly, total Power Purchase for FY 2016-17 has been considered including the sale of 97.66 MU in exchange.

- 3.3.3 The Hon'ble Commission is requested to approve the Energy Balance for FY 2016-17 as provided in the above table. The energy requirement and source wise power purchase details along with actual cost are discussed in subsequent paragraphs. The details of approved vis-à-vis actual loss are depicted in the table below:

**Table 3-3: Intra-state & Inter State T&D Loss for FY 2016-17**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Intra State T&D Loss	11.25%	20.38%
Inter State Loss	4.14%	3.82%

### 3.4 Power Purchase Quantum & Cost for FY 2016-17

- 3.4.1 EDG meets its total energy requirement from its allocation from the Central Generating Stations (CGS) i.e. NTPC, NPCIL and Co-generating Company like Vedanta Plant1, Vedanta

Plant 2 and Goa Sponge & Power Ltd. EDG also meets a part of its energy requirement through purchase of power from NVVNL, traders and power exchanges.

- 3.4.2 The transmission charges comprise of transmission charges to Western Region, Southern Region, KPTCL and other Transmission Licensees.
- 3.4.3 The Power Purchase costs also includes ED, Cess, Incentives, Supplementary Charges, etc. and the same are considered on actual basis. During FY 2016-17, EDG has procured actual renewable power of 138.42 MU for RPO obligation. The renewable purchase includes procurement of 65.54 MU of Solar power from NVVN & SECI and 72.88 MU of Non-Solar power from NVVN Hydro. The details regarding the fulfilment of RPO till FY 2019-20 has been provided in Tariff format 4(A) of this petition.
- 3.4.4 The table below shows the summary of Power Purchase from various sources along with their costs for FY 2016-17 including Transmission Charges, UI charges and purchase from traders.

**Table 3-4: Power Purchase Quantum & Cost for FY 2016-17 (At Goa periphery)**

Source	FY 2016-17 (Approved)		FY 2016-17 (Audited)	
	Quantum (MUs)	Cost (Rs. Crore)	Quantum (MUs)	Cost (Rs. Crore)
NTPC	3,365.13	828.04	3,375.62	877.82
NPCIL	188.20	48.59	91.89	27.42
Co-Generation	167.24	40.13	177.49	40.51
Renewable Energy (incl. REC Certificates)	85.26	45.83	138.42	73.77
IPP	-	-	-	-
IEX Purchase	55.34	16.60	127.89	36.46
IEX Sale			(97.66)	(20.41)
Traders			45.53	13.49
Overdrawal	-	-	185.39	46.35
Banking	-	-	(14.35)	-
Transmission and Other Charges		265.85	-	189.35
<b>Total</b>	<b>3,861.17</b>	<b>1,245.04</b>	<b>4,030.22</b>	<b>1,284.75</b>
<b>Power purchase cost per unit</b>		<b>3.22</b>		<b>3.19</b>

- 3.4.5 EDG submits that actual overall power purchase cost per unit is arrived at Rs. 3.19/kWh against approved power purchase cost of Rs. 3.22/kWh in Tariff Order dated 18<sup>th</sup> April 2016. Purchase of cheaper power of 127.89 MU from IEX @ Rs. 2.85/kWh and 45.53 MUs from traders @ Rs. 2.96/kWh during FY 2016-17 is the reason due to which overall power purchase cost per unit has reduced marginally to Rs.3.19/kWh.
- 3.4.6 Note: EDG submits that in FY 2016-17, it had sold surplus power quantum of 97.66 MU in exchange. However, inadvertently the same has not been included in the audited annual account. Accordingly, total Power Purchase for FY 2016-17 has been considered including the sale of 97.66 MU in exchange.
- 3.4.7 EDG request the Hon'ble Commission to approve the power purchase cost including the transmission charges for FY 2016-17.



### 3.5 Capital Work in Progress, GFA and Depreciation

3.5.1 GFA: The Opening Balance of GFA for FY 2016-17 comes to around Rs. 1,117.45 Cr. as per annual accounts of respective years. The following table shows the opening balance, additions, deductions and closing balance of GFA for FY 2016-17.

**Table 3-5: GFA for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Opening Value of Assets at the beginning of the year	888.87	1,117.45
Additions during the year	182.55	101.44
Value of assets sold/disposed off		1.98
Less: Capitalization through grants in Business Plan Order	96.00	
<b>Gross Fixed Assets at the end of year</b>	<b>975.42</b>	<b>1,216.92</b>

3.5.2 As seen from the above table, the approved opening value of GFA vide order dated 6<sup>th</sup> April, 2015 is lower than the actual opening GFA, as the Hon'ble Commission had not considered the opening value of Assets while approving Gross Fixed Assets component as audited accounts were pending. In the current petition, for True Up for FY 2016-17, EDG is submitting the above mentioned GFA figures based on the Audited Accounts and Fixed Asset Register for FY 2016-17 as directed by the Hon'ble Commission and request the Hon'ble Commission to approve the same.

3.5.3 CAPEX and Capitalisation: EDG submits that to relieve the overloaded infrastructure and to cater to the load and increasing demand from HT and LT consumers, EDG had undertaken the CAPEX of Rs. 163.32 Cr. and capitalisation of Rs. 101.44 Cr. for FY 2016-17 as per the audited accounts. The detailed capital investment plan (scheme wise) in line with Regulations 22 of JERC MYT Regulations 2014 has been submitted with format 5 of the submission.

3.5.4 EDG request the Hon'ble Commission to allow the actual expenditure and capitalisation in order to ensure the creation of infrastructure for adherence to Standard of Performance and Supply Code Regulations.

3.5.5 Depreciation: As per Regulation 23 of JERC MYT Regulations 2014, depreciation for the assets shall be calculated annually at the rates specified by CERC from time to time. The same have been applied on different asset categories. EDG would further submit that the depreciation arrived in annual accounts for FY 2016-17 is based on the rates specified by Hon'ble Commission in its Tariff Regulations.

3.5.6 The rates of depreciation for various assets are used as tabulated below:

**Table 3-6: Rate of Depreciation applicable for various assets for FY 2016-17**

Description of Assets	Rate of Depreciation
Land and Land Rights	-
Building	3.34%
Plant and Machinery	5.28%
Lines and Cables	5.28%
Office Equipment	6.33%
IT Equipment	15.00%
Vehicles	9.50%
Furniture and Fixtures	6.33%
Testing and measuring equipment	5.28%
SCADA Centre	5.28%

3.5.7 The following table shows the depreciation arrived by EDG for FY 2016-17 based on the approved depreciation rates specified by the Hon'ble Commission for different asset class. Depreciation of Rs. 60.60 Cr. is reflecting in the audited annual accounts. However, in below table EDG has claimed Depreciation amounting to Rs. 51.99 Cr. excluding the amount of depreciation on assets created through Electricity duty and grants. The detailed working of depreciation is provided in Tariff format 12 of this petition.

**Table 3-7 : Depreciation for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Opening Value of Assets at the beginning of the year	888.87	976.42
Additions during the year	182.55	101.44
Value of assets sold/disposed off	-	1.98
Less: Capitalization through grants in Business Plan Order	96.00	49.70
<b>Gross Fixed Assets at the end of year</b>	<b>975.42</b>	<b>1,026.18</b>
Rate of depreciation	5.28%	5.19%
<b>Depreciation</b>	<b>49.22</b>	<b>51.99</b>

3.5.8 EDG submitted that, from the above table it can be observed that average rate of depreciation over GFA was 5.28% approved by the Hon'ble Commission. However as per audited accounts, average depreciation rate is 5.19%.

3.5.9 The Hon'ble Commission is requested to approve the depreciation for FY 2016-17 as submitted in the table above.

### **3.6 Operation & Maintenance Expenses**

3.6.1 Operation & Maintenance Expenses consists of three elements viz Employee Expenses, A&G Expense and R&M Expense:

- Employee expenses comprise of salaries, dearness allowance, bonus, terminal benefits in the form of pension & gratuity, leave encashment and staff welfare expenses
- Administrative expenses mainly comprise of rents, telephone and other communication expenses, professional charges, conveyance and travelling allowances and other debits.

- Repairs and Maintenance Expenses go towards the day to day upkeep of the distribution network of the Company and form an integral part of the Company’s efforts towards reliable and quality power supply as also in the reduction of losses in the system.
- 3.6.2 Employee Expenses: EDG has computed the Employee expense for FY 2016-17 based on the actual employee expenses incurred during the entire year.
- 3.6.3 The details of the Employee Expenses are outlined in the following table for the approval of the Hon’ble Commission:

**Table 3-8: Employee Expenses for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Salaries & Allowances	239.21	217.47
Terminal Benefits		
Other Salary payments		
<b>Total</b>	<b>239.21</b>	<b>217.47</b>
Less: Add/Deduct share of others		-
<b>Total</b>	<b>239.21</b>	<b>217.47</b>
Less: Amount capitalized		-
<b>Net amount</b>	<b>239.21</b>	<b>217.47</b>
Add: Pension/ DA and other Provision		-
<b>Total Employee Expenses</b>	<b>239.21</b>	<b>217.47</b>

- 3.6.4 EDG submits that Employee Expenses as approved by the Hon’ble Commission for FY 2016-17 was Rs. 239.21 Cr. whereas the actual expenditure for FY 2016-17 was Rs. 217.47 Cr., resulting in decrease of ~9% over approved cost. However, Employee Expense for FY 2015-16 was Rs. 238.50 Cr. Therefore, considering the FY 2015-16 audited Employee Expenses, resultant decrease of ~9% in Employee Expenses for FY 2016-17.
- 3.6.5 It is submitted that Employee Expenses needs to be considered as uncontrollable and therefore, EDG request the Hon’ble Commission to approve the actual Employee Expenses during FY 2016-17 reflecting in annual accounts.
- 3.6.6 Repairs & Maintenance Expenses: The Repairs & Maintenance Expenses have been claimed as per expenses actually incurred during FY 2016-17 which is reflected in the annual accounts of FY 2016-17.

**Table 3-9: R&M Expenses for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Plant & machinery	27.86	25.14
Buildings (Electricity Residential & Non-Residential)		
Hydraulic works & civil works		
Line cable & network		
Vehicles		
Furniture & fixtures		
Office equipments		
Minor R&M Works		
<b>Total</b>	<b>27.86</b>	<b>25.14</b>
Add/Deduct share of others (To be specified)		-
<b>Total expenses</b>	<b>27.86</b>	<b>25.14</b>
Less : Capitalized		-
<b>Net expenses</b>	<b>27.86</b>	<b>25.14</b>
Add: prior period		-
<b>Total R&amp;M expenses</b>	<b>27.86</b>	<b>25.14</b>

- 3.6.7 It is submitted that EDG has been undertaking various Repairs & Maintenance activities as a step towards improvement of systems, reduction in breakdowns, and reduction in response time and increasing preventive maintenance.
- 3.6.8 EDG further submits that R&M expenses are necessary for maintenance of infrastructure and for ensuring proper Standard of Performance of the Electricity Department Goa and therefore request the Hon'ble Commission to approve Rs. 25.14 Cr. for FY 2016-17 as R&M expenses.
- 3.6.9 Administrative & General expenses: The administrative expense mainly comprise of rents, professional charges, office expenses, etc. The expenses incurred by the EDG for FY 2016-17 are shown in the table below.

**Table 3-10: A&G Expenses for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)	
Travelling Expenses	9.48	0.27	
Office Expenses		14.23	
Regulatory Expenses (License + Petition Fees)		-	
Petrol,Oil,Lubricant (P.O.L)		0.01	
Rent,Rates & Taxes		0.39	
Advertisement & Publicity		0.12	
Professional & Special Services		0.59	
Other A&G Charges		6.05	
Overtime Allowance		0.00	
Minor Works		1.75	
Legal, Professional & Special Service Charges		0.10	
Other material related expenses (Other charges)		-	
<b>Total</b>		<b>9.48</b>	<b>23.51</b>
Add/Deduct share of others (to be specified)			-
<b>Total Expenses</b>	<b>9.48</b>	<b>23.51</b>	
Less: Capitalized		-	
<b>Net Expenses</b>	<b>9.48</b>	<b>23.51</b>	
Add: Prior period		-	
<b>Total A&amp;G Expenses charged to revenue</b>	<b>9.48</b>	<b>23.51</b>	

3.6.10 The Hon'ble Commission is requested to approve the actual A&G expenses of Rs. 23.51 Cr. for FY 2016-17. It is submitted that actual and audited A&G Expenses for FY 2012-13 were Rs. 22.27 Cr., FY 2013-14 was Rs. 18.54 Cr., FY 2014-15 was Rs. 22.40 Cr. and FY 2015-16 was Rs. 23.50 Cr. Hence EDG submits that, in line with A&G Expenses for FY 2012-13, FY 2013-14, FY 2014-15 and FY 2015-16, A&G expenses for FY 2016-17 seem justified and the Hon'ble Commission is requested to approve the same.

3.6.11 O&M Expenses Summary: Based on the foregoing paragraphs, the O&M expenses for the year FY 2016-17 vis-a-vis the approved level by the Hon'ble Commission is shown in the table below:

**Table 3-11: O&M Expenses for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Employee Expenses	239.21	217.47
A&G Expenses	9.48	23.51
R&M Expenses	27.86	25.14
<b>O&amp;M Expenses (Rs Crore)</b>	<b>276.55</b>	<b>266.12</b>

3.6.12 The Hon'ble Commission is requested to approve the O&M Expenses for FY 2016-17 as shown in the table above. The details of O&M expense for FY 2016-17 are provided in the Formats 13, 15 & 16 of the Tariff Filing Formats.

### 3.7 Interest & Finance Charge

3.7.1 The Regulation 24 of JERC MYT Regulations 2014 provides for Interest and Finance Charges on Loan. EDG has submitted that the majority of capital assets are created out of the equity contribution from Government of Goa. As per Regulation 24 (b) of JERC MYT Regulations 2014, in case if equity employed is more than 30% of the Capital Cost, equity in excess of 30% shall be considered as loan and accordingly Interest on loan shall be calculated. The relevant regulation is reproduced as under:

*"24. Interest on Loan*

*(b) If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan. Provided that where equity actually deployed is less than 30% of the capital cost, the actual loan shall be considered for determination of interest on loans"*

3.7.2 EDG has claimed the interest expenses based on normative loan calculation whereby closing GFA approved by the Hon'ble Commission for FY 2015-16 has been considered as opening GFA for FY 2016-17 and 70% of capitalisation (after deducting the assets created through Electricity Duty fund available as grants) during FY 2016-17 has been considered as normative debt addition during the financial year. Working of the addition of normative loan during FY 2016-17 is shown as below:

**Table 3-12 : Working of Normative loan addition during FY 2016-17 (Rs. Cr.)**

Particulars	FY 2016-17
Additions to GFA (A)	101.44
Less: 60% and 75% Grant Component of APDRP Part-B / IPDS scheme (B)	19.79
Less: Schemes out of ED Fund (C)	29.91
<b>Net Additions to GFA (D)</b>	<b>51.74</b>
<b>Normative Loan addition during the year (D x 70%)</b>	<b>36.22</b>

- 3.7.3 Opening balance of normative loan for FY 2016-17 considered as per the approved closing balance of normative loan during true-up for FY 2015-16. Accordingly, the Interest expenses vis-a-vis approved by the Hon'ble Commission for FY 2016-17 shown below.

**Table 3-13 : Interest on normative loan for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Opening Normative Loan	491.11	268.62
Add: Normative Loan during the year	60.59	36.22
Less: Normative Repayment	49.22	51.99
<b>Closing Normative Loan</b>	<b>502.48</b>	<b>252.85</b>
Average Normative Loan	496.80	260.73
Rate of Interest (@SBI PLR rate)	11.60%	14.05%
<b>Interest on Normative Loan</b>	<b>57.63</b>	<b>36.63</b>

- 3.7.4 EDG submits that the Regulation 24 of JERC MYT Regulations 2014 states that,

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

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

- 3.7.5 In view of the above, EDG submits that since, no last available weighted average rate of interest is available, EDG has considered the SBI Prime Lending Rate as on 01<sup>st</sup> April 2016, i.e. 14.05% as the interest rate on normative loan.
- 3.7.6 As seen from the above table, EDG has submitted Interest on normative loan which is considerably lower than that approved in the Tariff Order by the Hon'ble Commission. The main reason for the lower Interest Charges in true-up compared to the approved is the lower opening normative loan as well as lower normative loan added during the year. The opening Normative Loan for FY 2016-17 considered by EDG is same as what approved by the Hon'ble Commission as the closing Normative Loan for FY 2015-16 during its true-up. Moreover, in the MYT Order for FY 2016-17, the normative loan added during FY 2016-17 was 60.59 (70% of approved Capitalization) while in this true-up petition, the normative loan added based on the actual capitalization during FY 2016-17 was Rs. 36.22 Cr. only.

- 3.7.7 EDG further submits that the repayment of normative loan has been considered equal to the normative depreciation for FY 2016-17, which is in line with JERC MYT Tariff Regulations 2014.
- 3.7.8 Other than Interest on normative loan, EDG has claimed other Interest & Finance charges in the table highlighted below, it is submitted that certain financial charges are incurred by the department which are related to bank charges, LC charges, etc. and the same also is in line with audited accounts. The Hon'ble Commission in its Tariff Order dated 18<sup>th</sup> April 2016 stated that the other finance charges shall be considered by the Commission at the time of true up based on actual expenditure.

**Table 3-14 : Other Interest and Finance Charges for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Interest on Normative Loan	57.63	36.63
Other Finance Charges	-	2.25
Interest on Normative Loan	57.63	38.88

- 3.7.9 The Hon'ble Commission is requested to approve the Interest & Finance Charges for FY 2016-17 as computed in the above table. The details of Interest & Finance charges are provided in Format 10A of the Tariff Filing Formats.

### **3.8 Interest on Working Capital**

- 3.8.1 Regulation 25 of JERC MYT Tariff Regulations 2014, stipulates the methodology for calculation of normative Working Capital and Interest on Working Capital as applicable to Goa Electricity Department. This is as shown below:

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

- (i) Receivables of two months of billing*
- (ii) Less power purchase cost of one month*
- (iii) Less consumer security deposit but excluding Bank Guarantee/Fixed Deposit Receipt*
- (iv) Inventory for two months based on annual requirement for previous year.*

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

- 3.8.2 The EDG hereby submits that it has adopted the same methodology adopted by the Hon'ble Commission in the First MYT Tariff Order dated 18<sup>th</sup> April 2016 and that stipulated in the aforesaid Regulation 25 of JERC MYT Tariff Regulations 2014. EDG also submits that in line with the aforesaid regulations, the Interest Rate has been considered as SBI Base Rate applicable as on 01<sup>st</sup> April 2016, i.e. 9.30%.

**Table 3-15 : Interest on Working Capital for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Receivables of 2 months of Billing	282.36	279.57
Less: Power Purchase Cost of 1 Month	104.47	107.06
Less: Consumer Security Deposit Excl. BG/FDR	87.97	25.25
Add: Inventory Based on Annual Requirement for Previous FY for 2 months	-	-
<b>Total Working Capital considered for one month</b>	<b>89.92</b>	<b>147.25</b>
SBAR Rate (%)	9.30%	9.30%
<b>Interest on Working Capital</b>	<b>8.36</b>	<b>13.69</b>

3.8.3 The Hon'ble Commission is requested to approve the Interest on Working Capital for FY 2016-17 as presented in the table above.

### 3.9 Interest on Consumer Security Deposits

3.9.1 EDG submits that the Hon'ble Commission in its MYT Tariff Order dated 18<sup>th</sup> April 2016 has approved the Interest on Security Deposit as a part of the ARR. The interest in Security Deposit has been considered as per Regulation 6.10 (8) of the Electricity Supply Code Regulations, 2010, which states that,

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

3.9.2 Based on the aforesaid regulations, the Bank Rate notified by RBI as on 01<sup>st</sup> April 2016 was 7.75% and the same has been considered for computation of Interest on Security deposit which comes out to be Rs. 2.15 Cr. However, as per the audited annual accounts, the actual Interest on Security Deposit paid by EDG during FY 2016-17 was Rs. 3.81 Cr. and the same has been considered as Interest on Security Deposit for the purpose of true-up.

**Table 3-16 : Interest on Security deposit for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Opening Security Deposit	87.97	25.25
Add: Deposits during the Year	1.46	7.32
Less: Deposits refunded	-	2.33
<b>Closing Security Deposit</b>	<b>89.43</b>	<b>30.24</b>
Average Security Deposit	88.70	27.75
Bank Rate	7.75%	7.75%
<b>Interest on Security Deposit</b>	<b>6.82</b>	<b>2.15</b>
<b>Interest on Security Deposit Paid during the year</b>		<b>3.81</b>

### 3.10 Return on Equity

3.10.1 EDG submits that Regulation 27 of JERC MYT Regulations 2014 provides for Return on Equity



(RoE). As per the regulations, RoE is allowed @16% on 30% of the capital base or actual equity, whichever is lower. However, assets funded by consumer contribution, capital subsidies/grants and corresponding depreciation shall not form part of the capital base.

- 3.10.2 Accordingly, EDG has considered the Opening equity base for FY 2016-17 as 30% of Opening GFA for FY 2016-17 (Net of assets funded by consumer contribution, capital subsidies and grants) The computation of Opening Equity for FY 2016-17 is provided in the table given below:

**Table 3-17 : Opening Normative Equity for FY 2016-17**

Particulars	FY 16-17 (Audited)
Opening balance of GFA as on 01 April 16 (1)	1,117.45
Electricity Duty utilized from FY 08-09 to FY 10-11 (2)	63.95
Additional Electricity Duty Fund from FY 12 to FY 16 (3)	137.16
Opening balance of GFA Net of ED & Addl. ED (4=1-2-3)	916.34
<b>Op. Balance of Normative Equity as on 1st April 16 (4*30%)</b>	<b>274.90</b>

- 3.10.3 EDG also submits that the Equity addition during the year has been considered as 30% of the assets capitalized during FY 2016-17 (Net of Schemes created out of Grant Component of APDRP Part-B / IPDS scheme and Electricity Duty). Considering the RoE@16%, the total Return on Equity for FY 2016-17 is computed as given below:

**Table 3-18 : Computation of Return on Equity FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Op. Balance of Normative Equity as on 1st April 16	266.66	274.90
Equity addition during FY 2016-17	25.97	15.52
Cl. Balance of Normative Equity as on 31st March 17	292.63	290.42
Rate of Return on Equity	16%	16%
<b>Return on Equity</b>	<b>44.74</b>	<b>45.23</b>

- 3.10.4 In view of above, the Hon'ble Commission is requested to approve the above Return on Equity for FY 2016-17 as calculated in the above table.

### 3.11 Provision for Doubtful debts

- 3.11.1 EDG submits that the Regulation 32 of JERC Tariff Regulations 2014 states that,

*“Bad and doubtful debt shall be limited to 1% of the receivables in the true-up, subject to the condition that amount of bad and doubtful debt is actually written-off in the licensee’s books of accounts”*

- 3.11.2 The Hon'ble Commission while approving the ARR for FY 2016-17 in the Tariff Order dated 18<sup>th</sup> April 2016 stated that,

*“bad and doubtful debts have to be reviewed at the true-up stage only. As the Petitioner has not projected any bad debts, the Commission is not approving any provision for the same in the current Order and shall review the same at the time of true-up only.”*

3.11.3 EDG submits that though it has made the provision of Rs. 1.32 Cr. in Audited Annual Accounts for FY 2016-17 towards Doubtful debt, the doubtful debt written off during that financial year is NIL.

3.11.4 In view of above, EDG has considered provision for Doubtful Debt for FY 2016-17 as NIL.

### 3.12 Non-Tariff Income

3.12.1 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 approved by the Hon'ble Commission in the ARR for FY 2016-17 was Rs. 6.74 Cr.

3.12.2 EDG further submits that the Hon'ble Commission in the true up order of FY 2015-16 dated 19<sup>th</sup> May 2020 (Chapter 3.18 of the Order) while approving the Non-Tariff Income has stated that,

*“The Commission has verified the submission of the Petitioner from the audited accounts and found the same to be in order. Further, the Commission as discussed while truing up the Power Purchase Cost, in the earlier section, has considered the revenue from UI Sales and Income from trading as a part of the Power Purchase Cost due to their inherent nature. Further, it has been observed that the Petitioner has erroneously considered the Deferred Income on account of Electricity Duty Fund as part of the NTI. The Commission in this regard would like to clarify that in accordance with the generally accepted accounting principles the same has to be treated as an expense item rather than revenue item. Further, as per regulatory accounting the same can neither be treated as expense item nor revenue item. The nature of this head in the annual accounts is related to the assets created out of Electricity Duty Fund on which Petitioner does not receive any Depreciation.”*

3.12.3 Accordingly, EDG has not considered UI Sales/ Sales to Exchange and Deferred Income as a part of Non-Tariff Income for FY 2016-17 in view of the principles laid down by the Hon'ble Commission as stated above. The details of Non-Tariff Income for FY 2016-17 are provided in Format 20 of the Tariff Filing Formats.

3.12.4 The summary of total Non-Tariff Income for FY 2016-17 is tabulated below:

**Table 3-19: Non-Tariff Income for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved)	FY 16-17 (Audited)
Meter/service rent		6.83
UI Sales / Sales to Exchange		-
Wheeling charges under open access	6.74	0.00
Misc. Receipts/income		20.24
Deferred Income (Electricity Development fund)		-
<b>Total income</b>	<b>6.74</b>	<b>27.08</b>
Add: Prior Period income		-
<b>Total Non Tariff income</b>	<b>6.74</b>	<b>27.08</b>

3.12.5 In view of above, the Hon'ble Commission is requested to approve the Non-Tariff Income for

FY 2016-17 as calculated in the above table.

### 3.13 Aggregate Revenue Requirement for FY 2016-17

3.13.1 In view of the various parameters of the ARR discussed in above paragraphs, the Aggregate Revenue Requirement for FY 2016-17 as approved by the Hon'ble Commission and as per the true-up Petition claimed by EDG are outlined in the following table:

**Table 3-20: Calculation of ARR for FY 2016-17 (Rs. Cr.)**

Particulars	FY 16-17 (Approved by the Commission)	FY 16-17 (Claimed in True-up)
Cost of power purchase including Provision for RPO	1,253.59	1,284.75
Employee costs	239.21	217.47
R&M expenses	27.86	25.14
Administration and general expenses	9.48	23.51
Depreciation	49.22	51.99
Interest and Finance Charges	57.63	38.88
Interest on Working Capital	8.36	13.69
Interest on Security Deposit	6.82	3.81
Return on Equity	44.74	45.23
Provision for Bad Debts	-	-
Provision for DSM Expenses	3.98	-
<b>Total Revenue Requirement</b>	<b>1,700.87</b>	<b>1,704.47</b>
Less: Non Tariff Income	6.74	27.08
<b>Aggregate Revenue Requirement</b>	<b>1,694.13</b>	<b>1,677.40</b>
<b>Sales (MUs)</b>	<b>3,352</b>	<b>3,140</b>
<b>ACOS</b>	<b>5.05</b>	<b>5.34</b>
<b>ABR</b>	<b>4.51</b>	<b>4.68</b>

3.13.2 EDG hereby requests the Hon'ble Commission to approve the Aggregate Revenue Requirement for FY 2016-17 as submitted above.

### 3.14 Revenue from Sale of Power at approved Tariff

3.14.1 The Revenue from Tariff for FY 2016-17 approved by the Hon'ble Commission in ARR order dated 18<sup>th</sup> April 2016 was Rs. 1,511.12 Cr.

3.14.2 The actual revenue earned from tariffs for FY 2016-17 is Rs. 1,468.81 Cr. and the same has been shown in the table below:

**Table 3-21: Actual Revenue from Tariff for FY 2016-17**

Particulars	FY 16-17 (Audited)			
	Sales (MUs)	Revenue from Demand & Energy Charges (Rs. Cr.)	Revenue from FPPCA Charges (Rs. Cr.)	Total Revenue (Rs. Cr.)
<b>A. LOW TENSION SUPPLY</b>	<b>1,596.54</b>	<b>437.33</b>	<b>23.86</b>	<b>461.19</b>
(a) LTD/Domestic	1,038.36	213.76	11.63	225.39
(b) LTD/L.I.G.	2.86	8.71	0.46	9.17
(c) LTD Domestic Mixed	5.71	2.96	0.14	3.10
(d) LTC/Commercial	382.00	157.40	8.58	165.98
(e) LTP/Motive Power	96.63	31.85	2.03	33.88
(f) LTP Mixed (Hotel Industries)	4.23	3.12	0.15	3.28
(g) LTP Ice Manufacturing	1.70	0.72	0.05	0.77
(h) LTAG/Agriculture	26.52	2.52	0.02	2.54
(a) LTPL ( Public lighting )	30.27	13.61	0.56	14.17
(b) Arrears ( Street light )	0.00	0.00	0.00	0.00
LTPWW/Public Water works	8.26	2.68	0.22	2.91
<b>B. HIGH TENSION SUPPLY</b>	<b>1,457.34</b>	<b>912.32</b>	<b>70.66</b>	<b>982.98</b>
HT ( Mixed )	161.62	84.94	6.28	91.22
HTI (Industrial) Ferro Metallurgical/ Steel Melting/Power Intensive.	294.56	272.15	20.25	292.41
HTI Industrial	707.16	364.44	27.87	392.30
HTAG ( Agriculture)	8.79	2.02	0.00	2.02
EHTI ( Industrial )	159.85	89.14	8.83	97.96
HT P.W.W. & Sewage system	84.18	65.76	4.79	70.55
HT. M.E.'s Defence Estt.	25.19	14.23	1.05	15.28
HTI ( Steel Rolling )	10.90	16.80	1.39	18.19
HTI / IT High Tech	1.16	0.69	0.04	0.74
HTI/Ice Manufacturing	0.52	0.28	0.02	0.30
Sale from EDG to GSPL (Div. VII)	3.41	1.82	0.13	1.96
(b) Sale from EDG to GEPL (Div. V)	-	-	-	-
(c) Sale from EDG to REL (Div. XIV)	-	-	-	-
(a) Sale of surplus Power, Div.III	-	-	-	-
(b) Export to N.R. (Div. III)	-	-	-	-
Sale to MSEDCL (Div. VI)	-	0.06	-	0.06
HTI Hotel Industry	-	-	-	-
<b>C. TEMPORARY SUPPLY</b>	<b>85.80</b>	<b>23.62</b>	<b>1.03</b>	<b>24.65</b>
(a) L.T. Temporary	36.88	21.43	0.97	22.40
(b) H.T. Temporary	0.93	0.21	0.00	0.21
Hoardings/Signboards	0.29	0.68	0.05	0.73
Arrears under RRC (with no. of cases)	47.71	1.30	-0.00	1.30
Trading of surplus Power Div. III	-	0.00	0.00	0.00
<b>Total</b>	<b>3,139.69</b>	<b>1,373.27</b>	<b>95.54</b>	<b>1,468.81</b>

3.14.3 In view of above, the Hon'ble Commission is requested to approve Revenue from sale of power for FY 2016-17 as detailed in the above table.

### 3.15 Revenue Gap for FY 2016-17

3.15.1 EDG in its submission of the Tariff Proposal for FY 2016-17 has submitted that the entire revenue gap for FY 2016-17 is proposed to be met partially by increasing tariff and the balance through budgetary support from Government of Goa. The Hon'ble Commission vide its order dated 18<sup>th</sup> April 2016 has considered 4.85% hike on the existing tariff for FY 2016-17 as well as budgetary support from Government of Goa amounting to Rs. 183.02 Cr. to meet the revenue gap for FY 2016-17.

3.15.2 The revenue gap of Rs. 208.58 Cr. is arrived at for FY 2016-17 under True Up exercise and the said gap for FY 2016-17 shall be met by the Government of Goa through budgetary support. Thus, the revenue gap carried forward to the subsequent financial years has been considered as NIL.

**Table 3-22: Revenue Gap for FY 2016-17 (Rs. Cr.)**

<b>Particulars</b>	<b>FY 16-17 (Approved)</b>	<b>FY 16-17 (Audited)</b>
Aggregate Revenue Requirement	1,694.13	1,677.40
Revenue from Tariff including FPPCA	1,511.12	1,468.81
<b>Revenue Gap</b>	<b>183.02</b>	<b>208.58</b>
Less : Budgetary Support from Govt.	<b>183.02</b>	<b>208.58</b>
<b>Net Final revenue Gap to be carry forward</b>	<b>-</b>	<b>-</b>

3.15.3 In view of above, the Hon'ble Commission is requested to approve the Revenue Gap for FY 2016-17 as NIL as computed in the above table for the purpose of carrying forward to FY 2021-22.

## CHAPTER 4. TRUE-UP OF ARR FOR FY 2017-18, FY 2018-19 AND FY 2019-20

### 4.1 Preamble

- 4.1.1 This Chapter outlines the submission on the performance of EDG for FY 2017-18, FY 2018-19 and FY 2019-20.
- 4.1.2 It is submitted that the True-up of FY 2017-18 & True-up of FY 2018-19 has to be carried out as per Regulations 8 of JERC MYT Regulations 2014 and True-up for FY 2019-20 has to be carried out as per Regulation 11 of JERC MYT Regulations 2018. However, EDG submits that the preparation of the financial statements for FY 2017-18 and FY 2018-19 are under progress and audit will be initiated once account preparation gets completed. EDG further submits that the financial statement of 2019-20 are yet to be prepared.
- 4.1.3 The Hon'ble Commission in its previous Order/(s) had stressed upon the requirement of the audited accounts to bring in more accuracy in the estimates to be approved. Also, the applicable JERC Tariff Regulations also requires the licensee to file the true up Petition along with the audited accounts.
- 4.1.4 In the last tariff order dated 19<sup>th</sup> May 2020, the Hon'ble Commission has directed EDG to file the True-up Petitions along with the audited annual accounts for FY 2016-17 & FY 2017-18 within two months of issuance of the order and true-up for FY 2018-19 & FY 2019-20 along with the next Tariff Petition. However, due to uncontrollable factors, the audit of the FY 2017-18 to FY 2019-20 is not yet completed and hence EDG seeks condonation for delay in filing the true-up petition and request the Hon'ble Commission to allow EDG to file the true-up petition for FY 2017-18, FY 2018-19 and FY 2019-20 in subsequent Petition.
- 4.1.5 Therefore in absence of the audited accounts and considering the earlier approach adopted by the Hon'ble Commission in the past tariff orders, the summary of cost for FY 2017-18, FY 2018-19 and FY 2019-20 as approved by the Hon'ble Commission in the Tariff Order dated 23<sup>rd</sup> May 2017, 28<sup>th</sup> March 2018 and 20<sup>th</sup> May 2019 respectively has been summarised in the following table:

**Table 4-1: ARR approved by JERC in Tariff Order for FY 2017-18, FY 2018-19 & FY 2019-20**

Sr. No.	Particulars	Approved by the Commission Order dtd 23.05.2017	Approved by the Commission Order dtd 28.03.2018	Approved by the Commission Order dtd 20.05.2019
		FY 2017-18	FY 2018-19	FY 2019-20
1	Cost of power purchase	1,330.98	1,329.68	1,555.16
2	Provision for RPO Compliance	9.38		
3	Employee costs	254.24	270.41	294.08
4	Administration and General expenses	10.12	10.81	27.10
5	R&M expenses	30.57	45.60	42.55
6	Depreciation	64.16	91.59	76.93
7	Int and Finance Charges	74.04	107.19	105.67
8	Interest on Working Capital	9.90	10.68	29.70
9	Return on Equity	58.33	83.27	98.70
10	Provision for Bad Debt	-	-	-
11	Interest on Consumer Security Deposit	6.93	7.02	6.74
12	Provision for DSM Expenses	3.41	3.03	-
<b>13</b>	<b>Total Revenue Requirement</b>	<b>1,852.06</b>	<b>1,959.28</b>	<b>2,236.63</b>
14	Less: Non Tariff Income	6.74	6.74	24.40
<b>15</b>	<b>Net Revenue Requirement</b>	<b>1,845.32</b>	<b>1,952.54</b>	<b>2,212.23</b>
16	Revenue from tariff	1,563.67	1,634.92	1,882.97
<b>17</b>	<b>Revenue Gap</b>	<b>281.65</b>	<b>317.62</b>	<b>329.25</b>

4.1.6 The Hon'ble Commission had approved the revenue gap of Rs. 281.65 Cr., Rs. 317.62 Cr. and Rs. 329.25 Cr. for FY 2017-18, FY 2018-19 and FY 2019-20 respectively in tariff order 23<sup>rd</sup> May 2017, 28<sup>th</sup> March 2018 and 20<sup>th</sup> May 2019. However, EDG request the Hon'ble Commission that the assessment of the actual gap may be considered at the time of the true-up petition.

## CHAPTER 5. ANNUAL PERFORMANCE REVIEW FOR FY 2020-21

### 5.1 Background to FY 2020-21 Petition

5.1.1 EDG in this chapter submits the performance of each parameter of ARR as against the values approved by the Hon'ble Commission in the Tariff Order dated 19<sup>th</sup> May 2020. This chapter summarizes each of the components of ARR for FY 2020-21 and requests the Hon'ble Commission to review the performance for FY 2020-21. The Annual Performance Review for FY 2020-21 is based on actual data/ information for first 6 months (First Half – H1) and estimation/projections for last 6 months (Second Half – H2). The projections for H2 are arrived at by expected escalation over performance of first half data/ information.

### 5.2 Performance Review for FY 2020-21

5.2.1 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 states that,

*“11.1 The Generating Company, Transmission Licensee and Distribution Licensee shall be subject to annual performance review and truing up of expenses and revenue during the Control Period in accordance with these Regulations.*

*11.2 The Generating Company, Transmission Licensee and Distribution Licensee shall file an application for the annual performance review of the current year, truing up of the previous Year or the Year for which the audited accounts are available and determination of tariff for the ensuing Year on or before 30<sup>th</sup> November of each Year, in formats specified by the Commission from time to time:*

*Provided that the Generating Company, Transmission Licensee or Distribution Licensee, as the case may be, shall submit to the Commission information in such form as may be specified by the Commission, together with the audited accounts, extracts of books of account and such other details as the Commission may require to assess the reasons for and extent of any variation in financial performance from the approved forecast of Aggregate Revenue Requirement and Expected Revenue from Tariff and Charges.”*

5.2.2 The Hon'ble Commission had issued the Tariff Order for FY 2020-21 on 19<sup>th</sup> May 2020. For the purpose of ease of reference; the summary of approved ARR vis-a-vis submitted by EDG for FY 2020-21 submitted in the previous filing is reproduced hereunder:

**Table 5-1: ARR approved by JERC for FY 2020-21 (Rs. Cr.) in Tariff Oder dtd 19<sup>th</sup> May 20**

S. No.	Particulars	Approved in MYT Order dtd 20 <sup>th</sup> May 2019	Submitted by EDG	Approved in Order dtd 19 <sup>th</sup> May 2020
1.	Power Purchase Cost	1,678.28	1661.83	1,627.91
2.	O&M Expenses	387.51	390.24	402.70
3.	Depreciation	81.58	46.19	81.53



S. No.	Particulars	Approved in MYT Order dtd 20 <sup>th</sup> May 2019	Submitted by EDG	Approved in Order dtd 19 <sup>th</sup> May 2020
4.	Interest on Loan	106.65	30.40	98.84
5.	Return on Equity	104.67	61.13	104.67
6.	Interest on Security Deposit	8.97	13.99	7.75
7.	Interest on Working Capital	29.02	24.64	29.58
<b>8.</b>	<b>Total Revenue Requirement</b>	<b>2,396.69</b>	<b>2,228.43</b>	<b>2,352.99</b>
9.	Less: Non-Tariff Income	25.34	17.06	25.34
<b>10.</b>	<b>Net Revenue Requirement</b>	<b>2,371.35</b>	<b>2,211.37</b>	<b>2,327.65</b>

5.2.3 EDG would now discuss each of the elements of review in detail for H1 and H2 and revised estimates for FY 2020-21 for determination of ARR and its gap for FY 2020-21.

### 5.3 Energy Sales

5.3.1 The energy sales for H1 of FY 2020-21 is 1,767.03 MU. It is submitted that the Hon'ble Commission has analysed past sales trend and approved the estimates for sales for FY 2020-21 in Multi Year Tariff Order dated 20<sup>th</sup> May 2019. For the purpose of Annual Performance Review for FY 2020-21, EDG has considered the provisional sales for H1 of FY 2020-21. However, EDG would further like to submit that in FY 2020-21 H1, the economic and commercial activities were affected due to outbreak of COVID-19 pandemic in March 20 and thus, the energy sale in FY 2020-21 (H1) was very less compared to the corresponding period of previous years.

5.3.2 EDG further submits that now, since the industrial and economic activities have been restored to the normal level, estimating the sales of H2 of FY 2020-21 based on the proportion of sales of H2 over H1 for FY 2019-20 would result in the underestimation of energy sales. Accordingly, the energy sales for FY 2020-21 (H2) has been estimated based on the CAGR of actual historical sales corresponding to the same period i.e. October to March. EDG has computed 4-year, 3-year and 1-year CAGR and based on the reasonableness, has adopted the CAGR for each category to arrive at the estimated sales for H2 of FY 2020-21

5.3.3 The following table shows the overall sales considered by EDG for APR of FY 2020-21 vis-à-vis Sales approved in Tariff Order dated 19<sup>th</sup> May 2020.

**Table 5-2: Sales for FY 2020-21 (MUs)**

Category	Approved in Order dated 19.05.2020	FY20-21 H1	FY20-21 H2	FY20-21 Estimated
<b>A. LOW TENSION SUPPLY</b>	<b>1,926.41</b>	<b>934.64</b>	<b>893.82</b>	<b>1,828.46</b>
LTD/Domestic	1,256.86	694.36	598.04	1,292.40
LT-LIG/Low Income Group	1.76	0.69	0.69	1.39
LTC/Commercial	536.20	179.33	226.62	405.96
LTI/Industrial	104.63	34.63	39.15	73.78
LT Mixed/ LT-P Hotel Industries	5.78	1.36	2.37	3.73
Low Tension-AG/LT-AGP (Pump Sets/Irrigation)	17.37	8.38	7.50	15.88
Low Tension-AG/LT-AGA (Allied Activities)	0.91	0.49	0.38	0.87
Public Lighting	2.66	15.34	18.98	34.32
Hoardings/Signboards	0.24	0.05	0.08	0.13
<b>B. HIGH TENSION SUPPLY</b>	<b>2,226.67</b>	<b>828.52</b>	<b>1,039.83</b>	<b>1,868.35</b>
HTD Domestic	0.29	0.27	0.25	0.52
HTC Commercial	127.11	41.18	60.56	101.74
HTI Industrial	1,620.19	569.37	702.44	1,271.81
High Tension-Ferro/SM/PI/SR	442.64	197.19	257.60	454.79
High Tension-AG/HT-AGP (Pump Sets/Irrigation)	4.85	2.54	2.21	4.75
High Tension-AG/HT-AG (Allied Activities)	4.52	4.21	3.88	8.09
Military Engineering Services/defense Establishments	27.07	13.76	12.89	26.65
<b>C. TEMPORARY SUPPLY</b>	<b>20.81</b>	<b>2.70</b>	<b>3.12</b>	<b>5.82</b>
LT Temporary	20.51	1.61	1.73	3.34
HT Temporary	0.30	1.09	1.39	2.47
<b>D. SINGLE POINT SUPPLY</b>	<b>5.46</b>	<b>1.17</b>	<b>2.68</b>	<b>3.85</b>
Residential Complexes		-	-	-
Commercial Complexes	5.46	1.17	2.68	3.85
Industrial Complexes		-	-	-
<b>Total</b>	<b>4,179.35</b>	<b>1,767.03</b>	<b>1,939.45</b>	<b>3,706.48</b>

5.3.4 The Hon'ble Commission is requested to approve the sales figures considered in the table above for APR of FY 2020-21. The figures for energy sales for FY 2020-21 are provided in Format 1 of Tariff Filing Formats.

#### 5.4 Number of Consumers

5.4.1 The consumer base of Goa comprises of HT Industry, LT Industry, Commercial and Domestic consumers with the maximum number of consumers attributable to the domestic category. In Business Plan order for FY 2019-20 to FY 2021-22 issued by Hon'ble Commission dated 16<sup>th</sup> November 2018, after detailed analysis of past trend of number of consumers, the Hon'ble Commission has approved number of consumers for FY 2020-21 and accordingly approved number of consumers for MYT Control period. Also, in Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020, The Hon'ble Commission has kept the number of consumers same as that approved in the MYT Tariff Order. For H1 of FY 2020-21, EDG is submitting actual number of consumers in format 26 of this petition. Accordingly, for H2 of FY 2020-21 & for entire Financial Year, EDG has considered same number of consumers as actual number of consumers considered in FY 2020-21 H1. The table below shows category wise number of consumers considered for FY 2020-21 vis-à-vis number of consumers approved by the Hon'ble Commission in tariff order for FY 2020-21.

**Table 5-3: Number of Consumers for FY 2020-21 (Nos)**

Category	Approved in Order dated 19.05.20	FY 20-21 Projection
<b>A. LOW TENSION SUPPLY</b>	<b>6,69,578</b>	<b>6,47,590</b>
LTD/Domestic	5,47,213	5,25,260
LT-L.I.G (Low income Group)	1,835	1,240
LTC/Commercial	1,01,972	1,00,301
LTI/ Industrial	5,963	5,723
LT Mixed (Hotel Industries)	151	116
LTAG/Agriculture	12,166	12,019
LTPL (Public lighting)	215	2,887
LT Hoarding /SignBoard	63	44
<b>B. HIGH TENSION SUPPLY</b>	<b>1,192</b>	<b>1,103</b>
HTD/Domestic	3	4
HT Commercial	240	262
HTI (Industrial) Ferro Metallurgical/ Steel Melting/Power Intensive.	29	26
HTI Industrial	864	754
HTAG ( Agriculture)	44	44
HT. M.E.'s Defence Estt.	12	13
<b>C. TEMPORARY SUPPLY</b>	<b>5,182</b>	<b>2,759</b>
LT Temporary	5,181	2,747
HT Temporary	1	12
<b>D. Single Point Supply</b>	<b>1</b>	<b>1</b>
<b>Total</b>	<b>6,75,954</b>	<b>6,51,453</b>

5.4.2 The Hon'ble Commission is requested to approve number of consumers for APR of FY 2020-21 as submitted in the above table. The figures for number of consumers for FY 2020-21 are provided in Format 1 of Tariff Filing Formats.

## 5.5 Connected Load

5.5.1 EDG has estimated the Connected Load in line with the principles adopted for the number of consumers for H2 of FY 2020-21 and for entire FY 2020-21. Accordingly, EDG has considered connected load for FY 2020-21 H1 as per actual and the same has been considered for FY 2020-21 (H2) as well as for entire Financial Year. Category wise Connected Load considered for APR of FY 2020-21 vis-à-vis Connected Load approved by the Hon'ble Commission in tariff order for FY 2020-21 dated 19<sup>th</sup> May 2020 is provided in the table given below.

**Table 5-4: Connected Load for FY 2020-21 (KW/ kVA)**

Category	Approved in Order dated 19.05.20	FY 20-21 Projection
<b>A. LOW TENSION SUPPLY</b>	<b>20,99,627</b>	<b>21,21,160</b>
LTD/Domestic	15,64,434	15,63,985
LT-L.I.G (Low income Group)	231	115
LTC/Commercial	3,40,731	3,60,138
LTI/ Industrial	1,40,551	1,39,224
LT Mixed (Hotel Industries)	2,868	2,284
LTAG/Agriculture	48,593	47,624
LTPL (Public lighting)	1,600	7,232
LT Hoarding /SignBoard	619	558
<b>B. HIGH TENSION SUPPLY</b>	<b>7,40,970</b>	<b>7,40,263</b>
HTD/Domestic	300	400
HT Commercial	73,507	91,998
HTI (Industrial) Ferro Metallurgical/ Steel Melting/Power Intensive.	98,700	1,00,820
HTI Industrial	5,51,853	5,28,085
HTAG ( Agriculture)	9,550	11,285
HT. M.E.'s Defence Estt.	7,060	7,675
<b>C. TEMPORARY SUPPLY</b>	<b>21,034</b>	<b>13,151</b>
LT Temporary	20,684	10,707
HT Temporary	350	2,444
<b>D. Single Point Supply</b>	<b>4,035</b>	<b>4,035</b>
<b>Total</b>	<b>28,65,665</b>	<b>28,78,609</b>

5.5.2 The Hon'ble Commission is requested to approve the Connected Load for APR of FY 2020-21 as submitted in the above table. The details of Connected Load for FY 2020-21 are provided in Format 1 of Tariff Filing Formats.

#### 5.6 T&D Loss & Energy Requirement for FY 2020-21

5.6.1 **T&D Loss for H1:** The Distribution Loss for the 1<sup>st</sup> half of the FY 2020-21 (i.e. Apr 20 to Sep 20) based on the actual data available comes out to be 6.96%.

5.6.2 **Energy Input for H1:** The actual measured energy input at periphery for H1 from WR and SR is provided in the table given below: (The information provided below is as per the SEM readings recorded at the Periphery of Goa)

**Table 5-5: Energy Input for WR & SR: FY 2020-21 (H1)**

Particulars	WR	SR	H1
Energy Input at Periphery (MUs)	1,566.03	258.93	1,824.96

5.6.3 **Energy Balance for H1:** The Energy Balance for the 1<sup>st</sup> half of the FY 2020-21, based on the provisional actual figures is shown in the table below:

**Table 5-6: Energy Balance for FY 2020-21 H1 (MUs)**

Particulars	FY20-21 H1 Actual
<b>Energy Input at Goa Periphery</b>	<b>1,824.96</b>
<b>Total Power Scheduled/ Purchased at Goa Periphery</b>	
Total Schedule Billed Drawal - CGS	1,877.67
Add: Overdrawal	11.22
Add: Power purchase through Banking	(18.63)
Add: Power purchase from Open Market (IEX)	16.70
Add : Hydro Power	-
Less: Underdrawal	7.70
Add: Renewable Power	310.27
Less: Power diverted to Exchange	281.94
<b>Total</b>	<b>1,907.59</b>
<b>PGCIL Losses - MUs</b>	<b>82.64</b>
<b>PGCIL Losses - %</b>	<b>4.33%</b>
<b>Total Power Purchased within Goa State</b>	
Add: Co-generation	74.17
Add: Independent Power Producers (IPP)	-
<b>Total</b>	<b>74.17</b>
<b>Total Power Purchase availability after PGCIL Losses</b>	<b>1,899.13</b>
<b>Less: Retail Sales to Consumers</b>	<b>1,767.03</b>
<b>Distribution Losses - MUs</b>	<b>132.10</b>
<b>Distribution Losses - %</b>	<b>6.96%</b>

5.6.4 **Inter-State Transmission Losses:** PGCIL losses are on account of two regions, Western region (WR) and Southern Region (SR). EDG has considered revised Sales as detailed above and PGCIL losses for H1 are computed based on the Energy input at Goa Periphery & for H2, PGCIL losses have been worked out considering 3.26% & 9.87% for Western & Southern Region respectively as approved in Tariff Order dated 19<sup>th</sup> May 2020. Accordingly, Inter-state transmission losses for H1, H2 and for entire FY 2020-21 have been arrived as under:

**Table 5-7: Inter-State Transmission Losses for FY 2020-21**

Particulars	FY 20-21 (Approved)		FY20-21 H1	FY20-21 H2	FY20-21 Revised Estimate
	WR	SR	Total	Total	Total
Inter-State Transmission Loss (%)	3.26%	9.87%	4.33%	4.28%	4.30%

5.6.5 **Distribution Loss for overall FY 2020-21:** The Hon'ble Commission has approved distribution loss of 10.50% for FY 2020-21 in the Tariff Order dated 19<sup>th</sup> May 2020. However, as per actuals details of FY 2020-21 H1, Distribution Loss have been arrived at 6.96%. Based on the actual Distribution loss level during H1, EDG has projected power purchase requirement for FY 2020-21 H2 considering aggregate Distribution Loss level for entire FY 2020-21 as 10.50%. As a result, Distribution Loss for FY 2020-21 H2 is arrived at 13.50%.

5.6.6 The estimated AT&C Loss and Distribution Loss for FY 2020-21 are provided in Format 2 of Tariff Filing Formats.

- 5.6.7 EDG submits that it has projected power purchase quantum for H2 of FY 2020-21 for Central Generating Stations and for Co-generating plants as per capacity tied up. Renewable Power is projected for the quantum required in order to fulfil RPO obligation and for the same EDG has tied up with SECI (Solar & Wind), NVVNL & APPCL on long term basis and Manikaran Power, APPCPL & Kreate Energy on short term basis. Power purchase for H2 is projected considering projected sales of H2 and Distribution losses of 10.50% for entire FY 2020-21. EDG has also considered both sale and purchase of short-term power from IEX for off peak and peak period, respectively.
- Percentage Allocation of firm as well as of unallocated quota from the CGS has been considered as per the allocation obtained from WRPC vide letter dated 15<sup>th</sup> October 2020 and from SRPC vide letter dated 20<sup>th</sup> October 2020.
  - EDG submits that the PLF of CGS station considered for H2 are based on PLF approved by the Hon'ble Commission in Business Plan Order dated 16<sup>th</sup> November 2018. In the said order, the Hon'ble Commission has considered average PLF for last 4-5 years for each station depending on the status of operation of the plant during the year.
  - Auxiliary consumption for CGS stations has been considered as approved by the Hon'ble Commission in Business Plan order dated 16<sup>th</sup> November 2018. In the said order, the Hon'ble Commission has assumed auxiliary consumption of 7.75%, 2.50% and 10% for thermal power plant, Gas power plant and nuclear power plant respectively.
  - Inter-state transmission loss of 3.26% and 9.87% considered for power purchase through western and southern region respectively as per Business Plan Order dated 16<sup>th</sup> November 2018.
  - Based on the above assumptions, EDG has estimated the power purchase quantum from CGS stations.
  - With respect to purchase/ sale of power from IEX/Traders, EDG considered the actual purchase of 16.70 MUs and sale of 281.94 MUs in H1 of FY 2020-21. Similarly, in H2 of FY 2020-21, EDG has considered the purchase of 209.52 MUs and sale of 140 MUs.
- 5.6.8 EDG has also considered the power received through banking from BRPL (9.91 MU) and Manikaran Power (29.76 MU).
- 5.6.9 EDG has therefore estimated the power purchase quantum for H2 of FY 2020-21 and has integrated with actual quantum of H1 to arrive at energy balance for the entire FY 2020-21.
- 5.6.10 EDG, while computing Energy balance for entire FY 2020-21, has considered the actual over-drawl/under-drawl only during first half of FY 2020-21. Thus, based on the foregoing paragraphs, the Energy Balance for the year FY 2020-21 is shown in the table below.

**Table 5-8: Energy Balance for FY 2020-21 (H1 + H2) (MU)**

Particulars	FY20-21 H1 Actual	FY20-21 H2 Projected	FY20-21 Revised Estimation
<b>Energy Input at Goa Periphery</b>	<b>1,824.96</b>	<b>2,168.01</b>	<b>3,992.97</b>
<b>Total Power Scheduled/ Purchased at Goa Periphery</b>			
Total Schedule Billed Drawal - CGS	1,877.67	1,943.73	3,821.41
Add: Overdrawal	11.22	-	11.22
Add: Power purchase through Banking	(18.63)	39.67	21.04
Add: Power purchase from Open Market (IEX)	16.70	209.52	226.22
Add : Hydro Power	-	-	-
Less: Underdrawal	7.70	-	7.70
Add: Renewable Power	310.27	212.05	522.32
Less: Power diverted to Exchange	281.94	140.00	421.94
<b>Total</b>	<b>1,907.59</b>	<b>2,264.98</b>	<b>4,172.57</b>
<b>PGCIL Losses - MUs</b>	<b>82.64</b>	<b>96.97</b>	<b>179.60</b>
<b>PGCIL Losses - %</b>	<b>4.33%</b>	<b>4.28%</b>	<b>4.30%</b>
<b>Total Power Purchased within Goa State</b>			
Add: Co-generation	74.17	74.17	148.35
Add: Independent Power Producers (IPP)	-	-	-
<b>Total</b>	<b>74.17</b>	<b>74.17</b>	<b>148.35</b>
<b>Total Power Purchase availability after PGCIL Losses</b>	<b>1,899.13</b>	<b>2,242.19</b>	<b>4,141.32</b>
<b>Less: Retail Sales to Consumers</b>	<b>1,767.03</b>	<b>1,939.45</b>	<b>3,706.48</b>
<b>Distribution Losses - MUs</b>	<b>132.10</b>	<b>302.74</b>	<b>434.84</b>
<b>Distribution Losses - %</b>	<b>6.96%</b>	<b>13.50%</b>	<b>10.50%</b>

5.6.11 The Hon'ble Commission is requested to approve the Energy Balance for the FY 2020-21 as computed in the above table. The energy requirement and source wise power purchase details along with actual cost for H1 are discussed in subsequent paragraph. The details of energy Balance for FY 2020-21 (H1, H2 and annual) are provided in Format 3 of Tariff Filing Formats.

## 5.7 Power Purchase Quantum & Cost for FY 2020-21

### **Power Purchase Cost for H1 of FY 2020-21**

5.7.1 EDG meets its total energy requirement from its allocation from the Central Generating Stations (CGS), state-based Co-generation facilities, Power Exchanges etc. EDG receives power from CGS like NTPC and NPCIL as per allocation from time to time. The power purchases from other sources such as Co-generation has been considered as per respective PPAs. Also, Renewable Power has been procured from NRVNL, SECI and Manikaran Power.

5.7.2 The below table shows the summary of Power Purchase (at Goa periphery) from various sources along with their costs for H1 of FY 2020-21 including Transmission Charges, Banking, Over-drawal and purchase from traders:

**Table 5-9: Power Purchase Quantum & Cost for FY 2020-21 (H1)**

Particulars	Gross Purchase	Cost	Rate
	MUs	Rs. Cr.	Rs./kWh
NTPC	1,677.31	499.97	2.98
NPCIL	119.32	38.14	3.20
IEX Purchase (Peak Hrs)	16.15	5.11	3.16
IEX Sale (Off Peak Hrs)	(272.68)	(65.41)	2.40
Overdrawal	3.40	2.31	6.79
Co-Generation	74.17	17.36	2.34
Renewable	300.08	145.09	4.84
Transmission	-	84.45	-
Banking of Power	(18.63)	-	-
<b>Total</b>	<b>1,899.13</b>	<b>727.02</b>	<b>3.83</b>

5.7.3 The source wise details of Power Purchase Quantum and its cost are covered in Format 4 of the Tariff Filing Formats.

5.7.4 EDG on a real time basis has also overdrawn/ under drawn power from both WR and SR grids. Reactive charges have been adjusted in the over-drawl and under-drawl charges. The details of the same for H1 are provided in the table given below:

**Table 5-10: DSM Power (Over-drawl & Under-drawl) Charges for H1 of FY 2020-21**

Region	Over drawal		Under drawal		Net Drawal	
	Rs. Crore	MUs	Rs. Crore	MUs	Rs. Crore	MUs
Western	0.90	2.18	1.25	7.07	(0.35)	(4.89)
Southern	2.74	8.67	0.08	0.38	2.67	8.29
<b>Total</b>	<b>3.64</b>	<b>10.85</b>	<b>1.33</b>	<b>7.45</b>	<b>2.31</b>	<b>3.40</b>

5.7.5 Transmission Charges H1: The transmission charges for the 1<sup>st</sup> half of FY 2020-21 comprises of transmission charges for Western Region and Southern Region. The Transmission charge comes to around Rs. 84.45 Cr.

#### **Power Purchase Cost for H2 FY 2020-21**

5.7.6 Power Purchase Fixed Cost for H2 FY 2020-21: The Fixed charges are dependent on the availability of the plant. Hence while projecting the cost for FY 2020-21 H2, the fixed charges for CGS have been taken in line with the actual fixed charges in FY 2020-21 H1 for various CGS stations. The fixed cost has been considered only for CGS stations.

5.7.7 Power Purchase Variable Cost for H2 FY 2020-21: Power purchase requirement for H2 FY 2020-21 is projected as per the availability of plants. The variable cost for CGS stations for FY 2020-21 H2 has been computed considering per unit cost incurred in H1 of FY 2020-21. The variable cost per unit for Co-Generation Stations has been taken as per actuals of H1 on average basis.

#### **Banking of Power:**



- 5.7.8 EDG submits that it has issued LoI to Manikaran for banking of power through BRPL and as a part of this arrangement, EDG will receive 9.91 MUs of power from BRPL for the period from 01.02.2021 to 31.03.2021.
- 5.7.9 EDG further submits that it is entering into another arrangement with Manikaran for banking of power during the period from March 2021 to September 2021. EDG will procure firm supply of power on RTC basis from Manikaran for a quantum 102.96 MU during the period from 1<sup>st</sup> March 2021 to 31<sup>st</sup> May 2021. During the month of March, Manikaran will supply 29.76 MU of power and remaining power in the subsequent months. Further as per the agreement, EDG will return 104% of supplied/ banked power to Manikaran during Goa's off-peak season from 10<sup>th</sup> June 2021 to 30<sup>th</sup> September 2021 on RTC basis. Accordingly, EDG has considered the same for projection of power purchase quantum for FY 2020-21 (H2) and FY 2021-22.

**Power Purchase from Renewable Energy Sources:**

- 5.7.10 Solar RPO: In order to meet the Solar RPO, EDG in H2 of FY 2020-21 would purchase renewable energy from SECI, NVVNL and through STOA from Kreate & Manikaran. During H2 of FY 2020-21, in order to meet the shortfall in meeting the Solar RPO targets for FY 2020-21 as a whole, EDG also plans to purchase Solar REC equivalent to 71.07 MUs.
- 5.7.11 Non-Solar RPO: To meet Non-Solar RPO, EDG has planned to procure power from SECI, Manikaran and APPCL on short term basis.
- 5.7.12 EDG submits that it would be able to meet Non-Solar RPO in FY 2020-21 in excess of the applicable Non-Solar RPO target. EDG submits that while it plans to purchase Solar REC to fulfil its shortfall, it requests the Hon'ble Commission to consider compensating the shortfall in Solar RPO with excess Non-Solar RPO.
- 5.7.13 The details of the Solar and Non-Solar RPO Status for FY 2020-21 are given in the table below:

**Table 5-11: Solar & Non-Solar RPO Status for FY 2020-21**

Particulars	Approved in Order dated 19.05.2020	FY20-21 Estimated
<b>Sales within State (MU)</b>	<b>4,179.35</b>	<b>3,706.48</b>
Hydro Power available at State Periphery (MU)	10.88	-
T&D Losses	<b>10.50%</b>	<b>10.50%</b>
Resultant Energy Sales for calculation of RPO (after adjustment of power from hydro sources) (MU)	4,169.60	3,706.48
<b>RPO obligation (in %)</b>	<b>14.10%</b>	<b>14.10%</b>
Solar	6.10%	6.10%
Non-Solar	8.00%	8.00%
<b>RPO obligation for the year (in MU)</b>	<b>587.91</b>	<b>522.61</b>
Solar	254.35	226.10
Non-Solar	333.57	296.52
<b>RPO compliance (Physical Power available at Consumer Periphery after adjusting Inter-State Transmission and Intra-State T&amp;D Loss)</b>	<b>497.93</b>	<b>522.32</b>
Solar	199.32	155.02
Non-Solar	298.60	367.30
<b>RPO compliance (REC certificates to be purchased)</b>	<b>89.99</b>	<b>71.07</b>
Solar	55.02	71.07
Non-Solar	34.96	-
<b>Total RPO compliance (Physical Power plus REC)</b>	<b>587.91</b>	<b>593.39</b>
Solar	254.35	226.10
Non-Solar	333.56	367.30

5.7.14 Transmission Charges FY 2020-21 (H2): The Transmission Charges for FY 2020-21 are considered as per POC rates computed in accordance with CERC Order (determination of POC rates and transmission losses for the period of July to September 2020) dated 01<sup>st</sup> August 2020. Further, the transmission charge has also been considered factoring the fees and charges of SRLDC, WR and SR. The computation of transmission charges consists of POC Charges, Reliability support charges & HVDC charges and the same is provided in the table below.

**Table 5-12: POC Transmission Charges for H2 for FY 2020-21**

Regions	POC Rates	Reliability support charges	HVDC Charges	Total Charges	Monthly Quantum	Monthly charges	Total charges for 6 months
	(Rs/Mw/month)	(Rs/Mw/month)	(Rs/Mw/month)	(Rs/Mw/month)	(MW)	(Rs. Crs)	(Rs. Crs)
SR	1,02,683	32,049	18,235	1,52,967	100.00	1.53	9.18
WR	2,14,375	32,049	11,592	2,58,016	545.16	14.07	84.42
<b>Total</b>							<b>93.60</b>

5.7.15 The total transmission charges for H2 including Wheeling and SLDC charges etc. for FY 2020-21 are given in the table below:

**Table 5-13: Total Transmission Charges for H2 FY 2020-21**

Particulars	FY 2020-21 (H2)
POC Transmission charge	93.60
Fees and Charges of SRLDC-WR	0.12
Fees and Charges of SRLDC-SR	0.04
SCADA and Reactive Charges	-
Corridor Charges for Energy purchased from IEX	-
<b>Total</b>	<b>93.77</b>

5.7.16 Thus, the total Transmission charge for H2 of FY 2020-21 works out to be Rs.93.77 Cr.

5.7.17 Based on the above, the projected power purchase cost for H2 of FY 2020-21 is presented below:

**Table 5-14: Projected Power Purchase Cost for H2 FY 2020-21**

Particulars	Gross Purchase	Cost	Rate
	MUs	Rs. Cr.	Rs./kWh
NTPC	1,756.61	538.03	3.06
NPCIL	100.43	29.29	2.92
IEX Purchase (Peak Hrs)	202.69	79.03	3.90
IEX Sale (Off Peak Hrs)	(135.44)	(33.89)	2.50
Overdrawal	-	-	-
Co-Generation	74.17	17.36	2.34
Renewable	205.33	95.51	4.65
Transmission	-	93.77	-
Banking of Power	38.38	-	-
<b>Total</b>	<b>2,242.19</b>	<b>819.11</b>	<b>3.65</b>

5.7.18 Summary of Power Purchase Cost for FY 2020-21: In line with the foregoing paragraphs, the total estimated Power Purchase Quantum & Cost for FY 2020-21 as well as that approved by the Hon'ble Commission in Tariff Order dated 19<sup>th</sup> May 2020 is summarized in the table below:

**Table 5-15: Power Purchase Summary for FY 2020-21**

Particulars	Approved in Tariff Order dtd 19.05.20			Revised Projection for FY 2020-21		
	Gross Purchase	Cost	Rate	Gross Purchase	Cost	Rate
	MUs	Rs. Cr.	Rs./kWh	MUs	Rs. Cr.	Rs./kWh
NTPC	3,524	1,097	3.11	3,433.92	1,038.00	3.02
NPCIL	186	56	3.03	219.75	67.43	3.07
IEX Purchase (Peak Hrs)	283	88	3.10	218.84	84.14	3.84
IEX Sale (Off Peak Hrs)	-	-	-	(408.11)	(99.30)	2.43
Overdrawal	-	-	-	3.40	2.31	6.79
Co-Generation	168	40	2.40	148.35	34.72	2.34
Renewable	498	190	3.81	505.42	240.61	4.76
New Stations	11	5	5.00	-	-	-
Transmission	-	151	-	-	178.22	-
Banking of Power (Net)	-	-	-	19.75	-	-
<b>Total</b>	<b>4,669.66</b>	<b>1,627.91</b>	<b>3.49</b>	<b>4,141.32</b>	<b>1,546.13</b>	<b>3.73</b>

5.7.19 It is submitted that net power purchase at state periphery after losses is 4,141.32 MU with total power purchase cost of Rs. 1,546.13 Cr. and the average power purchase cost works out to Rs. 3.73/kWh against approved net power purchase cost of Rs. 3.49/kWh for FY 2020-21. Cost of Rs. 2.31 Cr. for over-drawl of power is incurred during H1 of FY 2020-21.

5.7.20 The power purchase details for H1 and H2 and for entire FY 2020-21 are provided in Tariff Filing Format 4.

5.7.21 It is requested to the Hon'ble Commission to approve the power purchase cost including transmission charges for FY 2020-21 as detailed in tables given above.

## 5.8 Operation & Maintenance Expenses

5.8.1 Operation & Maintenance Expenses consists of three elements viz Employee Expenses, A&G Expense and R&M Expense:

- Employee expenses
- Administrative and General
- Repairs and Maintenance Expenses

5.8.2 As per Regulation 51.3 and 51.4 of JERC MYT Regulations, 2018, the Licensee is required to submit O&M expenses which is reproduced below as:

*“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  $n^{\text{th}}$  Year of the Control Period shall be approved based on the formula given below:*

$$O\&M_n = (R\&M_n + EMP_n + A\&G_n) \times (1 - X_n) + \text{Terminal Liabilities}$$

Where,

$$R\&M_n = K \times GF_{A_{n-1}} \times (WPI_{\text{inflation}})$$

$$EMP_n = (EMP_{n-1}) \times (1 + G_n) \times (CPI_{\text{inflation}})$$

$$A\&G_n = (A\&G_{n-1}) \times (CPI_{\text{inflation}})$$

*‘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<sub>inflation</sub> – is the average increase in Consumer Price Index (CPI) for immediately preceding three (3) Years before the base Year;*

*WPI<sub>inflation</sub> – is the average increase in the Wholesale Price Index (CPI) for immediately preceding three (3) Years before the base Year;*

*EMP<sub>n</sub> – Employee expenses of the Distribution Licensee for the nth Year;*

*A&G<sub>n</sub> – Administrative and General expenses of the Distribution Licensee for the nth Year;*

*R&M<sub>n</sub> – Repair and Maintenance expenses of the Distribution Licensee for the nth Year;*

*GFA<sub>n</sub>-1 – Gross Fixed Asset of the transmission Licensee for the n-1th Year;*

*X<sub>n</sub> is an efficiency factor for nth Year. Value of X<sub>n</sub> 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;*

*G<sub>n</sub> is a growth factor for the nth Year. Value of G<sub>n</sub> 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:"*

### **5.8.3 Employee Expenses for FY 2020-21:**

5.8.3.1 Actual employee expense for FY 2020-21 H1 is Rs. 188.29 Cr. including pension/DA and other provisions of Rs. 7.43 Cr. EDG has projected normative Employee Expenses for FY 2020-21 at Rs. 340.36 Cr. based on the relevant Regulations and methodology adopted by the Hon'ble Commission in MYT Order dated 20<sup>th</sup> May 2019.

5.8.3.2 EDG also submits that in the previous Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020, the Hon'ble Commission has not approved the revised Employee Expenses for base year i.e. FY 2018-19 and approved the Employee Expenses for FY 2020-21 based on approved Employee Expenses for FY 2019-20 in MYT Order and revised CPI of 4.22% (average CPI for FY 17, FY 18 and FY 19). The relevant extracts of the Tariff Order dated 19<sup>th</sup> May 2020 is provided below:

*"The Commission believes that use of audited information is important in order to accurately determine the employee expenses for the Control Period (FY 2019-20 to FY 2021-22). The Commission further believes that the employee expenses for the base year have to be sacrosanct and therefore have to be determined only on the basis of audited data. The Commission in the MYT Order had determined the Employee expenses as per a certain methodology as discussed in the MYT Order. Since the Petitioner has still not been able to submit the audited accounts till FY 2018-19, the Commission finds no reason to revise the Employee expenses for the Base Year i.e. FY 2018-19. Hence, the Commission in absence of the actual audited data retains the same base year employee expenses as approved in the MYT Order for FY 2018-19. Further, based on the latest inflation and growth factor, the Employee Expenses for FY 2020-21 have been computed."*

5.8.3.3 With respect to the above, EDG submits that since the Audited Accounts for FY 2016-17 are available, it has computed the Employee Expenses for Base Year based on the audited Employee Expenses for FY 2014-15, FY 2015-16 and FY 2016-17 considering the average CPI for FY 2016-17, FY 2017-18 and FY 2018-19, i.e. 4.22%. Calculation of Employee Expenses for FY 2018-19 as base year is tabulated as under:

**Table 5-16: Calculation of Employee Expenses for base year, i.e. FY 2018-19**

Particulars	Value (Rs. Cr.)
<b>Employee expense as per Audited Accounts</b>	
FY 2014-15	205.70
FY 2015-16	238.50
FY 2016-17	217.47
<b>Average for Median Year (A)</b>	<b>220.56</b>
<b>CPI Infaltion (B)</b>	<b>4.22%</b>
<b>Employee Expenses</b>	
FY 2016-17 [C = A*(1+B)]	229.86
FY 2017-18 [D = C*(1+B)]	239.55
<b>FY 2018-19 (Base Year) [E = D*(1+B)]</b>	<b>249.65</b>
Add: 7th Pay Commission impact	69.27
<b>FY 2018-19 (Base Year) including 7th Pay Cost</b>	<b>318.92</b>

5.8.3.4 Considering above computed Employee Expenses for FY 2018-19 as a base year, Employee Expense for FY 2020-21 as whole is projected. The CPI used for computation of Employee Expenses for FY 2019-20 is 4.22% which is the average CPI for FY 2016-17, FY 2017-18 and FY 2018-19. For FY 2020-21, the CPI used is 5.35% which is the average CPI for FY 2017-18, FY 2018-19 and FY 2019-20. Computation of the same is as shown below.

**Table 5-17: Calculation of Employee Expenses for FY 2020-21**

Particulars	FY 2019-20	FY 2020-21
EMPn-1 (A)	318.92	323.20
Gn (B)	-2.76%	-2.22%
CPI Inflation (C)	4.22%	5.35%
<b>Employee cost Excluding Terminal Liability (Rs. Cr.) (D= A*(1+B)*(1+C))</b>	<b>323.20</b>	<b>332.93</b>
Terminal liability if any (E) (Rs. Crore)	8.62	7.43
<b>Employee cost Including Terminal Liability (Rs. Cr.) (F= D+E)</b>	<b>331.82</b>	<b>340.36</b>

5.8.3.5 EDG thus requests the Hon'ble Commission to approve the Employee Expenses for FY 2020-21 considering the methodology presented in the foregoing paragraphs. EDG also submits that computing the Employee Expenses considering the methodology adopted by the Hon'ble Commission in previous Tariff Order would result in the under estimation of Employee Expenses vis-à-vis realistic scenario. Thus, EDG again requests the Hon'ble Commission to approve the Employee Expenses for FY 2020-21 as submitted in this petition.

**Table 5-18: Justification on the Employee Expenses for FY 2020-21**

Particulars	Units	FY 2016-17	FY 2020-21	CAGR
Employee Expenses	Rs. Crs	217.47	340.36	11.8%
Employee Expenses (Excluding impact of 7th Pay Commission)	Rs. Crs	217.47	271.09	5.7%
Average No. of Employee	No.	6,393	6,447	0.2%
Cost per Employee	Rs. Lacs	3.40	4.21	5.4%

5.8.3.6 From the above table it is observed that, employee expenses are increased from FY 2016-17 to FY 2020-21 at a CAGR of around 11.8%. However, since Employee Expenses also include the impact of 7<sup>th</sup> Pay Commission, the CAGR of Employee Expenses excluding the impact of 7<sup>th</sup> Pay Commission comes out to be 5.7%. Whereas the average number employees increased at CAGR of 0.2% during the same period. From the CPI data from FY 2016-17 to FY 2019-20, it can be observed that CPI has increased at average of 5.35%. Also, the resultant CAGR for the projected Employee Expenses per employee for FY 2020-21 arrived at 5.4% which is minimally higher than average of CPI inflation from FY 2016-17 to FY 2019-20 i.e. 5.35%. In view of the same, EDG request the Hon'ble Commission to approve the normative Employee Expenses as submitted in the petition.

**Table 5-19: Working of CAGR rate for CPI from FY 2015-16 to FY 2019-20**

Particulars	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20
CPI based on Industrial Workers, All India	265.00	275.92	284.42	299.92	322.50
Year on Year Growth		4.12%	3.08%	5.45%	7.53%
Average CPI (FY 17 to FY 19)					4.22%
Average CPI (FY 18 to FY 20)					5.35%

5.8.4 **Repairs & Maintenance Expenses for FY 2020-21:** EDG has been carrying out various R&M activities as a step towards improvement of electrical system, reduction in breakdowns and response time towards faults/ breakdown and increasing preventive maintenance activities.

5.8.4.1 EDG has actually incurred R&M Expenses of Rs. 27.84 Cr. in the first six months period from April-September 2020. While projecting the R&M Expense for H2, EDG has estimated the normative R&M Expenses for the entire FY 2020-21 and accordingly projection for H2 has been arrived at. R&M Expenses for FY 2020-21 has been computed in accordance with JERC MYT Regulations 2018 and as per the methodology adopted by the Hon'ble Commission in MYT Tariff Order dated 20<sup>th</sup> May 2019.

5.8.4.2 EDG also submits that in the previous Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020, the Hon'ble Commission has approved the R&M expenses for FY 2020-21 based on the revised WPI Inflation factor. However, the Hon'ble Commission has considered the 'K' factor and Opening GFA same as that approved by the Hon'ble Commission in the MYT Order dated 20<sup>th</sup> May 2019.

5.8.4.3 With respect to the above, EDG submits that since the Audited Accounts for FY 2016-17 are available, it has computed the k Factor for Base Year based on the audited R&M Expenses and Opening GFA for FY 2014-15, FY 2015-16 and FY 2016-17. The computation of K Factor has been tabulated below as:

**Table 5-20: Calculation of k Factor for R&M expenses**

Particulars	FY14-15	FY15-16	FY16-17
R&M exp	28.96	16.28	25.14
Opening GFA	883.20	956.82	1,117.45
K factor	3.28%	1.70%	2.25%
<b>Avg of K factor</b>			<b>2.41%</b>

5.8.4.4 EDG has considered the WPI for FY 2020-21 as 2.96%, which is average WPI for FY 2017-18, FY 2018-19 and FY 2019-20. Also, as per the Regulation 51 of JERC MYT Regulations 2018, the base GFA has been considered opening GFA for FY 2019-20. The computation of R&M expenses for FY 2020-21 is provided below as:

**Table 5-21: Calculation of R&M Expenses for FY 2020-21 (Rs. Cr.)**

Particulars	FY 2020-21
K Factor (A)	2.41%
GFA <sub>n-1</sub> (B)	1,526.38
WPI Inflation (C)	2.96%
<b>R&amp;M Cost for FY 19-20 (D) = A*B*(1+C) (Rs. Cr.)</b>	<b>37.88</b>

5.8.4.5 Working of the WPI inflation considered in the calculation of normative R&M Expenses is as shown below.

**Table 5-22: Calculation of Average WPI**

Particulars	FY 16-17	FY 17-18	FY 18-19	FY 19-20
WPI based on Office of Economic Advisor, GoI	111.62	114.88	119.79	121.80
YoY		2.92%	4.28%	1.68%
Average WPI (FY 18 to FY 20)				2.96%

5.8.4.6 Accordingly, EDG requests the Hon'ble Commission to approve the R&M expenses for FY 2020-21 as detailed in the tables given above. R&M Expenses is mainly on account of repairs and maintenance of 33 KV substations, 11 KV substations, LT Lines etc. Also, minor R&M works contribute to significant part of R&M Expenses.

5.8.4.7 EDG further submits that in the past few years, it has increased the fixed asset base to the large extent and maintaining of such assets always warrant appropriate cost so that consumers gets uninterrupted and quality power supply. EDG has been strictly following the Standard of Performance Regulations and Supply Code which needs a proper maintenance of such assets.

#### 5.8.5 Administrative & General expenses for FY 2020-21

5.8.5.1 As mentioned earlier, Administrative & General expenses mainly comprise of rents, telephone and other communication expenses, professional charges, conveyance and travelling allowances and other debits.

5.8.5.2 EDG has actually incurred A&G Expenses of Rs. 10.88 Cr. in the first six months period from April-September 2020. While projecting the A&G Expense for H2, EDG has estimated the normative A&G Expenses for the entire FY 2020-21 and accordingly projection for H2 has been arrived at. A&G Expenses for FY 2020-21 has been computed in accordance with JERC MYT Regulations 2018 and as per the methodology adopted by the Hon'ble Commission in MYT Tariff Order dated 20<sup>th</sup> May 2019.



5.8.5.3 EDG also submits that in the previous Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020, the Hon'ble Commission has not approved the revised A&G Expenses for base year i.e. FY 2018-19 and approved the A&G for FY 2020-21 based on approved A&G Expenses for FY 2019-20 in MYT Order and revised CPI of 4.22% (average CPI for FY 17, FY 18 and FY 19). In the said Tariff Order, the Hon'ble Commission stated that,

*“Similar to the methodology followed while approving the Employee expenses, in absence of audited data available the A&G expenses for the base year cannot be revised. Hence, the Commission determines the A&G expenses for FY 2020-21 with FY 2019-20 as base expenses approved in the MYT Order and latest CPI Inflation trends.”*

5.8.5.4 With respect to the above, EDG submits that since the Audited Accounts for FY 2016-17 are available, it has computed the A&G Expenses for Base Year based on the audited A&G Expenses for FY 2014-15, FY 2015-16 and FY 2016-17 considering the average CPI for FY 2016-17, FY 2017-18 and FY 2018-19, i.e. 4.22%. Calculation of A&G Expenses for FY 2018-19 as base year is tabulated as under:

**Table 5-23: Calculation of A&G Expense for FY 2018-19 as base year**

Particulars	Rs. Cr.
<b>A&amp;G expense as per Audited Accounts</b>	
FY 2014-15	22.40
FY 2015-16	25.30
FY 2016-17	23.51
<b>Average for Median Year (A)</b>	<b>23.74</b>
<b>CPI Inflation (B)</b>	<b>4.22%</b>
<b>A&amp;G Expenses</b>	
FY 2016-17 [C = A*(1+B)]	24.74
FY 2017-18 [D = C*(1+B)]	25.78
<b>FY 2018-19 (Base Year) [E = D*(1+B)]</b>	<b>26.87</b>

5.8.5.5 Considering above computed A&G Expenses for FY 2018-19 as a base year, A&G Expenses for FY 2020-21 as whole is projected. The CPI used for computation of A&G Expenses for FY 2019-20 is 4.22% which is the average CPI for FY 2016-17, FY 2017-18 and FY 2018-19. For FY 2020-21, the CPI used is 5.35% which is the average CPI for FY 2017-18, FY 2018-19 and FY 2019-20. Computation of the same is as shown below.

**Table 5-24: Calculation of A&G Expense for FY 2020-21**

Particulars	FY 2019-20	FY 2020-21
A&Gn-1 (A)	26.87	28.00
CPI Inflation (B )	4.22%	5.35%
<b>A&amp;G Expense for FY 2019-20 (Rs. Cr.) {C= A*(1+B)}</b>	<b>28.00</b>	<b>29.50</b>

5.8.5.6 Accordingly, EDG request the Hon'ble Commission to approve the A&G Expenses for FY 2020-21 as submitted in above table.

5.8.6 **O&M Expenses Summary FY 2020-21:** Based on the foregoing paragraphs, the O&M

expenses for the FY 2020-21 vis-a-vis that approved by the Hon'ble Commission is shown in the table below:

**Table 5-25: O&M Expenses for FY 2020-21 (Rs. Cr.)**

Particulars	Approved in Order dated 19.05.2020	H1 Actual	H2 Projection	FY20-21 Revised Estimation
Employee Expenses	300.81	188.29	152.07	340.36
A&G Expenses	28.24	10.88	18.62	29.50
R&M Expenses	73.65	27.84	10.04	37.88
<b>Total O&amp;M Expenses</b>	<b>402.70</b>	<b>227.01</b>	<b>180.73</b>	<b>407.73</b>

5.8.7 The Hon'ble Commission is requested to approve the O&M Expenses as shown in the table above. The details of O&M expense for FY 2020-21 are provided in the Formats 13, 15 & 16 of the Tariff Filing Formats.

## 5.9 Capital Expenditure and Capitalization

5.9.1 EDG submits that it has considered the capex & capitalization for FY 2020-21 as per revised projection as submitted in format 5 along with the Petition. The Capital Investment, Capitalization, Capital Work in Progress (CWIP) and Gross Fixed Asset (GFA) for FY 2020-21 are discussed hereunder as:

### 5.9.2 Capital Investment and Capitalization during FY 2020-21

5.9.2.1 EDG submits that the Gross Block considered in FY 2020-21 is based on audited figure of FY 2016-17 and further addition based on the provisional values of capital investment and capitalisation for FY 2017-18, FY 2018-19 and FY 2019-20. The estimated capital investment and capitalization for FY 2020-21 is based on the provisional values of capex and capitalization in H1 and projected capex and capitalization in H2.

5.9.2.2 EDG hereby submits a gist on the Capital Expenditure & Capitalization for FY 2020-21:

**Table 5-26: Capital Expenditure & Capitalisation for FY 2020-21 (Rs. Cr.)**

S. No.	Name of Scheme	Capex during FY20-21	Capitalisation during FY20-21
1	Schedule Tribe Development Scheme (P)	35.00	21.50
2	Infrastructure development through Electricity Duty (Plan)	105.00	109.63
3	Erection and Augmentation of 33/11 KV S/S line (Plan)	10.00	10.70
4	Normal Development Schemes (Plan)	8.00	8.00
5	System Improvement Schemes (Plan)	30.00	40.73
6	Construction of staff quarters and office buildings (Plan)	2.00	2.00
7	Strengthening of 220 KV Transmission Network	5.00	4.89
8	Erection of 220/110/33/11 KV Sub-Station at Verna (New)	2.00	-
9	APDRP(State Schemes)	1.72	1.72
10	Restructured Accelerated Power Development and Reforms Programme Part A	14.00	-
11	Underground Cabling	25.00	15.00
12	Public Lighting Scheme	0.50	0.50
13	R-APDRP Part B / IPDS	35.00	14.00
14	EHV new Transmission / Sub-Station / Capacitor banks schemes	0.50	0.50
15	Sub-transmission and distribution improvement scheme	5.00	5.00
16	Arranging Power to MOPA Airport	5.00	-
	<b>Total</b>	<b>283.72</b>	<b>234.17</b>

5.9.2.3 As seen from the above table, the total Capital Expenditure and Capitalization estimated for FY 2020-21 as per estimates is Rs. 283.72 Cr. and Rs. 234.17 Cr. respectively. The detail of capital expenditure schemes for FY 2020-21 is provided in the Format 5 of Tariff Filing Formats.

5.9.2.4 The details of opening Capital Works-in-Progress, investments during the year and investments capitalised for the year are summarised in the table below:

**Table 5-27: CWIP for FY 2020-21 (Rs. Cr.)**

Particulars	FY 2020-21
Opening Balance	550.10
Add: New Investments	283.72
<b>Total</b>	<b>833.82</b>
Less Investment Capitalized	234.17
Other Entries in CWIP	-
<b>Closing Balance</b>	<b>599.65</b>

### 5.9.3 Opening and Closing GFA for FY 2020-21

5.9.3.1 EDG submits that the opening and closing balance of GFA for FY 2020-21 onwards has been arrived at after considering the provisional capitalization for the period FY 2017-18 to FY 2019-20 and estimated capitalization for FY 2020-21. The computation of the same is provided in the table given below.

**Table 5-28: Opening & Closing GFA for FY 2020-21**

Particulars	FY 17	FY 18	FY 19	FY 20	FY 21
Opening GFA	1,117.45	1,216.92	1,394.94	1,526.38	1,731.35
Addition	101.44	178.02	131.44	204.97	234.17
Retirement	-1.98				
Closing GFA	1,216.92	1,394.94	1,526.38	1,731.35	1,965.52

5.9.3.2 EDG also submits that Opening and Closing GFA for FY 2020-21 after excluding the assets created from Electricity Duty and Grants in the following table:

**Table 5-29: Opening & Closing GFA (excl. ED and Grant) for FY 2020-21**

Particulars	FY 17	FY 18	FY 19	FY 20	FY 21
Opening GFA (Excl Grand & ED)	976.42	1,026.18	1,107.67	1,137.92	1,163.41
GFA Addition during the year	101.44	178.02	131.44	204.97	234.17
Less: 60% and 75% Grant Component of APDRP Part-B / IPDS scheme	19.79	33.79	10.19	21.38	11.79
Less: Schemes out of ED Fund	29.91	62.74	91.00	158.10	109.63
<b>Net GFA addition during the year</b>	<b>51.74</b>	<b>81.49</b>	<b>30.25</b>	<b>25.49</b>	<b>112.75</b>
Less: Retirement	1.98	-	-	-	-
<b>Opening GFA (Excl Grand &amp; ED)</b>	<b>1,026.18</b>	<b>1,107.67</b>	<b>1,137.92</b>	<b>1,163.41</b>	<b>1,276.16</b>

5.9.3.3 EDG also submits that the Regulation 30.4 of JERC MYT Regulation 2018 states that,

*“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.”

5.9.3.4 Accordingly, the opening & closing balance of GFA from FY 2019-20 onwards has been arrived at after reduction of accumulated depreciation as on 1<sup>st</sup> April 2019 and accordingly, the details of the Net Fixed Assets for FY 2020-21 are provided in the table below:

**Table 5-30: Opening & Closing GFA (Net of Accumulated Depreciation) for FY 2020-21**

Particulars	FY 20	FY 21
Opening NFA net of Accumulated Depreciation	973.21	1,178.18
Addition	204.97	234.17
Retirement		
Closing GFA	1,178.18	1,412.35

## 5.10 Depreciation for FY 2020-21

5.10.1 The Regulation 30.7 of the JERC MYT Regulations, 2018 provides for depreciation to be calculated as specified below:

*“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.”*

5.10.2 In line with the above Regulations, EDG has calculated the depreciation on Average Gross Fixed Assets for FY 2020-21 at Rs. 74.88 Cr. However as per the Regulation 30.1 of JERC MYT Regulations 2018 clearly specify that depreciation shall not be allowed on assets funded through capital subsidies, consumer contribution or grants. Depreciation of Rs. 74.88 Cr. is towards total average GFA base of Rs. 1,848.43 Cr. Further, average GFA excluding grant and electricity duty works out as Rs. 1,219.78 Cr. Details of the same is provided in form 12 of the tariff filing format. Hence depreciation towards GFA excluding grant & electricity duty works out as Rs. 49.41 Cr. in proportion with GFA excluding grant & electricity duty to total average GFA. The table below shows the working of Depreciation considered in ARR for FY 2020-21.

**Table 5-31: Depreciation for FY 2020-21 (Rs. Cr.)**

Particulars	Approved in Order dated 19.05.2020	FY20-21 Estimated
Opening Gross Fixed Assets	2,217.00	1,163.41
Addition During the year	53.36	234.17
Less: Capitalization through grants/ED	-	121.42
<b>Closing Gross Fixed Assets</b>	<b>2,270.36</b>	<b>1,276.16</b>
<b>Average Gross Fixed Assets excluding Grant/Electricity Duty contribution (A)</b>	<b>2,243.68</b>	<b>1,219.78</b>
<b>Total Average GFA (B)</b>	<b>2,243.68</b>	<b>1,848.43</b>
<b>Total Depreciation (C)</b>	<b>81.53</b>	<b>74.88</b>
<b>Depreciation twds GFA (Excl. Grant/ED/Consumer Contribution) (A/B*C)</b>		<b>49.41</b>
<b>Rate of Depreciation</b>	<b>3.63%</b>	<b>4.05%</b>

5.10.3 The detail of GFA & Depreciation for FY 2020-21 is provided in the Format 7 & Format 12 of

Tariff Filing Formats respectively. The Hon'ble Commission is requested to approve the depreciation for the year for FY 2020-21.

### 5.11 Interest & Finance Charge

5.11.1 EDG submits that the Regulations 28.1 & 28.2 of the JERC MYT Regulations, 2018 specifies that:

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

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

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

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

5.11.2 EDG submits that as per Regulation 26.2 of JERC MYT Regulations, 2018, if the actual equity 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. Extract of the relevant Regulation is reproduced as under:

***"26 Debt to Equity Ratio***

.....

*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"*

5.11.3 EDG has submitted that most capital assets are created out of the equity contribution from Government of Goa and the actual borrowing of loan is only to the extent of the APDRP schemes. EDG has computed loan balance and interest on loan as per normative principles and methodology adopted by the Hon'ble Commission in past orders.

5.11.4 EDG doesn't have any actual loan in EDG's Books of Accounts, hence normative loan is

calculated in line with above mentioned regulations. The Hon'ble Commission has approved normative loan as on 31<sup>st</sup> March 2016 in final true up of FY 2015-16. The same normative loan balance has considered as opening balance for FY 2016-17, and normative loan addition is calculated at 70% of the GFA excluding grant and electricity duty fund contribution till 31<sup>st</sup> March 2020. The same balance is carried forward as opening normative loan for FY 2020-21. Further during FY 2020-21, addition of net GFA (excluding grant and electricity duty) is added. Normative loan repayments are considered same as depreciation amount excluding in proportion of grant and electricity duty for FY 2020-21. The rate of Interest for long term Interest rate has been considered at the rate of 8.75% including 100 basis points as per one-year SBI MCLR Interest rate applicable as on 1<sup>st</sup> April relevant financial year, i.e. 01<sup>st</sup> April 2020 in this regard. It is requested to Hon'ble Commission to approve Interest on Loan on normative principles. The details of actual loan are provided at Tariff Filing Format 10.

5.11.5 EDG has not considered the Letter of Credit charges for payment security charges as directed by the Hon'ble Commission, as the same will be considered at the time of true up.

**Table 5-32: Interest & Finance Charges for FY 2020-21 (Rs. Cr.)**

Particulars	Approved in Order dated 19.05.2020	FY20-21 Estimated
Opening Normative Loan	1,138.90	185.73
Add: Normative Loan during the year/GFA during the year	37.35	78.93
Less: Normative Repayment for the year	81.53	49.41
<b>Closing Normative Loan/ GFA</b>	<b>1,094.72</b>	<b>215.24</b>
Average Normative Loan	1,116.81	200.48
Rate of Interest	8.85%	8.75%
<b>Interest on Normative Loan</b>	<b>98.84</b>	<b>17.54</b>

5.11.6 The Hon'ble Commission is requested to approve the Interest & Finance Charges for FY 2020-21 as shown in the above table. The details of Interest & Finance charges are provided in Format 10 of the Tariff Filing Formats.

## 5.12 Interest on Working Capital

5.12.1 As per Regulation 63.1 of the JERC MYT Regulations, 2018, Interest on Working Capital for retail supply activity of the licensee shall consist of:

- O&M Expenses for one (1) month;
- Maintenance spares at 40% of repair and maintenance for one month;
- Receivables equivalent to two (2) months of the expected revenue from consumers at prevailing tariff;
- Less: Consumer security deposit but excluding bank guarantee/ fixed deposit receipt.

5.12.2 Regulation 31.4 of the JERC MYT Regulations, 2018 specifies as below:

*"34.1 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 1<sup>st</sup> April of the Financial Year in which the Petition is filed plus 200 basis points.”*

5.12.3 The Interest Rate is considered equivalent to the SBI base Rate available as on 01<sup>st</sup> April 2020 for FY 2020-21 which is at 7.75% plus 200 basis points which works out to be 9.75%.

5.12.4 In line with the aforesaid regulation, the detailed computation of Interest on Working Capital for FY 2020-21 is provided in the table below:

**Table 5-33: Interest on Working Capital for FY 2020-21 (Rs. Cr.)**

Particulars	Approved in Order dated 19.05.2020	FY 20-21 Estimated
O&M Expense for 1 month	33.56	33.98
Maintenance spares at 40% of R&M expenses for one (1) month;	2.46	1.26
Receivables equivalent to two (2) months of the expected revenue from charges at the prevailing tariff	387.94	348.19
Less: Amount, held as security deposits	143.53	79.94
<b>Net Working Capital</b>	<b>280.43</b>	<b>303.50</b>
Rate of Interest (%)	10.55%	9.75%
<b>Interest on Working Capital</b>	<b>29.58</b>	<b>29.59</b>

5.12.5 The Hon’ble Commission is requested to approve the Interest on Working Capital as presented in the table above. The details of Interest on Working Capital for FY 2020-21 are provided in Format 18 of the Tariff Filing Formats.

### **5.13 Interest on Consumer Security Deposit**

5.13.1 As per the Regulation 5.135 of Electricity Supply Code Regulations, 2018 and subsequent amendment dated 25<sup>th</sup> March 2019:

*“The Licensee shall pay interest to the consumer at the Bank Rate declared by the Reserve Bank of India prevailing on the 1<sup>st</sup> of April for the year, payable annually on the consumer’s security deposit with effect from date of such deposit in case of new connections energized after the date of this notification, or in other cases, from the date of notification of this Supply Code, 2018. The interest accrued during the year shall be adjusted in the consumer’s bill for the first billing cycle of the ensuing financial year. If the Security Deposit is submitted in the form of Bank Guarantee or by providing lien against fixed deposits, no interest shall be payable to the consumer.”*

5.13.2 In accordance with Regulation 28.11 of the JERC MYT Regulations, 2018 specifies that,

*“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 1<sup>st</sup> 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.”*

- 5.13.3 The provision of interest on security deposits is to be made at the bank rate. The interest rate considered is 4.65% which is RBI Bank rate as on 01<sup>st</sup> April 2020.
- 5.13.4 In view of the above, Interest on Security Deposit is calculated at Rs. 3.72 Cr. on cash security deposit amounts excluding Bank Guarantee & Fixed Deposit Receipts based on the regulation stated above.
- 5.13.5 EDG submits that, however, as per the direction of the Hon’ble Commission EDG has started the payment of Interest on Security Deposit to its consumers for previous years as well and accordingly estimated the payment of Interest on Security Deposit to be Rs. 4.50 Cr.
- 5.13.6 The table below shows details of Interest on Security Deposit for FY 2020-21:

**Table 5-34: Interest on Security Deposit for FY 2020-21 (Rs. Cr.)**

Particulars	Approved in Order dated 19.05.2020	FY20-21 Estimated
Opening Security Deposit	123.87	73.65
Add: Deposit during the year	39.32	18.57
Less: Deposits refunded	-	6.00
Closing Security Deposit	163.19	86.22
<b>Average Security Deposit</b>	<b>143.53</b>	<b>79.94</b>
RBI Bank Rate	5.40%	4.65%
<b>Interest on Security Deposit</b>	<b>7.75</b>	<b>3.72</b>
<b>Interest on Security Deposit to be paid during FY 2020-21</b>		<b>4.50</b>

- 5.13.7 The Hon’ble Commission is requested to approve the Interest on Security Deposit for FY 2020-21 as detailed in the above table.

#### **5.14 Return on Equity**

- 5.14.1 Regulation 27.2 & 27.3 of the JERC MYT Regulations, 2018 specifies that:

*“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.”*

- 5.14.2 In line with the above regulation and the methodology proposed in the JERC MYT Regulations, 2018, EDG has calculated the Return on Equity as outlined in the following table for FY 2020-21.



5.14.3 The opening balance of assets and accumulated depreciation are considered as per audited account of FY 2016-17 and further provisional actual numbers used to arrive at the opening balance for FY 2020-21. Opening equity has been computed by confiscating electricity duty utilised from FY 2008-09 to FY 2014-15 from the opening GFA as on 01<sup>st</sup> April 2016.

5.14.4 Further normative equity addition during the year is considered 30% of the net GFA addition excluding proportion of grant and electricity duty as computed in format 6.

**Table 5-35: Opening Balance of Equity as on FY 2020-21 (Rs. Cr.)**

Particulars	Amount (Rs. Cr.)
<b>Calculation of Opening Balance of Equity</b>	
Cl. Balance of GFA as on 31st March 2016	1,117.45
Electricity Duty utilised from FY 2008-09 to FY 2010-11	63.95
Additional of Electricity Duty Fund from FY 2011-12 to FY 2014-15	137.16
<b>Op. Balance of Equity as on 1st April 2016 = (1-2-3)*30%</b>	<b>274.90</b>
Add: capitalisation in FY 2016-17 = 30% of GFA Excluding grants	15.52
Add: capitalisation in FY 2017-18 = 30% of GFA Excluding grants	24.45
Add: capitalisation in FY 2018-19 = 30% of GFA Excluding grants	9.07
Add: capitalisation in FY 2019-20 = 30% of GFA Excluding grants	7.65
<b>Op. Balance of Equity as on 1st April 2020</b>	<b>331.59</b>

5.14.5 The table below shows calculation of Return on equity for FY 2020-21:

5.14.6 Further normative equity addition during the year is considered 30% of the net GFA addition excluding proportion of grant and electricity duty as computed in format 6.

**Table 5-36: Return on Equity for FY 2020-21 (Rs. Cr.)**

Particulars	Approved in Order dated 19.05.2020	FY20-21 Estimated
Opening Equity Amount	665.10	331.59
Equity Addition during year (30% of Capitalization)	16.01	33.83
Closing Equity Amount	681.11	365.42
Average Equity Amount	673.11	348.50
Average Equity (Wires Business)	<b>605.80</b>	<b>313.65</b>
Average Equity (Retail Supply Business) Business)	<b>67.31</b>	<b>34.85</b>
Return on Equity for Wires Business (%)	<b>15.50%</b>	<b>15.50%</b>
Return on Equity for Retail Supply Business (%)	<b>16.00%</b>	<b>16.00%</b>
<b>Return on Equity</b>	<b>104.67</b>	<b>54.19</b>

5.14.7 The Hon'ble Commission is requested to approve the Return on equity for FY 2020-21 as shown in the table above. The details of Return on Equity for FY 2020-21 are provided in Format 6 of the Tariff Filing Formats.

## 5.15 Non-Tariff Income

5.15.1 Non-Tariff Income comprises of proceeds from sale of dead stock, wastepaper, receipt from State Electrical Inspectorate and other miscellaneous receipts. The Non-Tariff Income for the year FY 2020-21 is estimated to be Rs. 19.95 Cr.

5.15.2 The details of Non-Tariff Income for FY 2020-21 are provided in Format 20 of the Tariff Filing Formats.

#### 5.16 Aggregate Revenue Requirement for FY 2020-21

5.16.1 Based on the submissions made in the foregoing paragraphs, the net Aggregate Revenue Requirement for the year FY 2020-21 and the revenue gap is shown in the table below:

**Table 5-37: Aggregate Revenue Requirement for FY 2020-21 (Rs. Cr.)**

Particulars	Approved in Order dated 19.05.2020	FY20-21 H1	FY20-21 H2	FY20-21 Estimated
Cost of Power Purchase	1,627.91	727.02	819.11	1,546.13
Provision for RPO Compliance				
Employee Expenses	300.81	188.29	152.07	340.36
A&G Expenses	28.24	10.88	18.62	29.50
R&M Expenses	73.65	27.84	10.04	37.88
Depreciation	81.53	24.71	24.71	49.41
Interest on Loan	98.84	8.77	8.77	17.54
Interest on Consumer Security Deposit	7.75	2.00	2.50	4.50
Interest on Working Capital	29.58	14.80	14.80	29.59
Return on Equity	104.67	27.10	27.10	54.19
<b>Total Revenue Requirement</b>	<b>2,352.99</b>	<b>1,031.40</b>	<b>1,077.71</b>	<b>2,109.10</b>
Less: Non-Tariff Income	25.34	10.10	9.85	19.95
<b>Net Revenue Requirement</b>	<b>2,327.65</b>	<b>1,021.30</b>	<b>1,067.86</b>	<b>2,089.15</b>

5.16.2 The Hon'ble Commission is requested to approve the net Aggregate Revenue Requirement for FY 2020-21 as described in the above table.

#### 5.17 Revenue from Retail Sale of Power

5.17.1 EDG submits that in the Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020, the Hon'ble Commission had approved the tariff hike of around 5.31% which was to be implemented from 01<sup>st</sup> June 2020. EDG further submits that, ongoing COVID-19 pandemic has resulted in lockdown which affected the economic activities which reduced the income for most of the consumers. In such a situation, an increased tariff would have resulted in additional financial impact on the consumers which would have jeopardized the economic revival efforts of the Government of Goa.

5.17.2 Hence, in view of the same, the Government of Goa decided to grant subsidy to all the categories of consumers from 1<sup>st</sup> June 2020 to 31<sup>st</sup> December 2020 to nullify the impact of tariff hike and to continue with the tariff approved for FY 2019-20 in tariff order dated 20<sup>th</sup> May 2019.

5.17.3 Accordingly, EDG has billed the consumers based on the tariff approved for FY 2019-20. However, for the purpose of computation of revenue for FY 2020-21, it has considered the approved tariff as per the tariff order for FY 2020-21 dated 19<sup>th</sup> May 2020. The loss of revenue due to continuation of tariff of FY 2019-20 would be provided as a subsidy by the Government of Goa and thus has not been considered in the Revenue Gap for FY 2020-21.

5.17.4 EDG submits that the computation of revenue for H1 is based on provisional sales, no. of consumers and connected load. Whereas, for computation of revenue for H2, EDG has projected sales based on the past trend. Revenue from FPPCA charges for FY 2020-21 H2 is calculated on the sales of FY 2020-21 H2 at the FPPCA rate of Q2 of FY 2020-21 which is latest available rate of FPPCA.

5.17.5 The overall revenue from sale of power for FY 2020-21 computes to Rs. 1,833.95 Cr. and Hon'ble commission is requested to approve the same. The category wise computation of revenue is represented in the table given below:

**Table 5-38: Revenue from Sale of Power for FY 2020-21**

Sr. No.	Category of Consumer	FY2020-21 (H1)		FY2020-21 (H2)		FY2020-21 (Estimated)	
		Sales (Mus)	Revenue (Rs.Cr.)	Sales (Mus)	Revenue (Rs.Cr.)	Sales (Mus)	Revenue (Rs.Cr.)
<b>A</b>	<b>LT Supply</b>	<b>934.64</b>	<b>325.77</b>	<b>893.82</b>	<b>332.63</b>	<b>1,828.46</b>	<b>658.40</b>
<b>1 (a)</b>	<b>LTD/Domestic</b>	<b>694.36</b>	<b>201.92</b>	<b>598.04</b>	<b>173.97</b>	<b>1,292.40</b>	<b>375.89</b>
	First 100 Units	251.86	44.68	240.49	43.09	492.35	87.77
	101 - 200 Units	164.23	41.80	145.89	38.45	310.12	80.25
	201 - 300 Units	94.06	31.28	74.53	27.01	168.59	58.28
	301 - 400 Units	55.13	23.00	39.50	17.64	94.63	40.63
	Above 400 Units	129.08	61.16	97.63	47.78	226.71	108.95
<b>1 (b)</b>	<b>LTLIG/Low Income Group</b>	<b>0.69</b>	<b>0.05</b>	<b>0.69</b>	<b>0.04</b>	<b>1.39</b>	<b>0.09</b>
<b>2</b>	<b>LTC/Commercial</b>	<b>179.33</b>	<b>97.15</b>	<b>226.62</b>	<b>126.13</b>	<b>405.96</b>	<b>223.28</b>
	<b>0-20 KW/Commercial Consumers</b>						
	First 100 Units	33.78	14.48	42.69	18.69	76.48	33.17
	101 - 200 Units	18.70	9.13	23.63	11.76	42.33	20.88
	201 - 400 Units	21.59	11.62	27.28	14.97	48.86	26.59
	Above 400 Units	62.15	35.54	78.54	46.00	140.70	81.54
	<b>&gt;20-90Kw Commercial Consumers</b>						
	0 - 100 units	1.66	0.93	2.09	1.37	3.75	2.30
	101 - 200 units	1.55	0.83	1.96	1.14	3.51	1.97
	201-400 units	2.88	1.68	3.64	2.27	6.51	3.96
	Above 400 units	36.97	22.91	46.72	29.89	83.70	52.79
	<b>&gt;90 KW Commercial consumer</b>						
	0 - 100 units	0.00	0.00	0.00	0.00	0.00	0.01
	101 - 200 units	0.00	0.00	0.00	0.00	0.00	0.00
	201-400 units	0.00	0.00	0.00	0.00	0.01	0.00
	Above 400 units	0.05	0.03	0.06	0.04	0.10	0.07
<b>3</b>	<b>LTI/Industry</b>	<b>34.63</b>	<b>16.92</b>	<b>39.15</b>	<b>20.13</b>	<b>73.78</b>	<b>37.05</b>
	First 500 Units	8.17	4.25	8.00	4.84	16.17	9.09
	Above 500 Units	26.46	12.66	31.15	15.29	57.61	27.96
<b>4</b>	<b>LTP/Mixed (Hotel Industries)</b>	<b>1.36</b>	<b>0.78</b>	<b>2.37</b>	<b>1.36</b>	<b>3.73</b>	<b>2.14</b>
<b>5 (a)</b>	<b>LTAG/Agriculture (Pump sets/irrigation)</b>	<b>8.38</b>	<b>1.56</b>	<b>7.50</b>	<b>1.62</b>	<b>15.88</b>	<b>3.18</b>
<b>5 (b)</b>	<b>LTAG/Agriculture (Allied Activities)</b>	<b>0.49</b>	<b>0.10</b>	<b>0.38</b>	<b>0.09</b>	<b>0.87</b>	<b>0.20</b>
<b>6</b>	<b>LTPL/Public Lighting</b>	<b>15.34</b>	<b>7.23</b>	<b>18.98</b>	<b>9.17</b>	<b>34.32</b>	<b>16.40</b>
<b>7</b>	<b>LTH/ Hoardings &amp; Signboards</b>	<b>0.05</b>	<b>0.07</b>	<b>0.08</b>	<b>0.12</b>	<b>0.13</b>	<b>0.19</b>
<b>B</b>	<b>HT Supply</b>	<b>828.52</b>	<b>534.50</b>	<b>1,039.83</b>	<b>670.34</b>	<b>1,868.35</b>	<b>1,204.85</b>
<b>8</b>	<b>Tariff HTD/ Domestic</b>	<b>0.27</b>	<b>0.13</b>	<b>0.25</b>	<b>0.13</b>	<b>0.52</b>	<b>0.26</b>
<b>9</b>	<b>Tariff HTC/ Commercial</b>	<b>41.18</b>	<b>37.66</b>	<b>60.56</b>	<b>51.48</b>	<b>101.74</b>	<b>89.14</b>
<b>10</b>	<b>Tariff-HTI/ Industrial</b>	<b>569.37</b>	<b>369.69</b>	<b>702.44</b>	<b>456.07</b>	<b>1,271.81</b>	<b>825.76</b>
	Connected at 11/33kv	470.77	309.63	589.98	386.04	1,060.76	695.67
	Connected at 110kv	98.60	60.06	112.45	70.03	211.06	130.08
<b>11</b>	<b>Tariff HTFS Industrial(Ferro Mettallurgical/ Steel Melting/ Power Intensive/ Steel Rolling )</b>	<b>197.19</b>	<b>116.90</b>	<b>257.60</b>	<b>152.86</b>	<b>454.79</b>	<b>269.77</b>
<b>12</b>	<b>Tariff HTAG/ Agriculture (Pump Sets/ irrigation)</b>	<b>2.54</b>	<b>0.60</b>	<b>2.21</b>	<b>0.57</b>	<b>4.75</b>	<b>1.17</b>
<b>13</b>	<b>Tariff HTAG/ Agriculture (allied activity)</b>	<b>4.21</b>	<b>0.90</b>	<b>3.88</b>	<b>0.85</b>	<b>8.09</b>	<b>1.75</b>
<b>14</b>	<b>Tariff HTMES/ DefenceEstablishment</b>	<b>13.76</b>	<b>8.62</b>	<b>12.89</b>	<b>8.38</b>	<b>26.65</b>	<b>17.00</b>
<b>C</b>	<b>Temporary Supply</b>	<b>3.87</b>	<b>3.56</b>	<b>5.80</b>	<b>4.14</b>	<b>9.67</b>	<b>7.69</b>
<b>15</b>	<b>Tariff-LTTS/Temporary Supply</b>	<b>1.61</b>	<b>1.40</b>	<b>1.73</b>	<b>1.03</b>	<b>3.34</b>	<b>2.43</b>
	Tariff-LT/Temporary Domestic	0.31	0.22	0.28	0.09	0.59	0.31
	Tariff-LT/Temporary Commercial	1.30	1.18	1.45	0.94	2.75	2.12
<b>17</b>	<b>Tariff HTTS/ Temporary Supply</b>	<b>1.09</b>	<b>1.03</b>	<b>1.39</b>	<b>1.11</b>	<b>2.47</b>	<b>2.14</b>
	HT Domestic	1.09	1.03	1.39	1.11	2.47	2.14
	HT Commercial	-	-	-	-	-	-
<b>D</b>	<b>Single Point Supply</b>	<b>1.17</b>	<b>1.12</b>	<b>2.68</b>	<b>2.00</b>	<b>3.85</b>	<b>3.12</b>
	Residential Complexes	-	-	-	-	-	-
	Commercial Complexes	1.17	1.12	2.68	2.00	3.85	3.12
	Industrial Complexes	-	-	-	-	-	-
	<b>Total</b>	<b>1,767.03</b>	<b>863.83</b>	<b>1,939.45</b>	<b>1,007.10</b>	<b>3,706.48</b>	<b>1,870.94</b>

## 5.18 Estimated Revenue Gap for FY 2020-21

5.18.1 EDG submits that it has estimated the Net Revenue Gap for FY 2020-21 after considering the budgetary support from the Government of Goa and the same is presented in the table given below.

**Table 5-39: Revenue Gap for FY 2020-21 (Rs. Cr.)**

Particulars	Approved in Order dated 19.05.2020	FY20-21 H1	FY20-21 H2	FY20-21 Estimated
Net Revenue Requirement	2,327.65	1,021.30	1,067.86	2,089.15
Revenue from Sale of Power	1,885.30	863.83	1,007.10	1,870.94
<b>Revenue Gap During the Year</b>	<b>442.35</b>	<b>157.46</b>	<b>60.75</b>	<b>218.22</b>
Less: Budgetary Support for State Govt.	342.26	157.46	60.75	218.22
<b>Net Revenue to be carried forward</b>	<b>100.09</b>	-	-	-

5.18.2 As presented above, EDG further submits that in APR for FY 2020-21, again the entire revenue gap as computed above is proposed to be met by the Government of Goa as a budgetary gap. Thus, the revenue gap carried forward to FY 2021-22 has been considered as NIL.

5.18.3 In view of above, the Hon'ble Commission is requested to allow Revenue Gap for FY 2020-21 as NIL as computed in the above table for the purpose of carrying forward to FY 2021-22.

## CHAPTER 6. AGGREGATE REVENUE REQUIREMENT FOR FY 2021-22

### 6.1 Preamble

6.1.1 The Joint Electricity Regulatory Commission (JERC) has notified the Regulations, JERC (Generation, Transmission & Distribution Multi Year Tariff) Regulations, 2018 on 10<sup>th</sup> August 2018 for the determination of tariff for the MYT control period based on certain norms of operation and financial parameters.

6.1.2 The JERC (Generation, Transmission & Distribution Multi Year Tariff) Regulations, 2018 hereafter referred to as JERC MYT Regulations, 2018 clearly states for the Hon'ble Commission to determine the tariff under MYT framework with effect from 1<sup>st</sup> April 2019. The relevant extract is quoted below:

*"5.1 The Commission shall determine the tariff for matters covered under clauses (a), (b), (c) and (d) of Regulation 3.1, under a Multi-Year Tariff framework with effect from April 1, 2019"*

6.1.3 The MYT Regulations, 2018 has defined control period in the following manner.

*"17. "Control Period" shall mean the period of three (3) Years from April 1, 2019 to March 31, 2022;"*

6.1.4 As seen from the above definition, the MYT tariff for the MYT control period is to be determined for the period starting from FY 2019-20 up to FY 2021-22.

6.1.5 ED-Goa therefore submits revised Aggregate Revenue Requirement and Tariff Determination for FY 2021-22 based on the parameters defined in the JERC MYT Regulations, 2018 which are proposed to be approved by the Hon'ble Commission.

### 6.2 Principles for determination of ARR

6.2.1 The Hon'ble Commission vide its order dated 20<sup>th</sup> May 2019 has determined Aggregate Revenue Requirement (ARR) for FY 2019-20 to FY 2021-22 for the 2<sup>nd</sup> control period.

6.2.2 This chapter summarizes the ARR for FY 2021-22. The Connected Load and number of Consumers as approved by the Hon'ble Commission vide tariff order dated 20<sup>th</sup> May 2019 for the control period is considered for FY 2021-22. However, the Sales has been considered by EDG on realistic basis as per the past trend.

6.2.3 The overall performance parameters proposed for FY 2021-22 is based on the methodologies discussed in subsequent paragraphs.

### 6.3 Energy Sales for FY 2021-22

6.3.1 EDG submits that in the previous Petition for approval of Aggregate Revenue Requirement and Tariff for FY 2020-21, it has considered the sales same as that approved by the Hon'ble

Commission in MYT Order dated 20<sup>th</sup> May 2019. Also, the Hon'ble Commission in Tariff Order dated 19<sup>th</sup> May 2020 has retained the sales same as that approved in the MYT Tariff Order. However, EDG submits that the sales approved for FY 2021-22 was 4,391.31 MU which is quite high compared to the past actual sales and current scenario. EDG further submits that retaining MYT approved sales for the purpose of determination of tariff for FY 2021-22 would result into highly overstated revenue and thus, loss to EDG.

6.3.2 EDG submits that in view of the above, it has projected the sales for FY 2021-22 based on the CAGR of actual historical sales with FY 2019-20 as the base year. EDG has computed 4-Year, 3-Year and 1-Year CAGR and based on the reasonableness, has adopted the CAGR for each category to arrive at the estimated sales for FY 2021-22. EDG further submits that it has not considered sales for FY 2020-21 as the base as FY 2020-21 is an exception year wherein the sales was affected due to COVID-19 and thus keeping the same as a base would not provide realistic projection of sales for FY 2021-22.

6.3.3 Revised projected sales for FY 2021-22 is provided in the table given below:

**Table 6-1: Projected Energy Sales for FY 2021-22**

Category	Approved in Order dated 20.05.2019	Revised Projection for FY 2021-22
<b>A. LOW TENSION SUPPLY</b>	<b>2,031.68</b>	<b>1,877.78</b>
LTD/Domestic	1,309.77	1,271.03
LT-LIG/Low Income Group	1.76	1.40
LTC/Commercial	584.40	468.87
LTI/Industrial	108.26	82.53
LT Mixed/ LT-P Hotel Industries	5.95	4.56
Low Tension-AG/LT-AGP (Pump Sets/Irrigation)	17.71	18.19
Low Tension-AG/LT-AGA (Allied Activities)	0.93	0.84
Public Lighting	2.66	30.21
Hoardings/Signboards	0.24	0.16
<b>B. HIGH TENSION SUPPLY</b>	<b>2,333.36</b>	<b>2,169.01</b>
HTD Domestic	0.29	0.42
HTC Commercial	135.72	128.27
HTI Industrial	1,718.21	1,470.41
High Tension-Ferro/SM/PI/SR	442.64	530.76
High Tension-AG/HT-AGP (Pump Sets/Irrigation)	4.85	4.98
High Tension-AG/HT-AG (Allied Activities)	4.52	7.59
Military Engineering Services/defense Establishments	27.13	26.58
<b>C. TEMPORARY SUPPLY</b>	<b>20.81</b>	<b>5.16</b>
LT Temporary	20.51	2.58
HT Temporary	0.30	2.58
<b>D. SINGLE POINT SUPPLY</b>	<b>5.46</b>	<b>5.79</b>
Residential Complexes	-	-
Commercial Complexes	5.46	5.79
Industrial Complexes	-	-
<b>Total</b>	<b>4,391.31</b>	<b>4,057.74</b>

#### 6.4 Number of Consumers and Connected load for FY 2021-22

6.4.1 EDG submits that it has considered the number of consumers and connected load for FY 2021-22 same as that approved by the Hon'ble Commission vide tariff order dated

20<sup>th</sup> May 2019 for the control period and is tabulated below:

**Table 6-2: Number of Consumers and Connected load for FY 2021-22**

Category	Consumers (Nos)	Connected Load (kW/kVA)
	Approved in MYT Order dated 20.05.2019	
<b>A. LOW TENSION SUPPLY</b>	<b>6,89,518</b>	<b>21,77,706</b>
LTD/Domestic	5,64,396	16,30,297
LT-L.I.G (Low income Group)	1,835	231
LTC/Commercial	1,04,480	3,51,975
LTI/ Industrial	5,963	1,40,551
LT Mixed (Hotel Industries)	156	2,868
LTAG/Agriculture	12,410	49,565
LTPL Public lighting )	215	1,600
LT Hoarding /SignBoard	63	619
LTPWW/Public Water works	-	-
<b>B. HIGH TENSION SUPPLY</b>	<b>1,269</b>	<b>7,75,259</b>
HTD/Domestic	3	300
HT Commercial	251	74,374
HTI (Industrial) Ferro Metallurgical/ Steel Melting/Power Intensive.	29	98,700
HTI Industrial	930	5,85,240
HTAG ( Agriculture)	44	9,550
HT. M.E.'s Defence Estt.	12	7,095
<b>C. TEMPORARY SUPPLY</b>	<b>5,182</b>	<b>21,034</b>
LT Temporary	5,181	20,684
HT Temporary	1	350
<b>D. SINGLE POINT SUPPLY</b>	<b>1</b>	<b>4,035</b>
<b>Total</b>	<b>6,95,970</b>	<b>29,78,034</b>

## 6.5 Intra state Transmission and Distribution Loss and Inter-State Transmission losses for FY 2021-22

6.5.1 EDG submits that it has been making efforts to reduce its intra state transmission losses and as per the Tariff Order dated 20<sup>th</sup> May 2019, the Hon'ble Commission has approved 10.25% Intra-state losses for FY 2021-22. EDG has considered the same for the present filing.

6.5.2 The Hon'ble Commission has also approved inter-state transmission losses of 3.26% for the power received from western Region and 9.87% for power received from southern Region for FY 2021-22 in above mentioned tariff order and the same is considered in this petition for projection of Energy Balance for FY 2021-22.

## 6.6 Energy Balance

6.6.1 Based on the approved Sales, distribution loss and PGCIL losses for FY 2021-22, the energy requirement is projected by the EDG. The projected Energy balance for FY 2021-22 is shown in the following table:

**Table 6-3: Energy Balance for FY 2021-22 (MUs)**

Particulars	FY 21-22 Revised Estimation
<b>Energy Input at Goa Periphery</b>	<b>4,352.97</b>
<b>Total Power Scheduled/ Purchased at Goa Periphery</b>	
Total Schedule Billed Drawal - CGS	3,886.36
Add: Overdrawal	-
Add: Power purchase from NRVN / Banking	(37.83)
Add: Power purchase from Traders/ Open Market	9.46
Add : Hydro Power	-
Less: Underdrawal	-
Add: Renewable Power	689.82
Less: Power diverted to Exchange	-
<b>Total</b>	<b>4,547.81</b>
<b>PGCIL Losses - MUs</b>	<b>194.84</b>
<b>PGCIL Losses - %</b>	<b>4.28%</b>
<b>Total Power Purchased within Goa State</b>	
Add: Co-generation	168.19
Add: Independent Power Producers (IPP)	-
<b>Total</b>	<b>168.19</b>
<b>Total Power Purchase availability after PGCIL Losses</b>	<b>4,521.16</b>
<b>Less: Retail Sales to Consumers</b>	<b>4,057.74</b>
<b>Distribution Losses - MUs</b>	<b>463.42</b>
<b>Distribution Losses - %</b>	<b>10.25%</b>

## 6.7 Power Purchase quantum and Cost for FY 2021-22

6.7.1 The JERC MYT regulations, 2018 specifies the following provisions with respect to cost of power purchase.

*“58 Cost of Power Purchase*

*58.1 The Distribution Licensee shall be allowed to recover the cost of power generated by the Generating Stations owned by it or purchased from approved sources for supply to Consumers based on the power procurement plan of the Distribution Licensee, approved by the Commission.”*

6.7.2 Based on the share allocation and power availability from various plants etc. the Hon’ble Commission has approved the power purchase requirement as per Sales, distribution loss, PGCIL loss approved in MYT order dated 20<sup>th</sup> May 2019. However, for CGS Plants revised allocation of power as per WRPC letter dated 15<sup>th</sup> October 2020 is considered for projection of power purchase for FY 2021-22.

6.7.3 EDG submits the detailed power procurement plan for FY 2021-22 based on the revised sales projection.

6.7.4 The Power Purchase quantum & cost approved by the Hon’ble Commission vide its order dated 20<sup>th</sup> May 2019 as well as that proposed by EDG for FY 2021-22 in the current petition is shown in the table below:



**Table 6-4: Power Purchase Quantum & Cost for FY 2021-22**

Particulars	Approved in MYT Order dtd 20.05.19			Revised for FY 2021-22		
	Power Purchase at State periphery (after adjusting ISTS Losses)	Cost	Rate	Power Purchase at State periphery (after adjusting ISTS Losses)	Cost	Rate
	MUs	Rs. Cr.	Rs./kWh	MUs	Rs. Cr.	Rs./kWh
NTPC	3,545.48	1,082.94	3.05	3,512.15	1,061.95	3.02
NPCIL	80.25	29.15	3.63	200.86	56.68	2.82
IEX	475.15	185.31	3.90	9.15	3.57	3.90
Co-Generation	168.19	40.37	2.40	168.19	40.37	2.40
Renewable	612.87	272.77	4.45	667.39	275.40	4.13
New Stations	10.88	5.44	4.99	-	-	-
Banking	-	-	-	(36.60)	-	-
Transmission	-	201.03	-	-	187.53	-
<b>Total</b>	<b>4,892.83</b>	<b>1,817.00</b>	<b>3.71</b>	<b>4,521.16</b>	<b>1,625.50</b>	<b>3.60</b>

- 6.7.5 Fixed Cost and Variable Cost for Central Generating Stations: EDG has considered the fixed cost and variable cost for FY 2021-22 as approved by the Hon'ble Commission vide its order dated 20<sup>th</sup> May 2019.
- 6.7.6 Cost of Co-generation stations: EDG submits that variable cost for Co-generating plants of Vedanta Plant 1 & 2 and Goa Sponge Pvt Ltd. is considered at the same variable cost as approved by the Hon'ble Commission vide its order dated 20<sup>th</sup> May 2019. Variable cost rate of Vedanta Plant 1 & 2 and Goa sponge Pvt Ltd is 240.04 Ps./Unit, 239.95 Ps./Unit and 240.74 Ps./unit respectively for FY 2021-22.
- 6.7.7 Energy from Solar: With respect to the fulfilment of Solar RPO for FY 2021-22, EDG submits that it has been procuring power from the long and medium term tied up renewable Sources such as SECI Solar and NRVNL Solar to meet its RPO obligations. Additionally, EDG also propose to purchase renewable power through STOA at variable charge of 470 Ps/unit for FY 2021-22 to meet the shortfall in Solar RPO, if any.
- 6.7.8 Energy from Non-Solar: To meet non-solar RPO, EDG submits that during FY 2021-22 it plants to procure 2 MUs from Hindustan Waste Energy Ltd at a variable cost as approved by the Hon'ble Commission vide its order dated 20<sup>th</sup> May 2019. Additionally, EDG shall also procure power from SECI Wind tranche II & III at a variable charge of 279 Ps. /kWh and 252 Ps. /kWh respectively for FY 2021-22. Further EDG has also projected to purchase power through STOA at variable charge of 470 Ps./kWh to meet the shortfall in Non-Solar RPO, if any.
- 6.7.9 EDG submits that it has executed a Power Sale Agreement (PSA) on 16<sup>th</sup> August 2019 with SECI for Procurement of 50 MW Wind Power (Tranche VI) for 25 years at a fixed tariff for Rs. 2.83/kWh plus trading margin of Rs. 0.07/kWh for fulfilment of Non-Solar RPO. Accordingly, EDG requests the Hon'ble Commission to accord its approval for adoption of said PSA which would enable EDG to meet its commitment towards Non-Solar RPO. The Power Sale Agreement with SECI for 50 MW Wind Power procurement is annexed as **Annexure 3** of this Petition.

**Table 6-5: Projected RPO obligation and compliance for FY 2021-22**

Particulars	Approved in Order dated 19.05.2020	FY2020-21 (Estimated)
<b>Sales within State (MU)</b>	<b>4,391.31</b>	<b>4,057.74</b>
Hydro Power available at State Periphery (MU)	10.88	
T&D Losses	<b>10.25%</b>	<b>10.25%</b>
Resultant Energy Sales for calculation of RPO (after adjustment of power from hydro sources) (MU)	4,381.53	4,057.74
<b>RPO obligation (in %)</b>	<b>17.00%</b>	<b>17.00%</b>
Solar	8.00%	8.00%
Non-Solar	9.00%	9.00%
<b>RPO obligation for the year (in MU)</b>	<b>744.86</b>	<b>689.82</b>
Solar	350.52	324.62
Non-Solar	394.34	365.20
<b>RPO compliance (Physical Power available at Consumer Periphery after adjusting Inter-State Transmission and Intra-State T&amp;D Loss)</b>	<b>612.86</b>	<b>689.82</b>
Solar	314.26	324.62
Non-Solar	298.60	365.20
<b>RPO compliance (REC certificates to be purchased)</b>	<b>132.00</b>	-
Solar	36.26	-
Non-Solar	95.74	-
<b>Total RPO compliance (Physical Power plus REC)</b>	<b>744.86</b>	<b>689.82</b>
Solar	350.52	324.62
Non-Solar	394.34	365.20

- 6.7.10 Cost of New Hydro station-Kameng: EDG submits that the Hon'ble Commission in MYT Tariff Order has considered the purchase of power from Kameng Hydro Station. However, EDG submits that the PPA of Kameng Hydro Station has been withdrawn thus, and the same has not been considered in the power procurement plan for FY 2021-22.
- 6.7.11 Cost of Power procured from traders/IEX: - EDG submits that after considering power from CGS, Co-generation, RE Sources and Banking, it is expected to face a minimal shortfall of around 9.46 MU and the same is proposed to be procured from traders/ IEX. Variable cost rate for the is considered 377.28 Ps. /Unit for FY 2021-22 as approved in MYT order dated 20<sup>th</sup> May 2019.
- 6.7.12 Banking of Power: EDG submits that it is entering into arrangement with Manikaran for banking of power during the period from March 2021 to September 2021. EDG will procure firm supply of power on RTC basis from Manikaran of quantum 102.96 MU during the period from 1<sup>st</sup> March 2021 to 31<sup>st</sup> May 2021. During the month of March, Manikaran will supply 29.76 MU of power and remaining 73.20 MU of power in FY 2021-22. Further as per the agreement, EDG will return 104% of supplied/ banked power to Manikaran during Goa's off season from 10<sup>th</sup> June 2021 to 30<sup>th</sup> September 2021 on RTC basis. EDG submits, that the same has been considered in projection of power purchase quantum for FY 2021-22.
- 6.7.13 PGCIL Transmission Charges: EDG submits that it has projected the Transmission charges for FY 2021-22 as Rs. 187.53 Cr. The same has been arrived at after considering a nominal escalation of 2% on the transmission charges estimated for H2 of FY 2020-21 in the previous chapter of this Petition.
- 6.7.14 The following table shows the summary of transmission charges which are arrived for FY 2021-22:

**Table 6-6: Projected Transmission charges FY 2021-22**

<b>Particulars</b>	<b>FY 2021-22</b>
POC Transmission charge	187.20
Fees and Charges of SRLDC-WR	0.25
Fees and Charges of SRLDC-SR	0.09
SCADA and Reactive Charges	-
Corridor Charges for Energy purchased from IEX	-
<b>Total</b>	<b>187.53</b>

6.7.15 As discussed in forgoing paras, following is the station wise power purchase quantum and cost for FY 2021-22.

**Table 6-7: Power purchase quantum and cost for FY 2021-22**

Source	Approved in Order dated 20.05.2019 FY 21-22		Revised Projection FY 21-22	
	Power Purchase at State periphery (after adjusting ISTS Losses) (MU)	Cost (Rs. Crore)	Power Purchase at State periphery (after adjusting ISTS Losses)	Cost (Rs. Crore)
<b>NTPC</b>				
KSTPS	1,510.99	330.34	1,503.58	330.34
VSTPS - I	250.47	67.19	254.24	67.18
VSTPS - II	103.57	24.25	97.40	24.24
VSTPS - III	90.71	24.29	86.27	24.29
VSTPS-IV	109.36	34.41	102.93	34.42
VSTPS-V	52.11	16.88	48.76	16.88
KGPP	39.25	19.67	42.88	19.68
GGPP	48.14	23.49	56.53	23.48
SIPAT- I	208.10	54.37	195.07	54.37
FSTPS	-	-	-	-
KSTPS-III	51.74	13.99	48.25	13.99
TSTPS			-	-
KHSTPS-I			-	-
RSTPS	636.09	234.36	636.09	234.37
SIPAT- II	91.88	24.54	88.18	24.53
Solapur	37.21	35.58	65.20	35.58
Gadarwara	99.31	49.65	75.89	49.65
Lara	49.89	24.95	25.31	12.47
Khargone	80.19	40.10	61.12	31.60
Mouda I	51.69	37.82	54.05	37.82
Mouda II	34.78	27.06	70.41	27.06
Add/ Less: Other Adjustments			-	-
<b>Subtotal - NTPC</b>	<b>3,545.48</b>	<b>1,082.94</b>	<b>3,512.15</b>	<b>1,061.95</b>
<b>RGPPL</b>	-	-	-	-
<b>NPCIL</b>				
KAPS	-	-	103.55	23.66
TAPS	80.25	29.15	97.31	33.01
<b>Sub Total NPCIL</b>	<b>80.25</b>	<b>29.15</b>	<b>200.86</b>	<b>56.68</b>
<b>Within State Generations</b>				
Vedanta Plant-1	92.90	22.30	92.90	22.30
Goa Sponge and private limited	5.40	1.30	5.40	1.30
Vedanta Plant-2	69.89	16.77	69.89	16.77
<b>Sub Total - Within State Generation</b>	<b>168.19</b>	<b>40.37</b>	<b>168.19</b>	<b>40.37</b>
<b>Renewable Purchase Obligation</b>				
NVVN Solar	-	-	12.00	6.82
SECI Solar	49.43	28.87	46.07	26.19
NTPC Solar	264.83	125.79		
Solar STOA			255.97	124.36
Short Term Tender DEEP portal - Solar Power			-	-
Non Solar - SECI Wind Tranche II LTOA			116.09	33.48
Non Solar - SECI Wind Tranche III LTOA	296.60	103.81	96.74	25.20
Non Solar - SECI Wind Tranche VI LTOA			48.37	14.45
Hindustan waste treatment plant Goa	2.00	1.10	2.00	1.10
Non Solar STOA			90.16	43.80
Solar REC	-	3.63		-
Non Solar REC	-	9.57		-
<b>Sub Total - RPO</b>	<b>612.87</b>	<b>272.77</b>	<b>667.39</b>	<b>275.40</b>
<b>Traders</b>				
IEX Purchase	475.15	185.31	9.15	3.57
IEX Sale			-	-
<b>Sub Total – Open Market</b>	<b>475.15</b>	<b>185.31</b>	<b>9.15</b>	<b>3.57</b>
<b>New Stations</b>				
Kameng HEP	10.88	5.44	-	-
<b>Sub Total - New stations</b>	<b>10.88</b>	<b>5.44</b>	<b>-</b>	<b>-</b>
<b>Banking of Power</b>	-	-	<b>(36.60)</b>	-
<b>Transmission Charges</b>				
PGCIL Charges	-	201.03		187.53
<b>Total</b>	<b>4,892.83</b>	<b>1,817.00</b>	<b>4,521.16</b>	<b>1,625.50</b>

6.7.16 The Hon'ble Commission is requested to approve the total power purchase quantum and cost of for FY 2021-22 as stated in the table above. The details of the Power Purchase for FY 2021-22 are provided in Format 4 of Tariff Filing Formats.

## 6.8 Operation and Maintenance (O&M Expenses)

6.8.1 Operation & Maintenance expenses comprise of the following heads of expenditure viz.

- Employee Expenses
- Administrative & General Expenses
- Repairs & Maintenance Expenses

6.8.2 As per Regulation 51 of JERC MYT regulations, 2018, licensee is required to submit O&M expenses for the control period as a part of MYT tariff petition. O&M expense for the base year shall be approved by Hon'ble Commission taking into account the latest available audited accounts, business plan filed by the distribution Licensee, estimates of the actuals for the Base Year, prudence check and any other factors considered appropriate by the Commission.

6.8.3 The Hon'ble Commission in JERC MYT regulations 2018 notifies the methodology for computation of O&M Expenses for the Control Period. The relevant extract of the Regulation is mentioned as follows:

*"51.4 O&M expenses for the nth Year of the Control Period shall be approved based on the formula given below:*

$$O\&M_n = (R\&M_n + EMP_n + A\&G_n) \times (1 - X_n) + \text{Terminal Liabilities}$$

Where,

$$R\&M_n = K \times GF_{A_{n-1}} \times (WPI_{inflation})$$

$$EMP_n = (EMP_{n-1}) \times (1 + G_n) \times (CPI_{inflation})$$

$$A\&G_n = (A\&G_{n-1}) \times (CPI_{inflation})$$

*'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<sub>inflation</sub> – is the average increase in Consumer Price Index (CPI) for immediately preceding three (3) Years before the base Year;*

*WPI<sub>inflation</sub> – is the average increase in the Wholesale Price Index (CPI) for immediately preceding three (3) Years before the base Year;*

*EMP<sub>n</sub> – Employee expenses of the Distribution Licensee for the nth Year;*

*A&G<sub>n</sub> – Administrative and General Expenses of the Distribution Licensee for the nth Year;*

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

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

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

*Gn is a growth factor for the 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.”*

6.8.4 **Employee Expenses:** For computation of Employee Expenses for FY 2021-22, EDG has adopted the same methodology as was adopted for projection of Employee Expenses for FY 2020-21 in Chapter 5.8.3 of this Petition. The same is also in line with the Hon’ble Commission’s order dated 20<sup>th</sup> May 2019. The CPI used for computation of Employee Expenses for FY 2021-22 is 5.35% which is the average CPI for FY 2017-18, FY 2018-19 and FY 2019-20. Detailed computation of the Employee Expenses for FY 2021-22 is shown below.

**Table 6-8: Calculation of Employee Expenses for FY 2021-22**

Particulars	FY 2021-22 (Rs. Cr.)
EMPn-1 (A)	332.93
Gn (B)	-1.98%
CPI Inflation (C)	5.35%
<b>Employee cost Excluding Terminal Liability (Rs. Cr.) (D= A*(1+B)*(1+C)</b>	<b>343.81</b>

6.8.5 **Repairs and Maintenance Expense:** For computation of R&M Expenses for FY 2021-22, EDG has adopted the same methodology as was adopted for projection of R&M Expenses for FY 2020-21 in Chapter 5.8.4 of this Petition. The same is also in line with the Hon’ble Commission’s order dated 20<sup>th</sup> May 2019. The K factor considered for computation of R&M expenses is 2.41% which is the average K factor computed for the base year, i.e. FY 2018-19. The WPI for FY 2021-22 has been considered as 2.96%, which is average WPI for FY 2017-18, FY 2018-19 and FY 2019-20. Detailed computation of the R&M for FY 2021-22 is shown below.

**Table 6-9: Computation of R&M Expenses for FY 2021-22**

Particulars	FY 2021-22 (Rs. Cr.)
K Factor (A)	2.41%
GFA <sub>n-1</sub> (B)	1,731.35
WPI Inflation (C)	2.96%
<b>R&amp;M Cost for FY 19-20 (D) = A*B*(1+C) (Rs. Cr.)</b>	<b>42.97</b>

6.8.6 **Administrative and General Expenses:** For computation of A&G Expenses for FY 2021-22, EDG has adopted the same methodology as was adopted for projection of A&G Expenses for FY 2020-21 in Chapter 5.8.5 of this Petition. The CPI used for computation of A&G Expenses for FY 2021-22 is 5.35% which is the average CPI for FY 2017-18, FY 2018-19 and FY 2019-20. Detailed computation of the A&G Expenses for FY 2021-22 is shown below.

**Table 6-10: Calculation of A&G Expense for FY 2021-22**

Particulars	FY 2021-22 (Rs. Cr.)
A&G Cost for nth-1 year (A)	29.50
CPI Inflation (b)	5.35%
<b>A&amp;G Cost for nth year D= A*B*(1+C)</b>	<b>31.08</b>

6.8.7 Based on the paragraphs detailed above, the summary of O&M expenses is provided in the below table:

**Table 6-11: Summary of O&M Expenses for FY 2021-22 (Rs. Cr.)**

Particulars	Approved in Order dated 20.05.2019	FY21-22 Revised Estimation
Employee Expenses	305.87	343.81
A&G Expenses	29.47	31.08
R&M Expenses	64.83	42.97
<b>Total O&amp;M Expenses</b>	<b>400.17</b>	<b>417.86</b>

## 6.9 Capital expenditure and Capitalisation

6.9.1 EDG submits that it has considered the capex & capitalization for FY 2021-22 as per revised projection being submitted in format 5 along with the Petition. The Capital Work in Progress (CWIP) and Gross Fixed Asset (GFA) for FY 2021-22 are discussed hereunder:

### 6.9.2 Capital Investment and Capitalization during FY 2021-22

6.9.2.1 EDG submits that in line with the methodology adopted in Chapter 5.9.2 of this Petition, it has considered the Capex and Capitalization for FY 2021-22. EDG has also referred to the following regulation of JERC MYT Regulations 2018 for projection of capital expenditure.

*“8.5 Capital Investment Plan*

*a) The Capital Investment Plan to be submitted as part of Business Plan shall include details*

*of New Projects planned during the Control Period, purpose of investment, capital structure, implementation schedule, quarter-wise capital expenditure and capitalisation schedule, financing plan, cost-benefit analysis, improvement in operational efficiency envisaged in the Control Period owing to proposed investment and such details for ongoing projects that will spill over into the Control Period under review along with justification;*

*b) The Capital Investment Plan proposed by the Transmission Licensee shall be in conformity with the plans made by the Authority/Central Transmission Utility and with the Capital Investment Plan of the Distribution Licensee;*

*c) During the annual performance review, the Commission shall monitor the progress of the actual capital expenditure incurred by the Licensee vis-à-vis the approved capital expenditure. The Licensees shall submit the actual capital expenditure incurred along with the annual performance review, true-up and determination of tariff filing;*

*d) In case, during the annual performance review, the cumulative (starting from first Year of the Control Period up to the current Year ) actual capital expenditure incurred is less than 50% of the cumulative approved capital expenditure, the Commission shall true-up the ARR elements relevant to actual capital expenditure in the current Year and remaining Years of the Control Period;*

*e) In case the capital expenditure is required for emergency work which has not been approved in the Capital Investment Plan, the Licensee shall submit an application containing all relevant information along with reasons justifying emergency nature of the proposed work seeking approval of the Commission:*

*Provided that in case capital expenditure is required for emergency work or unforeseen situation to mitigate threat to life and property and if prior intimation thereof to the Commission shall cause any irreparable loss or injury, the Licensee may undertake that capital expenditure and submit the details along with adequate justification for ex post facto approval of the Commission:*

*Provided further that for the purpose of Regulation 8.5(e) above, such approved capital expenditure shall be treated as a part of both the actual capital expenditure incurred by the Licensee and approved capital expenditure by the Commission;*

*.....”*

6.9.2.2 EDG submits that the projected Capex and Capitalisation for FY 2021-22 is Rs. 1,049 Cr. and Rs. 638.55 Cr. respectively as against the approved Capex and Capitalisation of Rs. 225 Cr. and Rs. 345 Cr. vide the Hon’ble Commission order dated 20<sup>th</sup> May 2019.

6.9.2.3 Summary of the Capex and Capitalisation for FY 2021-22 is tabulated as under:



**Table 6-12: Capital Expenditure and Capitalization for FY 2021-22 (Rs. Cr.)**

S.No.	Particulars	FY 2021-22
1	Capital Expenditure	1049.00
2	Capitalization	638.55

6.9.2.4 It is submitted that the scheme wise details of capital expenditure and capitalization for FY 2021-22 has also been provided in Format 5 of Tariff Filing Formats.

6.9.2.5 The details of opening Capital Works-in-Progress, investments during the year and investments capitalised for the year are summarised in the table below:

**Table 6-13: Details of CWIP for FY 2021-22 (Rs. Cr.)**

Particulars	FY 2021-22
Opening Balance	599.65
Add: New Investments	1,049.00
<b>Total</b>	<b>1,648.65</b>
Less Investment Capitalized	638.55
Other Entries in CWIP	-
<b>Closing Balance</b>	<b>1,010.10</b>

### 6.9.3 Opening & Closing GFA for FY 2021-22

6.9.3.1 EDG submits that the opening and closing balance of GFA for FY 2021-22 has been arrived after considering the provision capitalization for the period FY 2017-18 to FY 2019-20 and revised estimation of capitalization for FY 2020-21 & FY 2021-22. The computation of the same is provided in the table given below.

**Table 6-14: Opening & Closing GFA for FY 2021-22**

Particulars	Approved in MYT Order dtd 20.05.19	Submitted in this Petition
Opening GFA	2,760.58	1,965.52
Addition	345.00	638.55
Retirement		
Closing GFA	3,105.58	2,604.07

6.9.3.2 EDG also submits that Opening and Closing GFA for FY 2021-22 after excluding the assets created from Electricity Duty and Grants in the following table:

**Table 6-15: Opening & Closing GFA (excl. ED and Grant) for FY 2021-22**

Particulars	FY 2021-22
Opening GFA (Excl Grand & ED)	1,276.16
GFA Addition during the year	638.55
Less: 60% and 75% Grant Component of APDRP Part-B / IPDS scheme	38.12
Less: Schemes out of ED Fund	218.50
<b>Net GFA addition during the year</b>	<b>381.93</b>
Less: Retirement	-
<b>Opening GFA (Excl Grand &amp; ED)</b>	<b>1,658.08</b>

6.9.3.3 EDG also submits that the Regulation 30.4 of JERC MYT Regulation 2018 states that,

*“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.”*

6.9.3.4 Accordingly, the opening & closing balance of GFA from FY 2019-20 onwards has been arrived at after reduction of accumulated depreciation as on 1<sup>st</sup> April 2019 and accordingly, the details of the Net Fixed Assets for FY 2021-22 are provided in the table below:

**Table 6-16: Opening & Closing GFA (Net of Accumulated Depreciation) for FY 2021-22**

Particulars	FY 2021-22
Opening NFA net of Accumulated Depreciation	1,412.35
Addition	638.55
Retirement	
Closing GFA	2,050.90

## 6.10 Depreciation

6.10.1 JERC MYT Regulations, 2018 specifies the following provisions for projection of Depreciation.

*“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.”

- 6.10.2 In line with the above Regulations, EDG has calculated the depreciation on Average Gross Fixed Assets for FY 2021-22 at Rs. 92.56 Cr. However as per the Regulation 30.1 of JERC MYT Regulations 2018 clearly specify that depreciation shall not be allowed on assets funded through capital subsidies, consumer contribution or grants. Depreciation of Rs. 92.56 Cr. is towards total average GFA base of Rs. 2,284.79 Cr. Further, average GFA excluding grant and electricity duty works out as Rs. 1,467.12 Crore. Details of the same is provided in form 12 of the tariff filing format. Hence depreciation towards GFA excluding grant and electricity duty works out as Rs. 59.43 Cr. in proportion with GFA excluding grant and electricity duty to total

average GFA. The table below shows the working of Depreciation considered in ARR for FY 2021-22.

**Table 6-17: Depreciation for FY 2021-22 (Rs. Cr.)**

Particulars	Approved in Order dated 20.05.2019	FY 21-22 Estimated
Opening Gross Fixed Assets	2,270.36	1,276.16
Addition during the FY	75.00	638.55
Less: Capitalization through grants/ED	-	256.62
<b>Closing Gross Fixed Assets</b>	<b>2,345.36</b>	<b>1,658.08</b>
<b>Average Gross Fixed Assets excluding Grant/Electricity Duty contribution (A)</b>	<b>2,307.86</b>	<b>1,467.12</b>
<b>Total Average GFA (B)</b>	<b>2,307.86</b>	<b>2,284.79</b>
<b>Total Depreciation (C )</b>	<b>83.92</b>	<b>92.56</b>
<b>Depreciation twds GFA (Excl. Grant/ED/Consumer Contribution) (A/B*C)</b>		<b>59.43</b>
<b>Rate of Depreciation</b>	<b>3.64%</b>	<b>4.05%</b>

## 6.11 Interest on Loan:

6.11.1 JERC MYT Regulations, 2018 specifies the following provisions for projection of Interest on Loan.

*"28 Interest on Loan*

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

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

*Provided further that in case of De-capitalisation or retirement or replacement of assets, the loan capital shall be reduced to the extent of outstanding loan component of the original cost of the de-capitalised or retired or replaced assets, based on documentary evidence. 28.2 The normative loan outstanding as on April 1, 2019, shall be worked out by deducting the cumulative repayment as admitted by the Commission up to March 31, 2018, from the gross normative loan.*

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

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

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

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

considered:

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

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

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

*28.6 For new loans proposed for each Financial Year of the Control Period, interest rate shall be considered as lower of (i) one (1) Year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for one (1) Year period, as may be applicable as on 1st April of the relevant Year plus 100 basis points, and (ii) weighted average rate of interest proposed by the Distribution Licensee. 28.7 The above interest computation shall exclude the interest on loan amount, normative or otherwise, to the extent of capital cost funded by consumer contribution, deposit work, capital subsidy or grant, carried out by Transmission Licensee or Distribution Licensee.*

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

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

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

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

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

6.11.2 Based on the above Regulations, ED-Goa has calculated interest on Loan for FY 2021-22 in the following manner:

6.11.3 EDG doesn't have any actual loan in EDG's Books of Accounts, hence normative loan is calculated in line with above mentioned regulations. The closing normative loan for FY 2020-21 is considered as the normative opening loan for FY 2021-22. Further during FY 2021-22, addition of 70% of net GFA (excluding grant and electricity duty) is added. Normative loan repayments are considered same as depreciation amount excluding in proportion of grant and electricity duty for FY 2021-22. The rate of Interest for long term Interest rate has been considered at the rate of 8.75% including 100 basis points as per one-year SBI MCLR Interest rate applicable as on 1<sup>st</sup> April of the relevant financial year, i.e. 01<sup>st</sup> April 2020 in this regard.

6.11.4 In line with above methodology, following is calculation of the normative interest on loan for FY 2021-22 is as shown in the table given below as:

**Table 6-18: Normative Interest on Loan for FY 2021-22 (Rs. Cr.)**

Particulars	Approved in Order dated 20.05.2019	FY 21-22 Revised Projection
Opening Normative Loan	1,094.67	215.24
Add: Normative Loan during the year/GFA during the year	52.5	267.35
Less: Normative Repayment for the year	83.92	59.43
<b>Closing Normative Loan</b>	<b>1,063.25</b>	<b>423.16</b>
Average Normative Loan	1,078.96	319.20
Rate of Interest	9.55%	8.75%
<b>Interest on Normative Loan</b>	<b>103.04</b>	<b>27.93</b>

6.11.5 The detailed calculation has been provided in Format 10 of Tariff Filing Formats filed along with this Petition. The Hon'ble Commission is requested to approve the interest on loan as shown in the table above.

## 6.12 Interest on Working Capital

6.12.1 The JERC MYT Regulations, 2018 specifies the following provisions for projection of Interest on Working Capital.

*"31 Interest on Working Capital*

*31.1 The norms for working capital for Transmission Licensee shall be as specified in Chapter 5 of these Regulations.*

*31.2 The norms for working capital for Distribution Wires Business and Retail Supply Business shall be as specified in Chapter 6 and Chapter 7 of these Regulations.*

*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.

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;"

6.12.2 Regulation 31.4 of the JERC MYT Regulations, 2018 specifies as below:

*"34.1 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 1<sup>st</sup> April of the Financial Year in which the Petition is filed plus 200 basis points."*

6.12.3 The Interest Rate for FY 2021-22 is considered equivalent to 1-year MCLR published by SBI as on 01<sup>st</sup> April 2020 which is 7.75% plus 200 basis points which works out to be 9.75%.

6.12.4 In line with the aforesaid regulation, the detailed computation of Interest on Working Capital for FY 2021-22 is provided in the table below:

**Table 6-19: Interest on working capital for FY 2021-22 (Rs. Cr.)**

Particulars	Approved in Order dated 20.05.2019	FY 21-22 Estimated
O&M Expense for 1 month	33.35	34.82
month;	2.16	1.43
Receivables equivalent to two (2) months of the expected revenue from charges at the prevailing tariff	420.73	370.42
Less: Amount, held as security deposits	188.74	94.62
<b>Total Working Capital Requirement</b>	<b>267.50</b>	<b>312.05</b>
SBI MCLR Rate (%)	10.15%	9.75%
<b>Interest on Working Capital</b>	<b>27.15</b>	<b>30.43</b>

6.12.5 The detailed calculation has been provided in Format 18 of Tariff Filing Formats filed along with this Petition. The Hon'ble Commission is requested to approve the Interest on Working Capital for FY 2021-22 shown in the table above.

**6.13 Return on Equity**

6.13.1 JERC MYT Regulations, 2018 specifies the following provisions for projection of Return on

Equity.

*“27 Return on Equity*

*27.1 Return on equity shall be computed on the paid-up equity capital determined in accordance with Regulation 26 for the assets put to use for the Transmission Licensee and shall be allowed in accordance with the prevalent CERC Tariff Regulations for transmission system.*

*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.*

*27.4 The return on equity shall be computed on average of equity capital at the beginning and end of Year.”*

6.13.2 Further, provision of debt to equity ratio specified in the MYT regulation 2018 as under:

***“26 Debt to Equity Ratio***

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

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

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

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

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

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



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

*Provided also that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment Provided further that the premium, if any, raised by the Licensee while issuing share capital and investment of internal resources created out of its free reserves, for the funding of the scheme, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised 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.”*

6.13.3 Opening equity for FY 2021-22 has been considered as per closing normative equity for FY 2020-21 as calculated in previous chapter 5.14, further equity addition during the financial year is considered 30% of the capitalization (excluding capitalisation through grant and electricity duty fund) in line with above specified regulations.

6.13.4 The following table shows the calculation of Return on Equity for FY 2021-22:

**Table 6-20: Return on equity for FY 2021-22 (Rs. Cr.)**

Particulars	Approved in Order dated 20.05.2019	FY 21-22 Estimated
Opening Equity Amount	681.11	365.42
Equity Addition during year (30% of Capitalization)	22.50	114.58
Closing Equity Amount	703.61	480.00
<b>Average Equity Amount</b>	<b>692.36</b>	<b>422.71</b>
<b>Average Equity (Wires Business)</b>	<b>623.12</b>	<b>380.44</b>
<b>Average Equity (Retail Supply Business) Business)</b>	<b>69.24</b>	<b>42.27</b>
Return on Equity for Wires Business (%)	15.50%	15.50%
Return on Equity for Retail Supply Business (%)	16.00%	16.00%
Return on Equity for Wires Business	96.58	58.97
Return on Equity for Retail Supply Business	11.08	6.76
<b>Return on Equity</b>	<b>107.66</b>	<b>65.73</b>

6.13.5 The detailed calculation of Return on Equity has been provided in Format 6 of Tariff Filing Formats filed along with this Petition. The Hon’ble Commission is requested to approve the Return on Equity as shown in the table above.

#### **6.14 Interest on Consumer Security Deposit**

6.14.1 As per the Regulation 5.135 of Electricity Supply Code Regulations, 2018 and subsequent amendment dated 25<sup>th</sup> March 2019:

*“The Licensee shall pay interest to the consumer at the Bank Rate declared by the Reserve Bank of India prevailing on the 1<sup>st</sup> of April for the year, payable annually on the consumer’s security deposit with effect from date of such deposit in case of new connections energized after the date of this notification, or in other cases, from the date of notification of this Supply Code, 2018. The interest accrued during the year shall be adjusted in the consumer’s bill for the first billing cycle of the ensuing financial year. If the Security Deposit is submitted in the form of Bank Guarantee or by providing lien against fixed deposits, no interest shall be payable to the consumer.”*

6.14.2 In accordance with Regulation 28.11 of the JERC MYT Regulations, 2018 specifies that,

*“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 1<sup>st</sup> 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.”*

6.14.3 The provision of interest on security deposits is to be made at the bank rate. The interest rate considered is 4.65% which is RBI Bank rate as on 01<sup>st</sup> April 2020.

6.14.4 In view of the above, Interest on Security Deposit is calculated at Rs. 4.40 Cr. on cash security deposit amounts excluding Bank Guarantee & Fixed Deposit Receipts based on the regulation stated above.

6.14.5 EDG submits that, however, as per the direction of the Hon’ble Commission EDG has started the payment of Interest on Security Deposit to its consumers for previous years as well and accordingly estimated the payment of Interest on Security Deposit to be Rs. 16.60 Cr.

6.14.6 The table below shows details of Interest on Security Deposit for FY 2021-22:

**Table 6-21: Interest on Security Deposit for FY 2021-22 (Rs. Cr.)**

Particulars	Approved in Order dated 20.05.2019	FY21-22 Revised Projection
Opening Security Deposit	163.19	86.22
Add: Deposit during the year	51.10	23.41
Less: Deposits refunded		6.60
Closing Security Deposit	214.29	103.03
<b>Average</b>	<b>188.74</b>	<b>94.62</b>
RBI Bank Rate	6.25%	4.65%
<b>Interest on Security Deposit</b>	<b>11.80</b>	<b>4.40</b>
<b>Interest on Security Deposit to be paid during FY 2021-22</b>		<b>16.60</b>

6.14.7 The detailed calculation of Interest on Security Deposit has been provided in Format 18A of Tariff Filing Formats filed along with this Petition. The Hon’ble Commission is requested to approve the Interest on Security Deposit for FY 2021-22 as shown in the table above.

## 6.15 Non-Tariff Income

6.15.1 The Regulatory provisions for Non-Tariff Income as per JERC MYT Regulations 2018 have been stated below.

### *“53 Non-Tariff Income*

*53.1 The amount of Non-Tariff Income relating to the Distribution Wires Business as approved by the Commission shall be deducted from the Aggregate Revenue Requirement in determining the wheeling charges of Distribution Wires Business of 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 wheeling charges.*

*53.2 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) Income from interest on contingency reserve investment;*
- e) Interest on advances to suppliers/contractors;*
- f) Rental from staff quarters;*
- g) Rental from contractors;*
- h) Income from hire charges from contractors and others;*
- i) Income from advertisements, etc.;*
- j) Miscellaneous receipts;*
- k) Excess found on physical verification;*
- l) Deferred Income from grant, subsidy, etc., as per Annual Accounts;*
- m) Prior period income, etc.:*

*Provided that the interest/dividend earned from investments made out of Return on Equity corresponding to the Distribution Wires Business of the Distribution Licensee shall not be included in Non-Tariff Income.”*

6.15.2 The projected Non-tariff Income for the FY 2021-22 is as shown in the table below:

**Table 6-22: Non-Tariff Income for FY 2021-22 (Rs. Cr.)**

Particulars	Approved in Order dated 20.05.2019	FY21-22 Estimated
Non-Tariff Income	26.32	20.95

6.15.3 EDG request Hon'ble Commission to approve the above-mentioned Non-tariff Income projected for FY 2021-22.

#### **6.16 Aggregate Revenue Requirement**

6.16.1 The Aggregate Revenue Requirement derived for FY 2021-22 based on the expenses discussed in the previous paragraphs as against that approved by the Hon'ble Commission vide its order dated 20<sup>th</sup> May 2019 as shown in the table below.

**Table 6-23: Net Aggregate Revenue Requirement for FY 2021-22 (Rs. Cr.)**

Particulars	Approved in Order dated 20.05.2019	FY21-22 Revised Projection
Cost of Power Purchase	1,817.00	1,625.50
Provision for RPO Compliance		
Employee Expenses	305.87	343.81
A&G Expenses	29.47	31.08
R&M Expenses	64.83	42.97
Depreciation	83.92	59.43
Interest on Loan	103.04	27.93
Interest on Consumer Security Deposit	11.80	16.60
Interest on Working Capital	27.15	30.43
Return on Equity	107.66	65.73
<b>Total Revenue Requirement</b>	<b>2,550.74</b>	<b>2,243.48</b>
Less: Non-Tariff Income	26.32	20.95
<b>Net Revenue Requirement</b>	<b>2,524.42</b>	<b>2,222.53</b>

6.16.2 EDG request Hon'ble Commission to approve Aggregate Revenue requirement for FY 2021-22 as summarized in the table given above.

#### **6.17 Revenue from Sale of Power at Existing Tariff**

6.17.1 The Revenue from sale of power at existing tariff rates approved by Hon'ble Commission in last tariff order dated 19<sup>th</sup> May 2020 for FY 2020-21 is outlined below for assessing the Revenue gap / (surplus) for FY 2021-22.

**Table 6-24: Revenue from Sale of Power at Existing Tariff for FY 2021-22 (Rs. Cr.)**

Sr. No.	Category of Consumer	FY 2021-22	
		Units (Mus)	Amt (Rs.Cr.)
<b>A</b>	<b>LT Supply</b>	<b>1,877.78</b>	<b>638.33</b>
<b>1 (a)</b>	<b>LTD/Domestic</b>	<b>1,271.03</b>	<b>343.80</b>
	First 100 Units	478.83	78.43
	101 - 200 Units	311.34	74.58
	201 - 300 Units	167.25	54.85
	301 - 400 Units	87.18	35.38
	Above 400 Units	226.44	100.56
<b>1 (b)</b>	<b>LTLIG/Low Income Group</b>	<b>1.40</b>	<b>0.11</b>
<b>2</b>	<b>LTC/Commercial</b>	<b>468.87</b>	<b>236.56</b>
	<b><u>0-20 KW/Commercial Consumers</u></b>		
	First 100 Units	88.33	35.27
	101 - 200 Units	48.88	22.12
	201 - 400 Units	56.44	28.04
	Above 400 Units	162.50	85.97
	<b><u>&gt;20-90Kw Commercial Consumers</u></b>		
	0 - 100 units	4.34	2.61
	101 - 200 units	4.06	2.15
	201-400 units	7.53	4.27
	Above 400 units	96.79	56.13
<b>3</b>	<b>LTI/Industry</b>	<b>82.53</b>	<b>38.44</b>
	First 500 Units	16.51	9.09
	Above 500 Units	66.02	29.35
<b>4</b>	<b>LTP/Mixed (Hotel Industries)</b>	<b>4.56</b>	<b>2.43</b>
<b>5 (a)</b>	<b>LTAG/Agriculture (Pump sets/irrigation)</b>	<b>18.19</b>	<b>3.76</b>
<b>5 (b)</b>	<b>LTAG/Agriculture (Allied Activities)</b>	<b>0.84</b>	<b>0.20</b>
<b>6</b>	<b>LTPL/Public Lighting</b>	<b>30.21</b>	<b>12.82</b>
<b>7</b>	<b>LTH/ Hoardings &amp; Signboards</b>	<b>0.16</b>	<b>0.22</b>
<b>B</b>	<b>HT Supply</b>	<b>2,169.01</b>	<b>1,274.61</b>
<b>8</b>	<b>Tariff HTD/ Domestic</b>	<b>0.42</b>	<b>0.19</b>
<b>9</b>	<b>Tariff HTC/ Commercial</b>	<b>128.27</b>	<b>92.86</b>
<b>10</b>	<b>Tariff-HTI/ Industrial</b>	<b>1,470.41</b>	<b>878.87</b>
	Connected at 11/33kv	1,220.37	737.25
	Connected at 110kv	250.04	141.62
<b>11</b>	<b>Tariff HTFS Industrial(Ferro Metallurgical/ Steel Melting/ Power Intensive/ Steel Rolling )</b>	<b>530.76</b>	<b>284.37</b>
<b>12</b>	<b>Tariff HTAG/ Agriculture (Pump Sets/ irrigation)</b>	<b>4.98</b>	<b>1.19</b>
<b>13</b>	<b>Tariff HTAG/ Agriculture (allied activity)</b>	<b>7.59</b>	<b>1.59</b>
<b>14</b>	<b>Tariff HTMES/ DefenceEstablishment</b>	<b>26.58</b>	<b>15.53</b>
<b>C</b>	<b>Temporary Supply</b>	<b>10.95</b>	<b>8.19</b>
<b>15</b>	<b>Tariff-LTTS/Temporary Supply</b>	<b>2.58</b>	<b>2.87</b>
	Tariff-LT/Temporary Domestic	0.70	0.53
	Tariff-LT/Temporary Commercial	1.88	2.33
<b>17</b>	<b>Tariff HTTS/ Temporary Supply</b>	<b>2.58</b>	<b>1.48</b>
	HT Domestic	2.58	1.48
	HT Commercial	-	-
<b>D</b>	<b>Single Point Supply</b>	<b>5.79</b>	<b>3.84</b>
	Residential Complexes	-	-
	Commercial Complexes	5.79	3.84
	Industrial Complexes	-	-
	<b>Total</b>	<b>4,057.74</b>	<b>1,921.13</b>

6.17.2 EDG hereby submits that the revenue as calculated above based on the existing tariff is without considering FPPCA Charges, as it is vary in nature, and consideration of FPPCA

charges in revenue projection, may fluctuate drastically and it will have major deviation among projected and actual. Thus, EDG submits that Revenue without FPPCA charges may be considered. Revenue from FPPCA charges may deal in the True up of respective financial year. In view of above, the Hon'ble Commission is requested to kindly allow Revenue at existing tariff as proposed above for FY 2021-22.

#### 6.18 Revenue Gap/ (Surplus) for FY 2021-22

6.18.1 Based on the aggregate revenue requirement and revenue calculation based on the existing tariff, the revenue gap/ (surplus) for the control period has been computed. The revenue gap for FY 2021-22 is as shown in the table below:

**Table 6-25: Revenue Gap for FY 2021-22 (Rs. Cr.)**

Particulars	Approved in Order dated 20.05.2019	FY21-22 Revised Projection
Net Revenue Requirement	2,524.42	2,222.53
Revenue from Sale of Power at existing tariff		1,921.13
<b>Net Gap During the Year</b>		<b>301.40</b>

6.18.2 In view of above, the Hon'ble Commission is requested to kindly approve the revenue gap for FY 2021-22 at existing tariff approved in Tariff Order dated 19<sup>th</sup> May 2020.

## CHAPTER 7. PROPOSAL TO MEET ARR AND REVENUE GAP OF FY 2021-22

### 7.1 Cumulative Revenue Gap till FY 2021-22

7.1.1 It is submitted that revenue gap for past years i.e. from FY 2017-18 to FY 2019-20 is not being claimed as the audited accounts for the said Financial Years are yet to be finalized. The same would be claimed once financial statements are ready and separate true-up petition would be filed before JERC or may be merged in subsequent tariff filing petitions. However, as per True up for FY 2016-17, revenue gap for FY 2016-17 is arrived at Rs. 208.58 Cr. The said Revenue Gap for FY 2016-17 is proposed to be met entirely through budgetary support from the Government of Goa. Therefore, the revenue gap carried forward as per the True up submitted in this petition is NIL. In view of this, cumulative Revenue gap to be claimed in FY 2021-22 is as shown below.

**Table 7-1: Cumulative Revenue gap to be claimed in FY 2021-22 (Rs. Cr.)**

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Net ARR	1,677.40	1,845.32	1,952.54	2,212.23	2,089.15	2,222.53
Revenue from existing Tariff including Surcharge	1,468.81	1,563.67	1,634.92	1,882.97	1,870.94	1,921.13
<b>Revenue gap for the Year</b>	<b>208.58</b>	<b>281.65</b>	<b>317.62</b>	<b>329.25</b>	<b>218.22</b>	<b>301.40</b>
Opening balance of Gap for the respective Financial Years	-	-	-	-	-	-
<b>Total Cumulative Gap for the years</b>	<b>208.58</b>	<b>281.65</b>	<b>317.62</b>	<b>329.25</b>	<b>218.22</b>	<b>301.40</b>
Less: Budgetary support commitment required	208.58	281.65	317.62	329.25	218.22	-
<b>Balance Gap to be recovered in FY 2021-22</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>301.40</b>
Less: Budgetary support from Govt. of Goa in FY 2021-22						178.65
<b>Additional Revenue from Tariff rationalization during FY 2021-22</b>						<b>122.75</b>
<b>Proposed Tariff Hike from last year</b>						<b>6.39%</b>

7.1.2 EDG submits that it proposes to recover the cumulative Revenue Gap till FY 2021-22 partially through rationalization of tariff like kVAh based tariff for HT consumers, non-telescopic billing for LT Domestic (for consumption above 200 units), LT Commercial, LT Domestic and partially through budgetary support from the Government of Goa.

7.1.3 Further, as detailed in paragraph 5.17, due to ongoing COVID-19 pandemic, EDG in FY 2020-21 has continued with the tariff of FY 2019-20 and in order to further prevent the consumers from tariff shock, it also proposes to reduce the tariff for certain category of consumers against the tariff for FY 2020-21 approved by the Hon'ble Commission in previous Tariff Order dated 19<sup>th</sup> May 2020. Following Chapter deals with the meeting of cumulative revenue gap.

## CHAPTER 8. TARIFF PHILOSOPHY

### 8.1 Preamble

8.1.1 This Chapter elucidates the proposed retail tariff and miscellaneous charges to be applicable for FY 2021-22. EDG prays to the Hon'ble Commission to approve the proposed retail tariff for FY 2021-22 as proposed for different categories of consumers, applicable from 1<sup>st</sup> April 2021.

### 8.2 Tariff Design Principles

8.2.1 Over the years, Hon'ble Commission has been guided by the Electricity Act, 2003 and the National Tariff Policy while determining retail tariffs across the Goa. Hon'ble Commission has always laid emphasis on adoption of factors that encourages economy, efficiency, effective performance and improved conditions of supply. On these lines, the Hon'ble Commission, in this order too, may apply similar principles keeping in view the ground realities.

### 8.3 Implementation of kVAh based tariff for HT consumers

8.3.1 EDG submits that the Hon'ble Commission in its Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020 has directed EDG to submit the proposal of KVAh tariff for HT and EHT consumers along with next Tariff Petition. The relevant extracts of the Tariff Order are given below:

*"The Commission believes that the data submitted by the Petitioner is not reliable of the previous years due to change in billing agencies. However, the Petitioner in the tariff proceedings has submitted that the billing system has been put in place and reliable data would be available in the coming period. The Petitioner is directed to submit a proposal for kVA/kVAh based tariff for all HT/EHT categories positively along with the next tariff petition."*

8.3.2 Electrical Energy has two components viz. Active Energy (kWh) and Reactive Energy (kVAh). Vector sum of these two components is called as Apparent Energy & is measured in terms of kVAh. The active or real power is actually consumed and converted into useful work whereas the reactive power is used to provide the electromagnetic field in inductive & capacitive equipment.

8.3.3 As per the current billing methodology, Consumers are billed on Active Energy Consumption measured in kWh along with the fixed charges and other charges. The effect of reactive energy is considered through Power Factor penalty / incentive mechanism. Under kVAh based tariff, fixed/ demand charges are levied on apparent power (kVA) and energy charges are levied on apparent energy (kVAh).

8.3.4 The reactive power occupies the capacity of electricity network and reduces the useful capacity of system for generation & distribution of active power. If only active energy (kWh) is measured, the reactive energy (kVAh) would constitute a part of the technical losses in the system.

8.3.5 The reactive energy kVAh becomes NIL when power factor of the system is unity (1). As the



power factor of the system falls below 1, the reactive power component increases and contributes to the increasing technical losses in the system. Working with poor power factor of the load leads to higher current drawn through the supply system than the current drawn with unity power factor for same kWh delivered which will increase the technical losses.

8.3.6 The source of most reactive currents is the poor power factor loads (equipment) connected at consumer premises. As these loads are not compensated by appropriate capacitor installations by consumers, utilities are burdened for installation of capacitors. The most effective solution to the said problem is the implementation of kVAh based tariff which will ensure that the consumers tend not to draw the reactive power.

8.3.7 From discom point of view, kVAh based billing has the following advantages:

1. Zero/ Minimal drawl of reactive power from consumers by use of Capacitor Banks. In order to reduce the electricity bills, consumers will themselves be motivated to use capacitor banks;
2. Complete recovery of costs of utility for active and reactive power;
3. Reduction in power purchase cost: Under kVAh billing, the discom does not have to buy the additional power in order to compensate for the reactive power which goes unaccounted at present;
4. Reduction in Technical Losses.

8.3.8 From consumer's point of view, kVAh based billing has the following advantages:

1. Honest consumers who either draw active power or have installed capacitor banks will not suffer on account of undisciplined consumers. KVAH billing will ensure that the consumers who will utilize the power efficiently will be paying less energy charges as compared to others who are not using the power efficiently;
2. Consumers get better power due to improvement in System Stability, Power Quality and Voltage Profile.

8.3.9 Accordingly, EDG in this petition is proposing the implementation of kVAh tariff for HT and EHT consumers. EDG further submits that the meters already installed at HT consumer's premises are compatible for reading Energy Sales in kVAh terms. However, the Billing Software would require change in logic for effecting kVAh based billing followed by testing at various levels before the same is implemented in live environment. The said exercise would take around three months and accordingly EDG prays to the Hon'ble Commission that post issuance of Tariff Order, at-least three months to be provided for implementation of kVAh based billing.

8.3.10 Moreover, with the introduction of kVAh based billing, Power Factor incentive/ penalty mechanism will no longer be required as the kVAh based billing provides inbuilt incentive and penalty and accordingly, EDG proposes to discontinue the applicability of Power Factor

incentive/ penalty on HT and EHT Consumers.

#### **8.4 Philosophy of Tariff Design**

8.4.1 EDG submits that gap of FY 2016-17 to FY 2020-21 is proposed to be addressed through budgetary support. However, Revenue Gap of Rs. 301.40 Cr. for FY 2021-22 is proposed to be met partially through Tariff Rationalization as detailed out in Chapter 7 and partially through budgetary support from the Government of Goa.

8.4.2 Partial revenue gap for FY 2021-22 is proposed to be recovered through tariff rationalization like introduction of kVAh tariff for HT & EHT consumers and non-telescopic tariff for LT Domestic (above 200 units), LT Commercial and LT Industrial consumers. Accordingly, the incremental revenue over the existing tariff comes out to be Rs. 122.75 Cr. The net effective revenue gap for FY 2021-22 works out to be Rs. 178.65 Cr., which is proposed to be met through budgetary support from the Government of Goa. The incremental revenue from proposed Tariff Rationalization measures comes out to be 6.39%

8.4.3 For FY 2021-22 EDG proposes non-telescopic billing approach for the following categories of the consumers as shown below:

- LT Domestic: All consumers whose consumption is less than 200 units will fall under telescopic billing approach and the consumers whose consumption is more than more than 200 units shall fall under the ambit of Non-Telescopic billing approach and shall lose the benefit of first two slab i.e. 0-100 and 101-200 units for the energy charges. Further total monthly consumption more than 200 units shall fall in the respective slab and accordingly applicable energy charges for that respective slab shall be levied on the entire consumption.
- LT Commercial: All consumers whose Consumption beyond 100 Units will lose the benefit of first slab and the total consumption shall fall in the respective slab and accordingly applicable energy charge for the respective slab shall be levied on the entire consumption.
- LT Industries: All consumers whose consumption beyond 500 units shall lose the benefit of first 500 units (0-500 units) for the energy charges. As a result, consumption beyond 500 units shall fall in the 2<sup>nd</sup> slab i.e. above 500 units and accordingly energy charges applicable for the respective slab shall be levied on the entire consumption.

Explanation:

Under this billing approach the energy consumed is cumulatively billed at one uniform rate for the entire consumption depending on the slab rate in which the consumption falls. For example, a consumer is billed @ Rs. X /unit for consumption range of 0-200 Units, if his consumption exceeds above 200 Units then the consumer will be billed @ Rs. Y /unit for his entire consumption, where Y is the rate applicable for consumption range above 200 Unit and  $Y > X$ .

- 8.4.4 Also, EDG submits that pending finalization of audited accounts for relevant years under consideration, the revenue gap may be provisionally recognized by the Hon'ble Commission and due treatment be given for recovery at a later date when petition for true-ups are filed based on actual accounts / figures of revenue gap.
- 8.4.5 As stated above, EDG proposes the revised retail tariff for FY 2021-22 and the same is tabulated below as:

Table 8-1: Proposed Tariff Structure for FY 2021-22

S. No.	Category	Tariff approved for FY 2019-20 in T.O. dated 20 <sup>th</sup> May 2019 (Continued for FY 2020-21 in view of cabinet decision dt. 22.10.2020 due to COVID Pandemic)		Tariff approved by JERC in T.O. dated 19 <sup>th</sup> May 2020 w.e.f. 01 <sup>st</sup> June 2020 (Not implemented due to COVID Pandemic)		Proposed Tariff for FY 2021-22		
		Fixed Charges	Energy Charges (INR/kWh)	Fixed Charges	Energy Charges (INR/kWh)	Fixed Charges	Energy Charges (INR/kWh)	
							Units	Rate
<b>1</b>	<b>Domestic</b>							
<b>A</b>	<b>Low Tension-D/LT-D</b>							
	0-100 units	<b>Single Phase</b> INR 25/Con/Month	1.40	<b>Single Phase</b> INR 25/Con/Month	1.50	<b>Single Phase</b> INR 25/Con/Month	Rs/kWh	1.40
	101-200 units		2.10		2.25		Rs/kWh	2.10
	201 to 300 units		2.65		2.85		Rs/kWh	2.65
	301 to 400 units	<b>Three Phase</b> INR 60/Con/Month	3.45	<b>Three Phase</b> INR 65/Con/Month	3.65	<b>Three Phase</b> INR 60/Con/Month	Rs/kWh	3.45
	Above 400 units		4.00		4.25		Rs/kWh	4.00
	Note for Low Tension D/LT-D	All consumers fall under telescopic billing approach	All consumers fall under telescopic billing approach	<ul style="list-style-type: none"> <li>All consumers whose consumption is less than 200 units will fall under telescopic billing approach</li> <li>Consumers whose consumption is more than more than 200 units shall fall under the ambit of Non-Telescopic billing approach. Total monthly consumption more than 200 units shall fall in the respective slab and accordingly applicable energy charges for that respective slab shall be levied on the entire consumption</li> </ul>				
<b>B</b>	<b>Low Tension-LIG/LT-LIG</b>							
All Units	INR 40/Con/Month	-	INR 50/Con/Month	-	INR 40/Con/Month	Rs/kWh	-	
<b>C</b>	<b>High Tension-D/HT-D</b>							
	All Units	INR 100/kVA/Month	3.45	INR 110/kVA/Month	3.65	INR 100/kVA/Month	Rs/kVAh	3.55
<b>2</b>	<b>Commercial</b>							

S. No.	Category	Tariff approved for FY 2019-20 in T.O. dated 20 <sup>th</sup> May 2019 (Continued for FY 2020-21 in view of cabinet decision dt. 22.10.2020 due to COVID Pandemic)		Tariff approved by JERC in T.O. dated 19 <sup>th</sup> May 2020 w.e.f. 01 <sup>st</sup> June 2020 (Not implemented due to COVID Pandemic)		Proposed Tariff for FY 2021-22		
		Fixed Charges	Energy Charges (INR/kWh)	Fixed Charges	Energy Charges (INR/kWh)	Fixed Charges	Energy Charges (INR/kWh)	
							Units	Rate
<b>Low Tension-C/LT-C</b>								
A	0-100 units	For consumers with Load upto 20 kW INR 50/Con/Month	3.40	For consumers with Load upto 20 kW INR 50/Con/Month	3.55	For consumers with Load upto 20 kW INR 50/Con/Month	Rs/kWh	3.50
	101-200 units		4.10		4.35		Rs/kWh	4.20
	201 units- 400 units	For consumers with Load more than 20 kW and upto 90 kW INR 55/kW/Month	4.60	For consumers with Load more than 20 kW and upto 90 kW INR 60/kW/Month	4.85	For consumers with Load more than 20 kW and upto 90 kW INR 55/kW/Month	Rs/kWh	4.70
	Above 400 units		5.00		5.25		Rs/kWh	5.10
	Note for Low Tension C/LT-C		All consumers fall under telescopic billing approach		All consumers fall under telescopic billing approach		All Consumers shall fall under the ambit of Non-Telescopic billing approach. Total monthly consumption shall fall in the respective slab and accordingly applicable energy charges for that respective slab shall be levied on the entire consumption	
<b>High Tension-C/HT-C</b>								
B	All Units	INR 250/kVA/month	5.50	INR 250/kVA/month	5.50	INR 250/kVA/month	Rs/kVAh	5.50
<b>Industrial</b>								
<b>Low Tension-I/LT-I</b>								
A	0-500 units	INR 35/HP/Month	3.30	INR 40/HP/Month	3.40	INR 35/HP/Month	Rs/kWh	3.40
	Above 500 units	INR 35/HP/Month	3.80	INR 40/HP/Month	3.95	INR 35/HP/Month	Rs/kWh	3.90
	Note for Low Tension I/LT-I		All consumers fall under telescopic billing approach		All consumers fall under telescopic billing approach		All Consumers shall fall under the ambit of Non-Telescopic billing approach. For monthly consumption	

S. No.	Category	Tariff approved for FY 2019-20 in T.O. dated 20 <sup>th</sup> May 2019 (Continued for FY 2020-21 in view of cabinet decision dt. 22.10.2020 due to COVID Pandemic)		Tariff approved by JERC in T.O . dated 19 <sup>th</sup> May 2020 w.e.f. 01 <sup>st</sup> June 2020 (Not implemented due to COVID Pandemic)		Proposed Tariff for FY 2021-22		
		Fixed Charges	Energy Charges (INR/kWh)	Fixed Charges	Energy Charges (INR/kWh)	Fixed Charges	Energy Charges (INR/kWh)	
							Units	Rate
						<i>above 500 units, energy charges for "Above 500 Units" slab shall be levied on the entire consumption</i>		
B	<b>Low Tension-Mixed/LT-P (Hotel Industries)</b>							
	All Units	INR 40/kW/Month	4.70	INR 50/kW/Month	4.95	INR 40/kW/Month	Rs/kWh	4.80
C	<b>High Tension-I/HT-I</b>							
	Connected at 11/33 kV	INR 250/kVA/Month	4.50	INR 250/kVA/Month	4.80	INR 250/kVA/Month	Rs/kVAh	4.60
	Connected at 110 kV	INR 250/kVA/Month	4.40	INR 250/kVA/Month	4.70	INR 250/kVA/Month	Rs/kVAh	4.50
D	<b>High Tension- Ferro/SM/ PI/ SR</b>							
	All Units	INR 250/kVA/Month	4.50	INR 250/kVA/Month	4.80	INR 250/kVA/Month	Rs/kVAh	4.60
4	<b>Agricultural</b>							
A	<b>Low Tension-AG/LT-AGP (Pump Sets/Irrigation)</b>							
	All Units	INR 15/HP/Month	1.40	INR 18/HP/Month	1.50	INR 15/HP/Month	Rs/kWh	1.40
B	<b>Low Tension-AG/LT-AGA (Allied Activities)</b>							
	All Units	INR 20/HP/Month	1.70	INR 25/HP/Month	1.75	INR 20/HP/Month	Rs/kWh	1.80
C	<b>High Tension-AG/HT-AGP (Pump Sets/Irrigation)</b>							
	All Units	INR 35/kVA/Month	1.50	INR 40/kVA/Month	1.60	INR 35/kVA/Month	Rs/kVAh	1.50
D	<b>High Tension-AG/HT-AG (Allied Activities)</b>							
	All Units	INR 60/kVA/Month	1.90	INR 70/kVA/Month	1.95	INR 60/kVA/Month	Rs/kVAh	2.10
5	<b>Military Engineering Services/ defense Establishments</b>							

S. No.	Category	Tariff approved for FY 2019-20 in T.O. dated 20 <sup>th</sup> May 2019 (Continued for FY 2020-21 in view of cabinet decision dt. 22.10.2020 due to COVID Pandemic)		Tariff approved by JERC in T.O. dated 19 <sup>th</sup> May 2020 w.e.f. 01 <sup>st</sup> June 2020 (Not implemented due to COVID Pandemic)		Proposed Tariff for FY 2021-22		
		Fixed Charges	Energy Charges (INR/kWh)	Fixed Charges	Energy Charges (INR/kWh)	Fixed Charges	Energy Charges (INR/kWh)	
							Units	Rate
	All Units	INR 175/kVA/Month	5.00	INR 200/kVA/Month	5.20	INR 175/kVA/Month	Rs/kVAh	5.10
<b>6</b>	<b>Public Lighting</b>							
	All Units	INR 50/kW/Month	4.10	INR 70/kW/Month	4.20	INR 50/kW/Month	Rs/kWh	4.20
<b>7</b>	<b>Hoardings/Signboards</b>							
	All Units	INR 60/kVA/Month	9.90	INR 70/kVA/Month	10.00	INR 60/kVA/Month	Rs/kWh	10.00
<b>8</b>	<b>Temporary Supply</b>							
<b>A</b>	LT Temporary Domestic	Tariff 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 commercial category for permanent supply.		Tariff 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 commercial category for permanent supply.		Tariff 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 commercial category for permanent supply.		
<b>B</b>	LT Temporary Commercial							
<b>C</b>	HT Temporary							
<b>9</b>	<b>Single Point Supply</b>							
<b>A</b>	Residential Complexes	INR 100 per kVA per month or part thereof	3.45	INR 110 per kVA per month or part thereof	3.55	INR 100 per kVA per month or part thereof	Rs/kVAh	3.55
<b>B</b>	Commercial Complexes	INR 200 per kVA per month or part thereof	4.60	INR 220 per kVA per month or part	4.80	INR 200 per kVA per month or part	Rs/kVAh	4.70

S. No.	Category	Tariff approved for FY 2019-20 in T.O. dated 20 <sup>th</sup> May 2019 (Continued for FY 2020-21 in view of cabinet decision dt. 22.10.2020 due to COVID Pandemic)		Tariff approved by JERC in T.O . dated 19 <sup>th</sup> May 2020 w.e.f. 01 <sup>st</sup> June 2020 (Not implemented due to COVID Pandemic)		Proposed Tariff for FY 2021-22		
		Fixed Charges	Energy Charges (INR/kWh)	Fixed Charges	Energy Charges (INR/kWh)	Fixed Charges	Energy Charges (INR/kWh)	
							Units	Rate
				thereof		thereof		
C	Industrial Complexes	INR 200 per kVA per month or part thereof	4.20	INR 220 per kVA per month or part thereof	4.40	INR 200 per kVA per month or part thereof	Rs/kVAh	4.30
<b>10</b>	<b>Electric Vehicle Charging Station</b>							
	All Units	INR 100 per kVA per month	4.20	-	3.50	-	Rs/kWh	3.50



## **8.5 Tariff Rationalisation**

8.5.1 EDG proposes certain changes in the applicability of the clause and general terms & condition as outlined in this chapter.

## **8.6 General Conditions and Definitions**

- 1) These tariffs are proposed to be made applicable from 1<sup>st</sup> April 2021 and shall remain valid till further Orders of the Commission. Tariffs are subject to revision and/or surcharge that may be levied by ED-Goa from time to time as per the directives of the Commission.
- 2) The tariffs are exclusive of electricity duty and taxes levied by the Government or other competent authority from time to time which are payable by the consumers in addition to the charges levied as per the tariffs.
- 3) Unless otherwise agreed to, these tariffs for power supply are applicable for supply at one point only.
- 4) Unless specifically stated to the contrary the figures of energy charges relate to rupee per unit (kWh for LT consumers and kVAh for HT & EHT Consumers) charge for energy consumed and fixed charge relates to a month.
- 5) If the energy supplied for a specific purpose under a particular tariff is used for a different purpose not contemplated in the contract for supply and / or for which a higher tariff is applicable, it shall be deemed as unauthorized use of electricity and shall be assessed under the provisions of section 126 of the Electricity Act, 2003 and Supply Code Regulation 2018 notified by the JERC.
- 6) If connected load of a domestic category is found to be at variance with the sanctioned/contracted load as a result of replacement of appliances such as lamps, fans, fuses, switches, low voltage domestic appliances, fittings, it shall not fall under Section 126 and Section 135 of the EA 2003.
- 7) Fixed charges, wherever applicable, will be charged on pro-rata basis from the date of release of connection. These shall be double in case bi-monthly billing is carried out and shall be proportionately calculated as per the number of days of billing, similarly, slabs of energy consumption shall also be considered accordingly in case of bi-monthly or periodic billing.
- 8) The consumption for factory lighting/pump house lighting shall be billed as per respective main tariff category. A separate energy meter for recording energy consumed towards factory lighting for new installation need not be provided. For the existing installations, till the factory lighting meter's mains are shifted to main meter, the total energy consumption shall be arrived at by adding the energy consumption of the main energy meter and the factory lighting meter.

- 9) Supply of power in all cases shall be subject to the execution of Agreement between the Electricity Department, Goa and consumers and as per the JERC (Electricity Supply Code) Regulation 2018. The other conditions, definitions etc. shall be applicable as per the Electricity Act 2003 and various JERC Regulations, such as Standards of Performance, Supply Code, Conditions of Supply, Distribution Code etc., issued from time to time.

10) **Billing of Demand in excess of Contracted Demand:**

The billing 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 energy rate.

The definition of the maximum demand would be in accordance with the provisions of the JERC (Electricity Supply Code) Regulations, 2018. If such over-drawl is more than 20% of the contracted demand, then the connection shall be disconnected immediately.

**Explanation:**

Assuming the contract demand as 100 kVA, maximum demand at 120 kVA and total energy consumption as 12000 units, then the consumption corresponding to the contract demand will be 10,000 units ( $12000 \times 100 / 120$ ) and consumption corresponding to the excess demand will be 2000 units. This excess demand of 20 kVA and excess consumption of 2000 units will be billed at twice the respective normal rate. E.g. in case of HTI/Industrial category at 11/33 kV, excess demand and consumption will be billed at the rate of Rs 500 per kVA per month and Rs 9.60/kWh respectively. Connections drawing more than 120 kVA shall be disconnected immediately.

**8.7 Miscellaneous and General Charges**

**8.7.1 Fuel & Power Purchase Cost Adjustment (FPPCA) Formula:**

8.7.1.1 The adjustment because of Fuel and Power Purchase Cost variation shall be calculated in accordance with the FPPCA formula separately notified by the Commission. The FPPCA charge will be determined based on the formula approved by Hon'ble Commission vide order dated 19<sup>th</sup> May 2020 and relevant directions, as may be given by the Hon'ble Commission from time to time and will be applicable to all consumer categories except for Below Poverty Line (BPL) and Agriculture consumers for their consumption.

8.7.1.2 The details for each quarter shall be available on Electricity Department, Government of Goa website at <http://www.goelectricity.gov.in/>

8.7.1.3 The values of the 'K' factor applicable for the different consumer categories for use in the FPPCA formula shall be as specified in the respective Tariff Order. FPPCA charges so worked out shall be recovered/ refunded in accordance with the terms and conditions specified in the FPPCA formula.

**8.7.2 Electricity Duty:**

8.7.2.1 The Electricity Duty will be charged as per Government guidelines from time to time in addition to charges as per the Commission approved tariffs mentioned hereunder. However, the rate and the reference number of the Government Resolution/ Order vide which the Electricity Duty is made effective, shall be stated in the bill. A copy of the said Resolution/Order shall be made available on Electricity Department, Government of Goa website at <http://www.goelectricity.gov.in/>

**8.7.3 Power Factor Calculation:**

(Applicable for all HT, EHT categories and LT categories wherever approved by Commission in terms of Supply Code Regulations 2018)

8.7.3.1 Wherever, the average power factor measurement is not possible through the installed meter, the following method for calculating the average power factor during the billing period shall be adopted-

$$\text{Average Power Factor} = \frac{\text{Total (kWh)}}{\text{Total (kVAh)}}$$

$$\text{Wherein the kVAh is} = \sqrt{\sum (\text{kWh})^2 + \sum (\text{RkVAh})^2}$$

(i.e., Square Root of the summation of the squares of kWh and RkVAh )

**8.7.4 Power Factor Penalty:**

8.7.4.1 EDG submits that in compliance to the directives of the Hon'ble Commission, it is proposing the implementation of kVAh based tariff for HT & EHT categories. EDG further submits that since, kVAh based billing has an inbuilt incentive/penalty mechanism, separate mechanism for Power Factor Penalty is no more required for HT & EHT consumers.

8.7.4.2 In view of the above, EDG proposed that the following provisions for Power Factor Penalty shall be applicable only for LT consumers:

8.7.4.3 The monthly average power factor of the supply shall be maintained by the consumer not less than 0.90 (lagging), If the monthly average power factor of (a) consumer falls below 90% (0.9 lagging), such consumer shall pay a surcharge in addition to his normal tariff @ 1% on billed demand and energy charges for each fall of 1% in power factor upto 70%(lagging).

8.7.4.4 EDG proposes that if the monthly average power factor falls below 70%, such consumer shall pay a surcharge in addition to his normal tariff @ 1.5% on billed demand and energy charges, FPPCA, and fixed/ Demand Charges but excluding Taxes and duties for each fall of 1% in power factor below 70% (lagging)

8.7.4.5 If the average power factor falls below 0.70 (lagging) consecutively for 3 months, the licensee reserves the right to disconnect the consumer's service connection without prejudice for the levy of the surcharge.

8.7.4.6 The power factor shall be rounded off to two decimal places. For example, 0.886 shall be treated as 0.89 and 0.884 shall be treated as 0.88.

**8.7.5 Power Factor Incentive:**

8.7.5.1 EDG submits that in compliance to the directives of the Hon'ble Commission, it is proposing the implementation of kVAh based tariff for HT & EHT categories. EDG further submits that since, kVAh based billing has an inbuilt incentive/penalty mechanism, separate mechanism for Power Factor Incentive is no more required for HT & EHT consumers.

8.7.5.2 In view of the above, EDG proposed that the following provisions for Power Factor Incentive shall be applicable only for LT consumers:

8.7.5.3 In case the monthly average power factor of the consumer is more than 95% (0.95 lagging), a power factor incentive shall be given to the consumer as 1 % of monthly bill including energy charges, FPPCA, and fixed/ Demand Charges but excluding Taxes and duties for each increase of 0.01 in power factor above 0.95(lagging)

8.7.5.4 The power factor shall be rounded off to two decimal places. For example, 0.944 shall be treated as 0.94 and 0.946 shall be treated as 0.95.

**8.7.6 Payment Rebates:**

8.7.6.1 **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 security deposit, taxes and duties) which remains with the licensee at the end of the month. Such rebate, after adjusting any amount payable to the licensee, shall be credited to the account of the consumer.

If payment is made in advance along with prior declaration of premises to be closed for a certain period of time, a rebate of 1% per month shall be given on the amount (excluding security deposit, taxes and duties) which remains with the licensee at the end of the month. Such rebate, after adjusting any amount payable to the licensee, shall be credited to the account of the consumer.

8.7.6.2 **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 (excluding taxes and duties) shall be given. Those consumers having arrears shall not be entitled for such rebate

and the amount paid will first be used to set off past liabilities.

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.

#### **8.7.7 Delayed Payment Charges (DPC):**

8.7.7.1 In case the electricity bills are not paid within the due date mentioned on the bill, delayed payment charges of two percent (2%) (Computed on daily basis on outstanding bill from the due date till date of payment) shall be levied on the bill amount. However, if a consumer makes part payment of a bill (in exceptional circumstances, with prior approval of the Chief Electrical Engineer), within the due date, then the delayed payment charges shall be applicable only on the amount which was not paid within the due date.

8.7.7.2 Such surcharge shall be rounded off to the nearest multiple of one rupee. Amount less than 50 paise shall be ignored and amount of 50 paise or more shall be rounded off to next rupee.

8.7.7.3 If the consumer fails to pay the energy bill presented to him by the due date the department shall have the right to disconnect the supply after giving 15 days' notice as per provision of the Electricity Act 2003 and Supply Code Regulations 2018.

8.7.7.4 In case of non-realization of payment through Cheque, a penalty of 5% of the cheque amount in addition to the Delayed Payment Charges (DPC) will be levied on the consumers.

#### **8.7.8 Time of Day tariff (ToD):**

8.7.8.1 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.

8.7.8.2 EDG submits that as a Demand Side Measure, in order to flatten the Load Curve, the department has proposed to reduce the ToD rate during off peak hours & increase the same during peak hours so that the consumers are motivated to shift their load from peak hours to off peak hours. EDG further submits that this will not only flatten the load curve but will also reduce the peak demand of the state which in turn shall reduce the power purchase cost as when the consumers shift their load from peak period to off peak period, requirement of expensive power during peak period is also reduced.

8.7.8.3 Thus, the department has proposed to increase the Energy Charges to 130% of normal rate during evening peak and reduce the energy charges to 70% of normal rate during off peak period.

8.7.8.4 Accordingly, EDG proposes that the maximum demand and consumption recorded in different periods shall be billed at the following rates on the tariff applicable to the consumer and requests the Hon'ble Commission to approve the same.

Time of use	Demand Charges	Energy Charges
Normal period (7:00 a.m. to 6:00 p.m)	Normal Rate	Normal rate of energy charges
Evening peak load period (6:00 p.m to 11.00 p.m)	Normal Rate	130% of normal rate of energy charges
Off-peak load period (11:00 p.m to 7:00 a.m)	Normal Rate	70% of normal rate of energy charges

8.7.8.5 Applicability and Terms and Conditions of TOD tariff:

- 1) TOD tariff is mandatory for HT/EHT consumers and shall be optional for LT industrial and commercial consumers.
- 2) The facility of aforesaid TOD tariff shall not be available to HT/EHT consumers having captive power plants and/or availing supply from sources other than EDG through wheeling of power.
- 3) The HT/EHT industrial consumers who have installed standby generating plants shall also be eligible for the aforesaid TOD tariff
  - a) In the event of applicability of TOD tariff to a consumer, all other terms and conditions of the applicable tariff shall continue to apply.

## 8.8 Schedule of Miscellaneous Charges

8.8.1 There is no change proposed in the schedule of Miscellaneous charges for FY 2021-22 and are proposed to be retained as approved by the Hon'ble Commission vide its order dated 19<sup>th</sup> May 2020.

**Table 8-2: Schedule of Miscellaneous Charges**

Description	Miscellaneous Charges
<b>Monthly Meter Rental Charges (As per provisions of (Electricity Supply Code) Regulations 2018)</b>	
Single Phase LT meter	Rs 15/month
Three Phase LT meter	Rs 25/month
Three Phase LT meter with CTs	Rs 75/month
LT Meter with MD Indicator	Rs 30/month
LT Trivector meter with CT's	Rs 75/month
Tri-vector Meter	Rs 1200/month
Bi-directional meter	Rs.1500/month

Description	Miscellaneous Charges
Temporary Supply	Shall be twice as applicable in above meter types
Changing or moving a Meter board	Actual Cost + 15%
<b>Note:</b>	
a. For all domestic and other LT loads less than 50 kW loads in Urban and Rural areas - Static single phase / three phase meters	
b. For LT (contracted load $\geq$ 50 KW) / HT / EHT consumer – Static, 3 Phase Tri-vector meters with MDI (MD Display)	
<b>Reconnection Charges (As per provisions of (Electricity Supply Code) Regulations 2018)</b>	
<b>LT Services – At Cut outs</b>	
Single Phase	Rs 25/-
Three Phase	Rs 50/-
<b>LT Services – At Overhead Mains</b>	
Single Phase	Rs 30/-
Three Phase	Rs 50/-
<b>LT Services – At Underground Mains</b>	
Single Phase	Rs 75/-
Three Phase	Rs 125/-
<b>HT Services</b>	
<b>HT Services</b>	<b>Rs 200/-</b>
<i>Note: If the same consumer seeks reconnection within 12 months from the date of reconnection or disconnection, 50% will be added to above charges</i>	
<b>Re-Rating of Installations</b>	
Lighting Installation	Rs. 50/-
Motive Power Installation	Rs. 100/-
HT	Rs. 500/-
<b>Testing Fee for Various Metering Equipment's (As per provisions (Electricity Supply Code) Regulations 2018)</b>	
Single phase LT	Rs 25/energy meter
Poly Phase LT without CT	Rs 50/energy meter
L.T. meter with CTs/Demand or Special Type Meters	Rs 150/energy meter
H.T and E.H.T. metering equipment	Rs 10,000/- at site
Transformer Oil	Rs 200/- per sample
LT Current Transformer at lab	Rs.50/- per Sample
Three Phase Tri-vector Meter Industrial LT Consumer	Rs 1,000/- for laboratory testing
Three Phase Tri-vector Meter 11 KV and 33kV HT Consumer	Rs 5,000/- at site
Three Phase Tri-Vector Meter 110 KV EHT Consumers	Rs 1,000/-at site

Description	Miscellaneous Charges
Combined CTPT Unit for 11kV and 33kV Consumer	Rs 2,500/-
110 KV CT / PT Unit	Rs 10,000/-
Single Phase CT	Rs 150/ unit
Three Phase TT Block	Rs 500/unit
Distribution Transformer Testing (HT consumer)	Rs 6,000
Power Transformer Testing (EHT consumer)	Rs 20,000
<b>Service Connection Charges (As per provisions of (Electricity Supply Code) Regulations 2018)</b>	
Single Phase 1 $\phi$	Rs 250
<b>Three Phase 3 <math>\phi</math></b>	
up to 5 HP	Rs 500
5 HP to 20 HP	Rs 800
Above 20 HP	Rs 1,200
HT (First 500 KVA)	Rs 10,000
HT (Beyond 500 KVA)	Rs 20,000
HT Additional load	Rs.500/- for every addition of 100 KVA
Extra Length for 1 $\phi$ (beyond 30 meters)	Rs 50 /meter
Extra Length for 1 $\phi$ for agricultural consumers (beyond 300 meters)	Rs 25 /meter
Extra Length for 3 $\phi$ (beyond 30 meters)	Rs 100 /meter
Extra Length for 3 $\phi$ for agricultural consumers (beyond 300 meters)	Rs 50 /meter
Underground Service Cable	Actual charges +15%
Shunt Capacitor- 20 kW to 50 kW	Rs 2,000
Shunt Capacitor- above 50kW	Rs 5,000
<b>Testing Consumer's installation (As per provisions of (Electricity Supply Code) Regulations 2018)</b>	
For first test of the new installation on or off an extension to an existing installation if the installation is found to be defective.	NIL
<b>For Subsequent test of the new installation or of an existing installation if the installation is found to be defective</b>	
Single phase LT	Rs 100/-
Three phase	Rs 200/-
MS/BS loads upto 70kW	Rs 4,000 + GST
LS/BS/RT (loads Above 70kW)	Rs 8,000 + GST
Shunt Capacitor- 20 kW to 50 kW	Rs 1,000 + GST
Shunt Capacitor- above 50kW	Rs 4,000 + GST



Description	Miscellaneous Charges
<b>Changing the Meter or its position in the same premises at the request of the consumer when no additional material is required (As per provisions of (Electricity Supply Code) Regulations 2018)</b>	
Single phase	Rs 100/-
3-phase without C.Ts	Rs 200/-
L.T. meter with C.T.s	Rs 500/-
H.T and E.H.T. metering equipment	Rs 8000 + GST
<b>Re-sealing charges irrespective of the number of seals involved against each item below and where seals found to have been broken by the consumer</b>	
Meter cupboard / Meter Cubical / Box	Rs 50/-
Where cut-out is independently sealed	Rs 50/-
Meter cover or Meter Terminal cover	Rs 50/-
Meter cover of Meter Terminal cover (3 phase).	Rs 50/-
Maximum demand Indicator or C.T.s chamber	Rs 50/-
<b>Service Charges</b>	
<b>General Supply</b>	
• Single Phase	Rs 10/-
• Three phase below 70kW	Rs 20/-
• Three phase above 70kW	Rs 50/-
<b>Industrial/bulk/ agriculture /Street Lightning Supply</b>	
• Upto70kW	Rs 25/-
• Above 70kW	Rs 50/-
<b>Replacement of broken glass</b>	
Replacement of broken glass of meter cupboard (When there is default on Consumer Side)	Rs 50/-
Replacement of broken Glass of single-phase meter if the consumer has broken or tamper and with meter.	Rs 50/-
Replacement of broken Glass of three phase meter if the consumer has broken or tamper and with meter	Rs 50/-
<b>Supply of duplicate copies of electricity bills</b>	
Domestic Consumers	Rs 5 per bill
Non-Domestic consumers	Rs 10 per bill
LT Industrial upto 20kW and AP Consumer	Rs 5 per bill
H.T Industrial and Bulk supply consumer	Rs 10 per bill
<b>Stand by meter</b>	
HT	Rs. 10,000
EHT	Rs. 20,000
<b>Check Meter</b>	

Description	Miscellaneous Charges
HT	Rs. 10,000
EHT	Rs. 20,000
<b>Load enhancement</b>	Actual Cost + 15% Supervision Charges
<b>system strengthening charges or capacity building charges,</b>	Actual Cost + 15% Supervision Charges
<b>Advance for Temporary Connections (Except of pre-paid meters) (To be adjusted in bills)</b>	
• Single phase LT	Rs. 2,000
• Three phase	Rs. 5,000
• HT	Rs. 20,000
• EHT	Rs. 20,000
<i>Note: this shall be adjusted in bills</i>	
<b>Non-Refundable Registration-cum-processing fees</b>	As per Supply code Regulations notified by JERC

- 8.8.2 In case of bonafide agricultural pumping loads, the department shall provide overhead service lines at a free of cost upto 300 meters from the nearest distribution point i.e. existing rural transformer sub-station or from a service line already laid for supply to any other consumer, provided the latter has sufficient current carrying capacity. Any length in excess of the specified length shall be payable at a fixed cost of Rs. 25/metre for single phase and Rs. 50/meter for Three phase as approved under Schedule of General and Miscellaneous Charges.

## CHAPTER 9. TARIFF PROPOSAL FOR FY 2021-22

This Chapter highlights the proposed tariff schedule.

### 9.1 Tariff Schedule - LT Consumers

Low Tension Category-Applicable to Power Supply of Voltages at 230V and 440V Voltages when the Sanctioned Load is below 100 KVA/ 90 KW / 120 HP and power is supplied at single/ three phase

#### 9.1.1 LT Domestic/LT-D

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>This schedule shall apply to private residential houses, government residential quarters, Government schools and related facilities, charitable institutions, religious institutions etc. for consumption of energy using normal domestic appliances.</p> <p>Professionals such as Doctors, Engineers, Lawyers, CAs, Journalists and Consultants practicing from their residence irrespective of location provided that such use shall not exceed 25% of the area of the premises or as specified in the rules/regulations of their respective State or Union Territory.</p>	<p>For the premises or flats which are closed or locked for a continuous period of more than three months and having sanctioned / connected load more than 10 kW, the monthly minimum charges would be Rs 1000/-</p>	<p>Following applicability is proposed to be included:  <i>"This schedule also applies to Street-lights operating within the premises of private establishments/villas"</i></p>

#### I. Tariff for LT Domestic/ LT-D

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
0-100 units	Rs/Conn/ Month - Single Phase	25	1.50	25	1.40
101-200 units		25	2.25	25	2.10

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
201 to 300 units	Rs/Conn/ Month - Three Phase	60	2.85	60	2.65
301 to 400 units		60	3.65	60	3.45
Above 400 units		60	4.25	60	4.00

**Note:** For FY 2021-22, EDG proposes that all consumers (under LT-Domestic/ LT-D category) whose consumption is less than 200 units will fall under telescopic billing approach and the consumers whose consumption is more than more than 200 units shall fall under the ambit of Non-Telescopic billing approach and shall lose the benefit of first two slab i.e. 0-100 and 101-200 units for the energy charges. Further total monthly consumption more than 200 units shall fall in the respective slab and accordingly applicable energy charges for that respective slab shall be levied on the entire consumption.

#### 9.1.2 Low Income Group/ LT-LIG

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This schedule shall apply to consumers of Low-Income Group who have a sanctioned load of up to 0.25 kW and who consume up to 50 units per month only.	The applicability of the Low-Income Group category will be assessed at the end of each month and in case the consumption exceeds 50 units per month, the entire consumption would be billed at the rate of LTD-/Domestic for that particular month.	No change Proposed

#### I. Tariff for LTLIG/Low Income Group

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
Consumption up to 30 Units p.m.	Rs. /Conn/ Month	50	-	40	-

**Note:** The applicability of the Low-Income Group category will be assessed at the end of each month and in case the consumption exceeds above 50 units per month then entire such consumption would be billed at the rate of LTD-/Domestic for that particular month.

9.1.3 Low Tension Commercial/ LT-C:

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>This tariff is applicable to any activity not specifically covered in any other consumer categories, or although covered in another activity, the use is made for a commercial category. It would include electricity used in all non-residential, non-industrial premises and/or commercial premises for commercial consumption meant for operating various appliances. It would include the following categories but not limited to:</p> <ul style="list-style-type: none"> <li>• Houses with rent back facilities</li> <li>• Government hospitals</li> <li>• Professionals not covered in domestic category.</li> <li>• Commercial Complexes and Business premises, including Shopping malls/show rooms, offices / shops;</li> <li>• Combined lighting and power services for Entertainment including film studios, cinemas and theatres, including multiplexes, Race-course, Meeting/Town Halls, Clubs, all types of Guest houses;</li> <li>• Offices including Government Offices, Commercial Establishments;</li> <li>• Marriage Halls (including halls attached to religious places), Hotels /Restaurants (without boarding facilities), Ice-cream parlours, Bakeries, Coffee Shops, private hospitals, private messes, Internet / Cyber Cafes, Mobile Towers, Micro-wave Towers, Satellite Antennas used for telecommunication activity, Telephone Booths, Fax / Xerox Shops, X-ray installations, bars and cold drink houses, Tailoring Shops, Computer Training Schools, Typing Institutes, Photo Laboratories, Photo Studios, Laundries, Beauty Parlours and</li> </ul>	<p>Cold Storages which are solely attached to Agriculture and its allied activities shall be charged tariff of Agriculture Allied activities. All other cold storages which are partly or not attached with Agriculture and Allied activities shall be charged commercial tariff.</p>	<p>For the following applicability clause,  <i>“For common facilities, like Water Pumping / Street Lighting / Lifts / Fire Fighting Pumps / Premises (Security) Lighting, etc. in Commercial Complexes;”</i>                      EDG proposed to amend the aforementioned clause as given below:  <i>“For common facilities, like Water Pumping / Street Lighting / Lifts / Fire Fighting Pumps / Premises (Security) Lighting, etc.—in—Commercial Complexes;”</i></p>

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>Saloons, dry cleaners etc</p> <ul style="list-style-type: none"> <li>Automobile and any other type of repair centers, Retail Gas Filling stations, Petrol Pumps and Service Stations including Garages, Tyre Vulcanizing units, Battery Charging Units, Tyre vulcanizing centres etc;</li> <li>Banks, Telephone Exchanges, TV Station, Microwave Stations, All India Radio (AIR) Stations, ATM Centres etc;</li> <li>For common facilities, like Water Pumping / Street Lighting / Lifts / Fire Fighting Pumps / Premises (Security) Lighting, etc. in Commercial Complexes;</li> <li>Sports Clubs, Health Clubs, Gymnasium, Swimming Pools;</li> <li>Research and Development units situated outside Industrial premises;</li> <li>Airports, Railways, Railway Stations, Bus stands of KTC etc;</li> <li>Educational institutions excluding Government Schools and related facilities</li> </ul>		

**I. Tariff for LT Commercial/ LT-C**

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
1-100 Units	0-20 kW- Rs./Conn/Month	0-20 kW- Rs.50/Conn/Month	3.55	0-20 kW- Rs.50/Conn/Month	3.50
101-200 units			4.35		4.20
201-400 Units	Above 20kW and upto 90 kW	Above 20kW and upto 90 kW	4.85	Above 20kW and upto 90 kW	4.70
Above 400 units			Rs. 60/KW/month		5.25

**Note:** For FY 2021-22, EDG proposes that all consumers (under LT-Commercial/ LT-C category) whose Consumption beyond 100 Units will lose the benefit of first slab and the total consumption shall fall in the respective slab and accordingly applicable energy charge for the respective slab shall be levied on the entire consumption.

9.1.4 **Low Tension Industrial/ LT-I**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>This tariff shall apply to industrial units engaged in industrial activities, manufacturing process etc. It would include the following categories but not limited to:</p> <ul style="list-style-type: none"> <li>• Flour Mills, wet grinding, Dal Mills, Rice Mills, Poha Mills, Masala Mills, Saw-Mills, Power looms including other allied activities like Warping, Doubling, Twisting, etc.</li> <li>• Ice Factories, Ice Cream Manufacturing units/ Plants, Dairy Testing Process, Milk Dairies, Milk Processing/ Chilling Plants (Dairy) etc.;</li> <li>• Engineering workshops, Engineering Goods Manufacturing units, Printing Presses, Transformer repairing Workshops, Tyre retreading units, Motive Power Loads etc.;</li> <li>• Mining, Quarry and Stone Crushing units etc.;</li> <li>• Garment Manufacturing units,</li> <li>• LPG/ CNG Bottling plants etc.;</li> <li>• Sewage Water Treatment Plants/ Common Effluent Treatment Plants owned, operated and managed by Industrial Associations and situated within industrial area.</li> <li>• Pumping of water for public water supply, Sewage Treatment Plants, activities related with public water Supply Schemes and Sewage Pumping Stations.</li> <li>• Use of electricity / power supply for activities/ facilities exclusively meant for employees of the industry within the premises of the</li> </ul>	<p>The above-mentioned tariff is based on the supply being given through a single delivery and metering point and at a single voltage.</p>	<p>No change Proposed</p>

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
Industry. <ul style="list-style-type: none"> <li>IT Industry, IT parks etc.</li> </ul>		

I. **Tariff for Low Tension Industrial/ LT-I**

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
0-500 Units	Rs/HP/Month	40	3.40	35	3.40
Above 500 units		40	3.95	35	3.90

**Note:** For FY 2021-22, EDG proposes that all consumers (under LT-Industrial/ LT-I category) whose consumption beyond 500 units shall lose the benefit of first 500 units (0-500 units) for the energy charges. As a result, consumption beyond 500 units shall fall in the 2nd slab i.e. above 500 units and accordingly energy charges applicable for the respective slab shall be levied on the entire consumption.

9.1.5 **Low Tension-Mixed/LT-P (Hotel Industries)**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This schedule shall apply to Hotels/restaurants with lodging and boarding facilities.	Hotel Industry consumers intending to avail the facility of this tariff should produce a certificate from the Tourism Department stating that the intending applicant is registered under Goa Registration of Tourist Trade Act, 1982 and in the Hotel business on a regular basis. On receipt of the certificate, such tariff shall be made effective from the date of original validity of the certificate. In case of failure to produce the certificate, the same shall be considered under Commercial category.	No change Proposed

I. **Tariff for LTP Mixed (Hotel Industries)**



Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
Total Consumption	Rs/kW/Month	50	4.95	40	4.80

9.1.6 **LT 4: LT Agriculture/ LTAG/ Agriculture and other Allied Activities**

**a. Low Tension-Agriculture/ LT-AGP (Pump Sets/ Irrigation)**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>This schedule shall apply to establishments for Irrigation pumping, De-watering and Lift Irrigation for cultivation of food crops such as cereals, pulses, vegetables and fruits etc. and Cane crusher and/or fodder cutter for self-use for Agricultural purposes.</p>	<p>This tariff shall be applicable from the date of production of a certificate from the Directorate of Animal Husbandry or Agriculture Department of Government of Goa to the effect that the consumer carried on the said activity on regular basis. In case of failure to produce the certificate, the same shall be considered under Commercial category.</p> <p>Cold Storages which are solely attached to Agriculture and its allied activities shall be charged tariff of Agriculture allied activities. All other cold storages which are partly or not attached with Agriculture and Allied activities shall be charged Commercial Tariff.</p>	<p>Existing applicability clause is proposed to be amended as follows:</p> <p>This schedule shall apply to establishments for Irrigation pumping, De-watering and Lift Irrigation for cultivation of food crops such as cereals, pulses, vegetables and fruits etc., Cane crusher and/or fodder cutter <u>and peeling of areca nut/ coconut for self-use</u> for Agricultural purposes.</p>

**I. Tariff for LT-AGP (Pump Sets/ Irrigation)**

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
Total Consumption	Rs/HP/Month	18	1.50	15	1.40

**b. Low Tension-Agriculture/ LT-AGA (Allied Activities)**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>This schedule shall apply to establishments for other allied activities related to Agriculture and shall include but not limited to:</p> <ul style="list-style-type: none"> <li>• Poultry farms, Livestock farms, Combination of livestock farms with dairy, Piggery etc</li> <li>• Horticulture, Green Houses, Plantations, all types of nurseries etc.</li> <li>• Fish farms including ornamental fish farms, prawn farms, other aqua farms etc</li> <li>• Tissue culture, Mushroom activities, Aquaculture, Floriculture, Fisheries, Sericulture, Floricultural nurseries, hatcheries etc</li> <li>• Any other agricultural activity not falling under LT-Agriculture (A) shall be covered under this category</li> </ul>	<p>This tariff shall be applicable from the date of production of a certificate from the Directorate of Animal Husbandry or Agriculture Department of Government of Goa to the effect that the consumer carried on the said activity on regular basis. In case of failure to produce the certificate, the same shall be considered under Commercial category.</p> <p>Cold Storages which are solely attached to Agriculture and its allied activities shall be charged tariff of Agriculture allied activities. All other cold storages which are partly or not attached with Agriculture and Allied activities shall be charged Commercial Tariff.</p>	<p>No change Proposed</p>

**I. Tariff for LT-AGA (Allied Activities)**

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
Total Consumption	Rs/HP/Month	25	1.75	20	1.80

9.1.7 Public Lighting

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>This schedule shall apply to public lighting systems. It would include the following categories but not limited to:</p> <ul style="list-style-type: none"> <li>• Market Places, Roads, Pathways and Parking Lighting belonging to local authorities such as Municipality/ Panchayats/ Government;</li> <li>• Lighting in Public Gardens;</li> <li>• Traffic Signals and Traffic Islands;</li> <li>• State Transport Bus Shelters;</li> <li>• Public Sanitary Conveniences; and</li> <li>• Public Water Fountains and such other Public Places open for general public free of charge.</li> <li>• Street lighting in the colony of a factory which is situated separately from the main factory.</li> <li>• This shall also be applicable to public lighting of Government/ Semi Government Establishments but shall not be applicable in case of private establishments.</li> </ul>		<p>Following applicability clause</p> <p><i>“This shall also be applicable to public lighting of Government/ Semi Government Establishments but shall not be applicable in case of private establishments.</i></p> <p>is proposed to be amended as follows:</p> <p><i>“This shall also be applicable to public lighting of Government/ Semi Government Establishments but shall not be applicable in case of private establishments/ villas.”</i></p>

I. Tariff for Public Lighting

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
Total Consumption	Rs/kW/Month	70	4.20	50	4.20

9.1.8 **LT (7): Hoarding & Sign Boards**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This schedule shall apply to lighting advertisements, hoardings and displays at departmental stores, malls, multiplexes, theatres, clubs, hotels, bus shelters, Railway Stations etc. and shall be separately metered and charged at the tariff applicable for "Hoardings / Sign Board" category. However, use of electricity for displays for the purpose of indicating / displaying the name and other details of the shop, on commercial premises itself, shall be covered under the prevailing tariff for such shops or commercial premises.		No change Proposed

I. **Tariff for Hoarding & Sign Boards**

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
Total Consumption	Rs/kVA/Month	70	10	60	10

9.1.9 **LT (8): Low Tension Temporary Supply/ LTTS**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This schedule shall apply to usage of electricity for all temporary purposes.	<ul style="list-style-type: none"> <li>The Temporary connection shall be released through a proper meter.</li> <li>The Temporary tariff is applicable for temporary period of supply for a</li> </ul>	No change Proposed

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
	period of maximum one (1) year at a time, which may be further extended, as per the provision of Supply Code Regulations notified by JERC.	

**I. Tariff for LT Temporary Supply**

Consumption Slab	Existing Tariff (Approved in T.O. dated 19.05.20) & Proposed Tariff for FY 2021-22	
	Fixed Charges	Energy Charges
LT Temporary	The Tariff 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 commercial category for permanent supply.	

**9.2 Tariff Schedule – HT Consumers**

**High Tension/ Extra High-Tension Category** - Applicable to Power Supply of Voltages at 11KV/ 33KV/ 110KV i.e. High/Extra High Voltages when the Contracted Demand is above 100 KVA/ 90 KW / 120 HP and power is supplied at three phase.

**9.2.1 High Tension-Domestic/HT-D**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This schedule shall apply to individual residential consumers of Bungalows, Villas, Cottages, etc. using normal domestic appliances and whose contract demand falls within the threshold limit of HT category.		Following applicability is proposed to be included: <i>“This schedule also applies to Street-lights operating within</i>

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
		<i>the premises of private establishments/villas”</i>

**I. Tariff for High Tension/Domestic**

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kVAh)
Total Consumption	Rs/kVA/Month	110	3.65	100	3.55

**9.2.2 High Tension Industrial/ HT-I**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>This schedule shall apply to consumers taking electricity supply for Industrial purpose. It shall also include the following categories:</p> <ul style="list-style-type: none"> <li>• Bulk Supply of power at 11 KV, 33 kV /110 KV and above for industries, factories and other industrial purposes.</li> <li>• Bulk supply of power at 11 KV and above for educational institutions owned or aided by Government, non-industrial establishments,</li> <li>• Industrial units engaged in Ice Manufacturing Units;</li> <li>• Hotels with lodging and boarding facilities etc</li> <li>• Use of electricity / power supply by an establishment such as IT Industries, IT Parks, IT Units</li> <li>• Pumping of water, public water supply, public water treatment plant, activities related with Supply Schemes and Sewage Treatment Plants, Sewage Pumping Stations etc</li> </ul>		No change Proposed

I. Tariff for HT-I

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kVAh)
11/ 33 kV	Rs/kVA/Month	250	4.80	250	4.60
110 kV	Rs/kVA/Month	250	4.70	250	4.50

9.2.3 High Tension Ferro Metallurgical /Steel Rolling/Steel Melting/Power Intensive

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This schedule shall apply to supply of power having a Contract Demand from 100 KVA up to 1000 KVA at 11 KV and above 1000 KVA at 33 KV for Steel rolling industry and Metal Alloy, Steel Melting, Ferro Alloy, and Ferro metallurgical industries where melting is involved using electric power.		No change Proposed

I. Tariff Ferro Metallurgical /Steel Rolling/Steel Melting/Power Intensive

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kVAh)
Total Consumption	Rs/kVA/Month	250	4.80	250	4.60

9.2.4 High Tension Commercial/ HT-C

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This tariff is applicable to any activity not specifically covered in any other consumer categories, or although covered in another activity, the use is	Cold Storages which are solely attached to	For the following applicability

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>made for a commercial category. It would include electricity used in all non-residential, non-industrial premises and/or commercial premises for commercial consumption meant for operating various appliances. It would include the following categories but not limited to:</p> <ul style="list-style-type: none"> <li>• Houses with rent back facilities</li> <li>• Government hospitals</li> <li>• Professionals not covered in domestic category.</li> <li>• Commercial Complexes and Business premises, including Shopping malls/show rooms, offices / shops;</li> <li>• Combined lighting and power services for Entertainment including film studios, cinemas and theatres, including multiplexes, Race-Course, Meeting/Town Halls, Clubs, all types of Guest houses;</li> <li>• Offices including Government Offices, Commercial Establishments;</li> <li>• Marriage Halls (including halls attached to religious places), Hotels /Restaurants (without boarding facilities), Ice-cream parlours, Bakeries, Coffee Shops, private hospitals, private messes, Internet / Cyber Cafes, Mobile Towers, Microwave Towers, Satellite Antennas used for telecommunication activity, Telephone Booths, Fax / Xerox Shops, X-ray installations, bars and cold drink houses, Tailoring Shops, Computer Training Schools, Typing Institutes, Photo Laboratories, Photo Studios, Laundries, Beauty Parlours and Saloons, dry cleaners etc</li> <li>• Automobile and any other type of repair centers, Retail Gas Filling stations, Petrol Pumps and Service Stations including Garages, Tyre Vulcanizing units, Battery Charging Units, Tyre vulcanizing centres etc;</li> <li>• Banks, Telephone Exchanges, TV Station, Micro-Wave Stations, All India Radio (AIR) Stations, ATM Centres etc;</li> <li>• For common facilities, like Water Pumping / Street Lighting / Lifts /</li> </ul>	<p>Agriculture and its allied activities shall be charged tariff of Agriculture Allied activities. All other cold storages which are partly or not attached with Agriculture and Allied activities shall be charged commercial tariff.</p>	<p>clause,  <i>“For common facilities, like Water Pumping / Street Lighting / Lifts / Fire Fighting Pumps / Premises (Security) Lighting, etc. in Commercial Complexes;”</i></p> <p>EDG proposed to amend the aforementioned clause as given below:  <i>“For common facilities, like Water Pumping / Street Lighting / Lifts / Fire Fighting Pumps / Premises (Security) Lighting, etc.—in—Commercial Complexes;”</i></p>



Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
Fire Fighting Pumps / Premises (Security) Lighting, etc. in Commercial Complexes; <ul style="list-style-type: none"> <li>• Sports Clubs, Health Clubs, Gymnasium, Swimming Pools;</li> <li>• Research and Development units situated outside Industrial premises;</li> <li>• Airports, Railways, Railway Stations, Bus stands of KTC etc;</li> <li>• Educational institutions excluding Government Schools and related facilities</li> </ul>		

I. **Tariff for HT Commercial**

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kVAh)
Total Consumption	Rs/kVA/Month	250	5.50	250	5.50

9.2.5 **High Tension MES/Defence Establishments**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This schedule shall apply to supply of power for defence installation establishments, having mixed load with predominantly lighting or non-industrial load of more than 50% of connected load.		No change Proposed

I. **Tariff for MES/Defence Establishments**

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kVAh)

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kVAh)
Total Consumption	Rs/kVA/Month	200	5.20	175	5.10

### 9.2.6 High Tension Agriculture / Agriculture and other Allied Activities

#### a. HT-Agriculture Pump Sets (A)

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This schedule shall apply to establishments for Irrigation pumping, De-watering and Lift Irrigation for cultivation of food crops such as cereals, pulses, vegetables and fruits etc and Cane crusher and/or fodder cutter for self-use for Agricultural purposes.	<p>This tariff shall be applicable from the date of production of a certificate from the Directorate of Animal Husbandry or Agriculture Department of Government of Goa to the effect that the consumer carried on the said activity on regular basis. In case of failure to produce the certificate, the same shall be considered under Commercial category.</p> <p>Cold Storages which are solely attached to Agriculture and its allied activities shall be charged tariff of Agriculture allied activities. All other cold storages which are partly or not attached with Agriculture and Allied activities shall be charged Commercial Tariff.</p>	<p>Existing applicability clause is proposed to be amended as follows:</p> <p>This schedule shall apply to establishments for Irrigation pumping, De-watering and Lift Irrigation for cultivation of food crops such as cereals, pulses, vegetables and fruits etc., Cane crusher and/or fodder cutter <u>and peeling of areca nut/ coconut for self-use</u> for Agricultural purposes.</p>

#### II. Tariff for Agriculture Pump Sets

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kVAh)
Total Consumption	Rs/kVA/Month	40	1.60	35	1.50

**b. HT-Agriculture Allied Activities (B)**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>This schedule shall apply to establishments for other allied activities related to Agriculture and shall include but not limited to:</p> <ul style="list-style-type: none"> <li>• Poultry farms, Livestock farms, Combination of livestock farms with dairy, Piggery etc</li> <li>• Horticulture, Green Houses, Plantations, all types of nurseries etc.</li> <li>• Fish farms including ornamental fish farms, prawn farms, other aqua farms etc</li> <li>• Tissue culture, Mushroom activities, Aquaculture, Floriculture, Fisheries, Sericulture, Floricultural nurseries, hatcheries etc</li> <li>• Any other agricultural activity not falling under HT-Agriculture (A) shall be covered under this category</li> </ul>	<p>This tariff shall be applicable from the date of production of a certificate from the Directorate of Animal Husbandry or Agriculture Department of Government of Goa to the effect that the consumer carried on the said activity on regular basis. In case of failure to produce the certificate, the same shall be considered under Commercial category.</p> <p>Cold Storages which are solely attached to Agriculture and its allied activities shall be charged tariff of Agriculture allied activities. All other cold storages which are partly or not attached with Agriculture and Allied activities shall be charged Commercial Tariff.</p>	<p>No change Proposed</p>

**I. Tariff for Agriculture Allied Activities**

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kVAh)
Total Consumption	Rs/kVA/Month	70	1.95	60	2.10

**9.2.7 High Tension Temporary Supply/ HT-HTTS**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This schedule shall apply to usage of electricity for all temporary purposes.	<ul style="list-style-type: none"> <li>The temporary connection shall be released through a proper meter</li> <li>The Temporary Tariff is applicable for a temporary period of supply for a period of maximum one (1) year at a time, which may be further extended, as per the provisions of Supply Code Regulations notified by JERC.</li> </ul>	No change Proposed

**I. Tariff got HT Temporary Supply**

Consumption Slab	Existing Tariff (Approved in T.O. dated 19.05.20) & Proposed Tariff for FY 2021-22	
	Fixed Charges	Energy Charges
HT Temporary	The Tariff 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 commercial category for permanent supply.	

**9.2.8 High Tension Single Point Supply/ HT SPS**

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This schedule shall apply to a group of consumers who desire to take a HT connection at single point for consumption of energy within a Residential Complex – Group Housing Societies, Residential Housing Colonies, Cooperative Group Housing Societies, Township	In case of a dispute on whether the complex can be classified as an industrial complex, a certificate from Industries Department, Government of Goa will be required. The following shall be the different combinations for SPS in a defined area: <ol style="list-style-type: none"> <li>All LT consumer mix area</li> <li>All HT consumer mix area</li> <li>HT+LT consumer mix area</li> </ol>	No change Proposed

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
<p>Areas; Commercial Complexes, including Malls; Industrial Complexes, including IT Parks, Bio-Parks or other entities classified as industries by the Government of Goa.</p>	<ol style="list-style-type: none"> <li>1. The General Conditions, Miscellaneous and General Charges would also be applicable for all SPS categories.</li> <li>2. Based on technical and administrative feasibility, the ED-Goa may consider providing SPS power supply at HV/ EHV level to a complex at a mutually agreed injection point.</li> <li>3. The SPS arrangement would be applicable for the application received from a Residential complex / Association of Persons (AOP) / Developer of the complex or any other such similar person.</li> <li>4. The SPS arrangement would be considered by ED-Goa only if the minimum sanctioned cumulative contracted demand of the complex (group of consumers) is 1.15 MVA/ 1 MW.</li> <li>5. The complete cost of erection and O&amp;M for the sub-transmission and distribution infrastructure within such complex would need to be borne by the said SPS applicant.</li> <li>6. The SPS applicant would be required to develop and maintain an efficient, coordinated and quality sub-transmission and distribution system in its area of electricity supply. Further, the applicant would be responsible to comply with Standards of Performance and Supply Code Regulation as laid down under JERC Regulations and guidelines of Goa Electricity Department, if any. The network within the complex will need to be certified by the Chief Electrical Inspector.</li> <li>7. For Residential Complexes, SPS application shall be entertained for groups of LT consumers only. The loads of common amenities for such group may include pumps for pumping water supply, lifts and lighting of common area. However, the consumption of energy for common services shall be separately metered with meters installed by the consumer and tested and sealed by licensee. The consumption of such energy over and above 10% of the total consumption of energy shall be billed at LT Commercial Tariff. The user shall inform the details of every non-domestic activity within the residential complex, such as commercial complex, industrial activity, and recreation club, along with the connected load to the licensee at the time of seeking the</li> </ol>	

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
	<p>connection or at the time of enhancement in contract demand, and shall seek a separate connection for the same in case the common load is more than 10%.</p> <p>8. Individual Domestic HT consumers in a residential complex that opt for SPS shall need to apply separately under HT Domestic category.</p> <p>9. The SPS applicant shall not charge tariff to the downstream consumers higher than stipulated.</p> <p>10. The applicant shall be obliged to pay the total tariff (total billed amount) due to ED-Goa, as measured at HT end of SPS. However, to cover energy transformation losses and other O&amp;M expenses, such applicant would be eligible to get rebates from ED-Goa on full bill payment, within the due time:</p> <p style="margin-left: 40px;">a. 5% on the overall billed amount in all cases of LT and HT consumers</p> <p style="margin-left: 40px;">b. Any other loss would be to the account of the applicant.</p> <p>11. For CC and IC applicant, any LT / HT Consumer in the area should have minimum 80% pre-dominant load of their appropriate category i.e. mix load is allowed only upto 20%. For e.g. If a HT/ LT Industry Consumer has Factory, Residential Colony for its workers and also some Commercial facilities for his staff and the total of Residential and Commercial load is say around 30%, then separate Individual SPD connection may be taken for each such group as per activity.</p> <p>12. The implementation of SPS arrangement should be in accordance with the Electricity Act, 2003 and APTEL judgement dated 11th July 2011 in appeal no. 155 and 156 of 2010 in this regard.</p>	

**I. Tariff for HT Single Point Supply**

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kVAh)
Residential Complex	Rs/kVA/ Month or part thereof	110	3.55	100	3.55

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
Commercial Complex	Rs/kVA/ Month or part thereof	220	4.80	200	4.70
Industrial Complex	Rs/kVA/ Month or part thereof	220	4.40	200	4.30

Note: The SPS applicant shall pay to EDG the tariff as mentioned below, corresponding to the demand<sup>1</sup> and the input energy at the HT end of such supply:

### 9.3 Electric Vehicle Charging Station

Existing Applicability Clause	Point of Supply/Notes	Proposed Applicability Clause
This tariff schedule shall apply to consumers that have set up Public Charging Stations (PCS) in accordance with the technical norms/ standards/specifications laid down by the Ministry of Power, GoI and Central Electricity Authority (CEA) from time to time. The tariff for domestic consumption shall be applicable for domestic charging (LT/HT)		No change Proposed

#### I. Tariff EV Charging Station

Consumption Slab	Basis of Fixed charge	Existing Tariff (Approved in T.O. dated 19.05.20)		Proposed Tariff for FY 2021-22	
		Fixed Charges	Energy Charges (Rs. / kWh)	Fixed Charges	Energy Charges (Rs. / kWh)
Total Consumption	NA	-	3.50	-	3.50

## CHAPTER 10. SEGREGATION OF WHEELING AND SUPPLY BUSINESS

### 10.1 Allocation Policy

10.1.1 EDG submits the bifurcation of all expenses of FY 2021-22 between the functions of wheeling business (wire business) and retail supply business based on the regulation 48 of the MYT Regulations, 2018 and accordingly allocation matrix approved by the Hon'ble Commission in the MYT Tariff Order dated 20<sup>th</sup> May 2019 & Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020. The summary of the allocation statement and the segregation of ARR into wheeling and retail supply business for FY 2021-22 is given in the table below:

**Table 10-1: Allocation Statement Wheeling and Retail Supply for FY 2021-22 (Rs. Cr.)**

Item of expense	Wires Business	Retail Supply Business	Wire Business	Retail Supply Business	Total
Cost of power purchase	0%	100%	-	1,625.50	1,625.50
Employee costs	40%	60%	137.53	206.29	343.81
R&M expenses	90%	10%	38.67	4.30	42.97
Administration and General expenses	50%	50%	15.54	15.54	31.08
Depreciation	90%	10%	53.49	5.94	59.43
Interest & Financial charges	90%	10%	25.14	2.79	27.93
Interest on Working Capital	10%	90%	3.04	27.38	30.43
Return on NFA /Equity	90%	10%	59.16	6.57	65.73
Provision for Bad Debt	0%	100%	-	-	-
Provision for DSM Expenses	0%	100%	-	-	-
Interest on Consumer Security Deposit	10%	90%	1.66	14.94	16.60
<b>Total Revenue Requirement</b>			<b>334.22</b>	<b>1,909.26</b>	<b>2,243.48</b>
Less: Non Tariff Income	10%	90%	2.09	18.85	20.95
<b>Net Revenue Requirement</b>			<b>332.13</b>	<b>1,890.41</b>	<b>2,222.53</b>
<b>Energy sales (MU) *</b>					<b>4,057.74</b>
<b>Average Cost of Supply (Rs/kWh)</b>					<b>5.48</b>

10.1.2 The Hon'ble Commission is requested to approve the segregation of ARR into Wheeling & Retail Supply Business for FY 2021-22 as per above table.



## CHAPTER 11. DETERMINATION OF CHARGES RELATED TO OPEN ACCESS

### 11.1 Approach for computation of open access charges

11.1.1 EDG submits that as per Regulation 67.2 and 67.3 of JERC MYT Regulations, 2018 category wise cost of supply needs to be computed for facilitating determination of tariff and for gradual reduction of cross subsidy. Cost of supply study also facilitates determination of cross subsidy surcharge. However, the cost of supply methodology suggested by APTEL is based on voltage wise segregation.

11.1.2 In absence of relevant data for computation of open access charges, EDG requests Hon'ble Commission to consider the same methodology and approach as approved in MYT Tariff Order for Control Period FY 2019-20 to FY 2021-22 dated 20<sup>th</sup> May 2019 as well as in the Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020

11.1.3 Accordingly, EDG has computed open access charges considering the following wheeling losses for HT & EHT and allocation % for wheeling cost between HT & LT as approved in Tariff Order FY 2020-21.

- Wheeling Loss at HT & EHT Level - 3.64% (balance losses attributable to LT Level)

### 11.2 Computation of Wheeling Charge and losses

11.2.1 In line with methodology, adopted by Hon'ble Commission in previous tariff orders for FY 2019-20 & FY 2020-21 and based on above mentioned projections for Sales & Wheeling ARR for FY 2021-22, EDG has calculated wheeling charges for LT and HT/EHT level. Following methodology has been adopted:

- O&M Expenses consisting of Employee, A&G and R&M expenses are allocated to each voltage level based on number of consumers
- All expenses other than the O&M expenses are allocated to each voltage level based on voltage wise asset allocation.
- The resultant cost at HT/EHT voltage level derived after performing the above steps is then divided between LT and HT/EHT voltage level on the basis of input energy at respective voltage levels, since the HT/EHT network is used by consumers of both HT/EHT and LT voltage levels.

11.2.2 EDG submits that parameters assumed for allocation of wheeling cost at LT and HT/EHT level are tabulated below:

**Table 11-1: Parameters assumed for allocation of Wheeling Cost**

Input	Consumers	Asset Allocation (%)	Sales (MU)	Cumulative Voltage Wise Losses (%)	Energy Input (MU)
Low Tension (LT) Level	6,94,699	60%	1,880.36	16.85%	2,261.53
High Tension (HT) / Extra High Tension (EHT) Level	1,271	40%	2,177.38	3.64%	2,259.63
<b>Total</b>	<b>6,95,970</b>		<b>4,057.74</b>	<b>10.25%</b>	<b>4,521.16</b>

11.2.3 Based on above assumption of parameters, the wheeling charge at LT and HT/EHT level has been determined as shown below.

**Table 11-2: Allocation of Wheeling Cost based on voltage Level for FY 2021-22**

Category	O&M Expenses (Rs. Cr.)	Other Expenses (Rs. Cr.)	Total Expenses (Rs. Cr.)
Low Tension (LT) Level	191.38	84.24	275.62
High Tension (HT) / Extra High Tension (EHT) Level	0.35	56.16	56.51
<b>Total</b>	<b>191.73</b>	<b>140.39</b>	<b>332.13</b>

**Table 11-3: Computation of Wheeling Charge for FY 2021-22**

Category	O&M Expenses (Rs. Cr.)	Other Expenses (Rs. Cr.)	Total Expenses (Rs. Cr.)	Sales (MU)	Wheeling Charges (Rs./kWh)
Low Tension (LT) Level	191.56	112.30	303.86	1,880.36	<b>1.62</b>
High Tension (HT) / Extra High Tension (EHT) Level	0.18	28.09	28.27	2,177.38	<b>0.13</b>
<b>Total</b>	<b>191.73</b>	<b>140.39</b>	<b>332.13</b>	<b>4,057.74</b>	

11.2.4 Therefore, EDG requests the Hon'ble Commission to approve wheeling charge for HT/EHT and LT category as computed in the above tables

### 11.3 Computation of Additional Surcharge for FY 2021-22

11.3.1 The Hon'ble 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. The Regulation 4.5 (1) of the said Regulations states the following:

*“An Open Access Consumer, receiving supply of electricity from a person other than the Distribution Licensee of his area of supply, shall pay to the Distribution Licensee an additional surcharge in addition to wheeling charges and cross-subsidy surcharge, to meet the fixed cost of such Distribution Licensee arising out of his obligation to supply as provided under sub-section (4) of Section 42 of the Act:*

*Provided that such additional surcharge shall not be levied in case Open Access is provided to a person who has established a captive generation plant for carrying the electricity to the*

*destination of his own use.”*

*Regulation 4.5 (2) of the said Regulations stipulates:*

*This additional surcharge shall become applicable only if the obligation of the Licensee in terms of power purchase commitments has been and continues to be stranded or there is an unavoidable obligation and incidence to bear fixed costs by the Licensee consequent to such a contract. However, the fixed costs related to network assets would be recovered through wheeling charges”*

11.3.2 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.]”*

11.3.3 In line with above regulations, EDG has determined the Additional Surcharge as per the following:

**Table 11-4: Additional Surcharge for FY 2021-22**

<b>Particulars</b>	<b>FY 2021-22</b>
Total Power Purchase Cost for FY 2021-22 (Rs. Cr.)	1,625.50
Fixed Cost component in Power Purchase Cost (excluding transmission charges) (Rs. Cr.)	340.04
Energy Sales (MU)	4,057.74
<b>Additional Surcharge (INR/kWh)</b>	<b>0.84</b>

11.3.4 EDG request Hon’ble Commission to approve additional surcharge for FY 2021-22 as computed in the above table.

#### **11.4 Computation of Cross Subsidy Surcharge for FY 2021-22**

11.4.1 The National Electricity Policy as stipulated by the Central Government provides that –Under sub – section (2) of Section 42 of the Act, a surcharge is to be levied by the respective State Commissions on consumers switching to alternate supplies under open access. This is to compensate the host distribution licensee serving such consumers who are permitted Open Access under Section 42 (2), for loss of cross subsidy element built into the tariff of such consumers. An additional surcharge may also be levied under sub – section (4) of section 42 of the said Act for meeting the fixed cost of the distribution licensee arising out of obligation to supply in cases where consumers are allowed open access.

11.4.2 The Government of India has notified the National Tariff Policy, 2016 on 28<sup>th</sup> January 2016. The Cross-Subsidy surcharge is based on the following formula given in the Tariff Policy, 2016 which is as follows:

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

Where,

*S is the surcharge*

*T is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation;*

*C is the per unit weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation;*

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

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

*R is the per unit cost of carrying regulatory assets.”*

11.4.3 However, calculation of Cross subsidy surcharge is calculated in this chapter as per methodology adopted by Hon’ble Commission in the previous tariff orders for FY 2019-20 and FY 2020-21.

11.4.4 Voltage wise losses for HT/EHT is considered at 3.64%. In order to maintain the Intra-State T&D losses at 10.25% for FY 2021-22 as approved in the MYT order dated 20<sup>th</sup> May 2019, losses at LT level has been computed. Accordingly, voltage wise losses considered for the calculation of Cross-subsidy Surcharge for FY 2021-22 is provided as below:

**Table 11-5: Voltage wise losses assumed for FY 2021-22**

Category	Voltage Level Losses (%)	Cumulative Loss upto that voltage level (%)
Low Tension (LT) Level	13.71%	16.85%
High Tension (HT)/ Extra High Tension (EHT) Level	3.64%	3.64%
<b>Total</b>	<b>10.25%</b>	<b>10.25%</b>

11.4.5 Based on the Voltage wise energy sales projected for FY 2021-22, voltage level wise energy input is calculated as given below:

**Table 11-6: Voltage wise Energy Input for FY 2021-22**

Input	Sales (MU)	Cumulative Voltage Wise Losses (%)	Energy Input (MU)
Low Tension (LT) Level	1,880.36	16.85%	2,261.53
High Tension (HT) / Extra High Tension (EHT) Level	2,177.38	3.64%	2,259.63
<b>Total</b>	<b>4,057.74</b>	<b>10.25%</b>	<b>4,521.16</b>

11.4.6 Overall ARR arrived for FY 2021-22 is divided into variable and fixed ARR with variable ARR comprising of variable component of the power purchase cost and fixed ARR comprising of all the other costs.

11.4.7 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:

- I. The fixed cost of power purchase is assigned to each voltage level based on the energy input at respective voltage levels.
- II. The O&M expenses are allocated to each voltage level based on the number of consumers. The resultant cost allocated to HT/EHT level is then further allocated between HT/EHT and LT level based on the input energy, as the HT/EHT network is utilized by both LT and HT/EHT network consumers.
- III. The remaining fixed costs are allocated based on the voltage wise asset allocation assumed earlier and further allocated to respective voltage levels based on input energy.

**Table 11-7: Parameters used for allocation of fixed costs for FY 2021-22**

Category	Energy Input (MU)	Voltage Wise Asset Allocation (%)	Number of Consumers
Low Tension (LT) Level	2,261.53	60%	6,94,699
High Tension (HT) / Extra High Tension (EHT) Level	2,259.63	40%	1,271
<b>Total</b>	<b>4,521.16</b>	<b>100%</b>	<b>6,95,970</b>

11.4.8 The Variable component of the Power purchase cost is allocated based on the energy input.

11.4.9 The Voltage wise cost of supply (VCoS) is then calculated based on the energy sales of respective categories. Accordingly, the VCoS is determined as shown in the table below:

**Table 11-8: Voltage Wise Cost of Supply (VCoS) for FY 2021-22**

Category	Allocated Fixed Cost (Rs. Cr.)	Allocated Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)	Energy Sales (MU)	VCoS (Rs/kWh)
Low Tension (LT) Level	730.92	643.00	1,373.92	1,880.36	7.31
High Tension (HT) / Extra High Tension (EHT) Level	206.15	642.46	848.61	2,177.38	3.90
<b>Total</b>	<b>937.07</b>	<b>1,285.46</b>	<b>2,222.53</b>	<b>4,057.74</b>	

11.4.10 As per above VCoS calculated and applicable level wise ABR level, EDG has computed the Cross-Subsidy Surcharge for FY 2021-22 as provided in the table give below:

**Table 11-9: Cross-Subsidy Surcharge for FY 2021-22**

Category	VCoS (Rs/kWh)	ABR (Rs/kWh)	Cross Subsidy Surcharge (Rs/kWh)
Low Tension (LT) Level	7.31	3.98	-
High Tension (HT) / Extra High Tension (EHT) Level	3.90	5.95	2.05

11.4.11 Therefore, EDG requests the Hon'ble Commission to approve the cross-subsidy surcharge for FY 2021-22 as computed in the above tables.

## CHAPTER 12. COMPLIANCE OF DIRECTIVES GIVEN BY HON'BLE COMMISSION

EDG submits that the Hon'ble Commission in its Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020 had laid down certain directives to be complied by EDG. The directives as provided by the Hon'ble Commission and the status of the said directives are replied as below:

### 12.1 Status of Compliance of Directives issued in tariff order dated 20<sup>th</sup> May 2019

Sr. No.	Directives in brief	Hon'ble Commission's Comments on directives in the Tariff Order dated 19 <sup>th</sup> May 2020	Compliance by the Electricity Department, Goa
1	Annual Statement of Accounts	<p>The Commission has undertaken the True-up for the FY 2015-16 in this Order, even though in normal course and as per the provisions of Tariff Regulations 2009 and MYT Regulations, 2014, the True-up upto FY 2018-19 should have been done in this Order.</p> <p>The Commission has taken a serious note of this and directs the Petitioner to submit the true up petition along with the audited accounts for FY 2016-17 and FY 2017-18 within two months of issuance of this order and those of FY 2018-19 and FY 2019-20 by 30th November 2020.</p>	<p>EDG submits that the audit for Financial Year 2016-17 is completed and CAG Certificate is awaited, the same will be submitted on or before Public hearing. The true-up for FY 2016-17 is filed vide this petition.</p> <p>The finalization of account for FY 2017-18 is under progress.</p> <p>Further, the collection of DCB statements for FY 2018-19 are completed and once the accounts for FY 2017-18 are finalised, the accounts for FY 2018-19 and FY 2019-20 will be prepared and subsequently after the audit, the true-up petitions shall be filed.</p>
2	Preparation of Fixed Asset Register	<p>The Petitioner has although submitted the Fixed Asset Register, the information with regards to type, nature and value of assets depreciated upto 90% in the relevant year has not been provided the purpose for which FAR is prepared. The Petitioner is directed to submit the information upto FY 2019-20 in the next tariff petition.</p>	<p>EDG submits that the Draft FAR report for FY 2019-20 (containing details regarding type, nature and value of assets depreciated upto 90%) is completed and the final FAR report shall be submitted on or before public hearing.</p>
3	Energy Audit Reports	<p>The Commission has noted with serious concern that the Petitioner is yet to submit the Energy Audit Reports for previous years despite repeated directions. The Commission directs the Petitioner to expedite the process and complete the Energy Audit of the State on</p>	<p>EDG submits that the Energy Audit for 174 Nos. of 11 kV feeders out of 304 Nos. is completed and the energy audit of balance feeders are pending due to delay in procurement and replacement of faulty metering equipment as the State government has imposed some</p>

Sr. No.	Directives in brief	Hon'ble Commission's Comments on directives in the Tariff Order dated 19 <sup>th</sup> May 2020	Compliance by the Electricity Department, Goa
		priority.	financial restriction due to Ongoing COVID-19 pandemic.
4	Employee Cost /Manpower study	The Commission has noted with serious concern that the Petitioner is yet to submit a systematic manpower study report with a specific focus on manpower rationalization. The Commission directs the Petitioner to finalize the draft report and submit the same for the decision of the State Govt. with the next quarterly progress report.	ED-Goa submits that the Manpower Study report shall be submitted on or before February 2021.
5	Interest on Consumer Security Deposit	The Commission observes that while the Petitioner has undertaken some efforts towards compliance of this directive, a substantial payment is yet to be credited to the consumers. The Commission is of the view that adequate time has already been given to the Petitioner. The Commission directs the Petitioner to ensure payment of interest on security deposit upto FY 2019-20 latest by 31st August 2020 in accordance with the MYT Regulations, 2018.	EDG submits that as a compliance to the directives of the Hon'ble Commission, the Interest on consumer security deposit for FY 2018-19 has been passed on to the consumers and the disbursement of interest on consumer security deposit for FY 2019-20 is under process.
6	Sub-Divisions as Strategic Business Units	The Commission is reviewing the information submitted by the Petitioner. The Petitioner is required to provide the action plan for increasing collection in these two divisions and an overall strategic plan to implement the same in the entire area/ all subdivisions of Petitioner's serving area.	ED-Goa submits that compilation of Data for Strategic Business Unit for Sub-Division of Division –VII Curchorem and Division XIV Verna is completed and the same is provided herewith with this Tariff petition as <b>Annexure 4</b>
7	Installation of Pre-Paid Meters	The Commission directs the Petitioner to expedite the process and submit an updated status by 1 month of issue of this order.	EDG submits that because of the financial restriction imposed by the Govt. of Goa due to ongoing COVID-19 pandemic, it is not in a condition to purchase the pre-paid meters. However, EDG is in discussion to hire the pre-paid meters and install the same at consumer's premises.
8	Unbundling of	The Commission directs the Petitioner to submit the	EDG submits that it has not yet submitted any proposal to



Sr. No.	Directives in brief	Hon'ble Commission's Comments on directives in the Tariff Order dated 19 <sup>th</sup> May 2020	Compliance by the Electricity Department, Goa
	Electricity Department	proposal to the State Govt. even if no directive is given by the Govt. by June 30 <sup>th</sup> , 2020. Further, it is directed that the Petitioner should submit the updated status and increase its efforts towards making the State Load Dispatch Center (SLDC) fully operational.	the Government for conveying the In-Principle approval for unbundling of Electricity Department as strategies for the same is under discussion with the Government.
9	Renewable Purchase Obligation	The Commission appreciates the efforts undertaken by the Petitioner towards fulfillment of RPO. The Petitioner is emphasizing on procuring more physical power than purchase REC's in accordance with the Commissions directions. The Petitioner is directed to continue its efforts towards fulfillment of RPO and ensure yearly obligation is fulfilled.	EDG submits that it has fulfilled 50% of the total RPO Obligation for FY 2020-21 and is making continuous efforts to fulfil the RPO Target for FY 2020-21.
10	Billing and Collection Efficiency	The Commission notes with serious concern that the billing and collection efficiency in the State is very low The Commission in the MYT Order had approved the collection efficiency of 100% for FY 2019-20 and T&D loss level of 10.75%. The Commission directs the Petitioner to take all necessary actions on priority to settle all pending dues from the Govt Departments and to resolve all the issues pertaining to billing and collection and report the status in the next Tariff Filing.	EDG submits that the Government of Goa has approved one-time Settlement scheme. The notification for registration by the consumers under this scheme shall be issued during 1 <sup>st</sup> Dec 2020 to 31 <sup>st</sup> Dec 2020.
11	Creation of SLDC	The Petitioner is directed to submit the updated status and increase its efforts towards making the State Load Dispatch Center (SLDC) fully operational.	EDG submits that the SLDC is fully operational round the clock since 5 <sup>th</sup> December 2019.
12	kVAh based tariff	The Commission believes that the data submitted by the Petitioner is not reliable of the previous years due to change in billing agencies. However, the Petitioner in the tariff proceedings has submitted that the billing system has been put in place and reliable data would be	EDG submits that in compliance to directive of the Hon'ble Commission, the proposal for implementation of kVA/KVAh based Tariff for HT/EHT categories for FY 2021-22 is filed with this petition.

Sr. No.	Directives in brief	Hon'ble Commission's Comments on directives in the Tariff Order dated 19 <sup>th</sup> May 2020	Compliance by the Electricity Department, Goa
		available in the coming period. The Petitioner is directed to submit a proposal for kVA/kVAh based tariff for all HT/EHT categories positively along with the next tariff petition.	
13	Determination of Category wise/ Voltage wise Cost of supply	The Petitioner is directed to expedite the process of energy audit and submit the requisite data and the proposal along with the next tariff petition.	EDG submits that the surveyors are already deployed at every division for GIS mapping of 11kV/33 kV assets and the entire exercise is likely to be completed by 31 <sup>st</sup> March 2021.
14	Submission of Petition for True up of FY 2015-16, FY 2016-17, FY 2017-18 and FY 2018-19 and APR of FY 2019-20	Despite of repeated directive by the Commission, the Petitioner is failed to meet the deadlines for submission of true-up Petitions. The Commission has taken a serious note of this and directs the Petitioner to submit the true up petition along with the audited accounts for FY 2016-17 and FY 2017-18 within two months of issuance of this order and those of FY 2018-19 and FY 2019-20 by 30 <sup>th</sup> November 2020.	EDG submits that the audit for Financial Year 2016-17 is completed and CAG Certificate is awaited, the same will be submitted on or before Public hearing. The true-up for FY 2016-17 is filed vide this petition. EDG further submits that the required data for finalization of financial accounts for FY 2017-18 is completed and finalization of account is under preparation. EDG also submits that the process of collection of DCB statements for FY 2018-19 has been completed and once the accounts for FY 2017-18 are finalised, the accounts for FY 2018-19 and FY 2019-20 will be finalized.
<b>Compliance New Directives issued in Tariff Order for FY 2020-21 dated 19<sup>th</sup> May 2020</b>			
1	Collection of data based on consumer type	The Commission directs ED-Goa to start collecting information of energy sales, connected load, number of consumers, power factor, ToD sales etc., wherever applicable, for different type of consumers such as Hotel Industries, Govt./Private educational institutions, Govt./Private hospitals etc. within the existing categories and submit the same by 30th September 2020.	EDG submits that is in the process of bifurcating the information from the consumer category and the requisite information shall submitted within 3 months of filing of this petition.

## CHAPTER 13. PRAYER'S TO THE COMMISSION

### 13.1 Prayer to the Hon'ble Commission

13.1.1 The Electricity Department, Government of Goa (EDG) respectfully prays to the Hon'ble Commission to:

- a) Accept and admit the petition for True-up of FY 2016-17 as per MYT Tariff Regulations 2014, APR for FY 2020-21 and revision of Aggregate Revenue Requirement & Tariff Determination for FY 2021-22 which is in line with the principles laid by the Hon'ble Commission contained in MYT Tariff Regulations 2018;
- b) Approve the total recovery and revenue gap for Final True up of ARR of FY 2016-17, Annual Performance Review for FY 2020-21 and ARR & Tariff for FY 2021-22 and other claims as proposed by EDG;
- c) Approve the Revenue Gap for FY 2016-17 amounting to Rs. 208.58 Cr. as per True up, Revenue gap for FY 2020-21 of Rs. 218.22 Cr. as per APR and standalone Revenue Gap considering revenue from existing tariff amounting to Rs. 301.40 Cr. for FY 2021-22 on provisional basis and the revenue gap as may be approved by the Hon'ble Commission during the process of finalising tariff petition;
- d) To consider the Tariff Design Philosophy and grant approval for proposed changes in Tariff Schedule (rationalisation of tariff categories & changes in applicability clauses), charges for services, miscellaneous charges and general terms & condition of the tariff order for FY 2021-22;
- e) Approve the revenue at revised tariff for FY 2021-22 and the gap of Rs. 301.40 Cr. till FY 2021-22. The revenue gap of Rs. 301.40 Cr. is proposed to be met partially through tariff rationalization and from the budgetary support by the Government of Goa. The letter for the Budgetary Support shall be submitted after issuance of the same by Government of Goa;
- f) Pass suitable orders with respect to True-up of FY 2016-17, APR for FY 2020-21 and Revision of ARR & Tariff Determination Proposal for 2021-22 for the expenses to be incurred by EDG for serving its consumers;
- g) Grant approval for Power Sale Agreement and adoption of tariff for procurement of 50 MW Wind Power (Tranche VI) from SECI;
- h) Grant any other relief as the Hon'ble Commission may consider appropriate;
- i) The petitioner craves leave of the Hon'ble Commission to allow further submission, addition and alteration to this petition as may be necessary from time to time;

- j) Condone any inadvertent omissions/errors/shortcomings and permit EDG to add/change/ modify/ alter this filing and make further submissions as may be required at a future date;
- k) To pass any other Order as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.

13.1.2 The petitioner declares that the subject matter of the petition has not been raised by the petitioner before any other competent forum, and that no other competent forum is currently seized of the matter or has passed any order in relation thereto.

## **ANNEXURES**

**Annexure 1: Tariff Formats**

**Annexure 2: Audited Accounts of Electricity Department, Goa for FY 2016-17**

**Annexure 3: Power Sale Agreement between EDG and SECI (Wind Power Tranche VI)**

**Annexure 4: Data for Strategic Business Unit for Sub-Division of Division –VII Curchorem and Division XIV Verna**